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Кафедра иностранных языков

З.К. Омарова, Т.Ю. Завитова

УЧЕБНОЕ ПОСОБИЕ ПРОФЕССИОНАЛЬНО-ОРИЕНТИРОВАННЫЙ ИНОСТРАННЫЙ ЯЗЫК (английский) ДЛЯ СПЕЦИАЛЬНОСТЕЙ ИНФОРМАТИКА, ИНФОРМАЦИОННЫЕ СИСТЕМЫ, МАТЕМАТИКА

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Рецензенты:
Баймухамедов М.Ф. - доктор технических наук, академик МАИН, проректор по научной работе и международным связям КСТУ имени академика З. Алдамжар
Кадралинова М.Т. – доктор филологических наук, профессор, директор Костанайского колледжа социального образования
Самамбет М. К. – кандидат филологических наук, доцент кафедры иностранной филологии КГУ им А.Байтурсынова

Составители:
Омарова Зауреш Калихановна, старший преподаватель кафедры иностранных языков ГСФ КГУ им А.Байтурсынова
Завитова Татьяна Юрьевна, старший преподаватель кафедры иностранных языков, ГСФ КГУ им А.Байтурсынова

О 57 Омарова З.К., Завитова Т.Ю.

Учебное пособие Профессионально-ориентированный иностранный язык (английский) для специальностей Информатика, Информационные системы Математика – Костанай, 2018. - 161с.

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Учебное пособие Профессионально-ориентированный иностранный язык (английский) предназначается для студентов факультета информационных технологий, изучающих английский язык по программе неязыкового вуза.

Основная цель – обогащение лексики обучаемых терминологией казахского и английского языков по основным отраслям информационных систем, информатики и математики, предупреждение интерференции, связанной с переводом основных, специальных отраслевых технических терминов.

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Содержание

Введение

Политика внедрения трехъязычия является основным направлением развития системы образования в Республике Казахстан. Программа «Триединство языков», реализуемая в условиях системы высшего образования, направлена на обеспечение конкурентоспособности будущих выпускников вузов и основана на поэтапном развитии трех языков: казахского, русского и английского. В Послании Президента Республики Казахстан Н.Назарбаева народу Казахстана 31 января 2017 г. подчеркивается особая роль трехъязычия в развитии конкурентоспособности казахстанцев и обеспечении экономического роста. Неслучайно модернизация образования выделена как одна из приоритетных областей развития Казахстана.

Учебное пособие предназначено для обучения профессиональному иностранному языку (английский) для студентов, обучающихся на специальностях 5В060200 - Информатика, 5В070300 - Информационные системы и 5В060100 – Математика.

Учебное пособие структурировано методически грамотно и имеет достаточно высокий уровень языковой сложности. Материал представлен в пособии в виде тематических разделов для каждой специальности согласно типовой программе, ГОСО, которые, в свою очередь, имеют подразделы.

Пособие содержит:

- тексты из оригинальной и адаптированной литературы;
- учебные задания, способствующие усвоению, запоминанию специальных терминов;
- задания для развития навыков чтения, перевода и составления пересказа на английском языке;
- тексты для дополнительного чтения;
- упражнения по грамматике;
- контрольные тесты в конце каждого раздела;
- англо-русский и англо-казахский глоссарий;
- краткий грамматический справочник.

Пособие прошло апробацию на занятиях с бакалавриатом на кафедре иностранных языков Костанайского государственного университета имени А. Байтурсынова.

Данное пособие рассчитано на студентов высших учебных заведений, учащихся колледжей по профильным специальностям, а также всех, кто интересуется данными направлениями. Содержание разделов выглядит актуальным с точки зрения современного состояния выбранного научного направления. Контекст учебных материалов соответствует контексту специальности, что без сомнения может способствовать заинтересованности студентов и повышению мотивации к изучению профессионального иностранного языка в группах с казахским языком обучения, так и в группах с русским языком обучения.

Следует отметить стремление авторов расширить традиционные рамки подачи материала, о чем свидетельствует большое количество заданий на развитие иноязычных коммуникативных умений. Примечательным является то, что на основе текстового материала студенты вовлекаются в дискуссии профессионального характера.

Настоящее пособие полифункционально и может применяться для преподавания английского языка по направлениям «математика», «информатика» и «информационные системы».

INFORMATICS

Unit 1: CAREERS IN COMPUTING

1. Check if you can translate the names of the following specialties:

a) systems analyst;
b) software engineer/designer;
c) computer salesperson;
d) computer systems support person;
e) computer systems analyst programmer;
f) hardware engineer;
g) network support person.

2.If you think it difficult to find Russian equivalents for English names of specialists, read the following descriptions of their work, write down their main duties in English, correlate the job descriptions with the names of specialists and translate these names into Russian.

1. d) computer systems support person Studies methods of working within an organization to decide how tasks can be done efficiently by computers. Makes a detailed analysis of the employer's requirements and work patterns to prepare a report on different options for using information technology. This may involve consideration of hardware as well as software. Either uses standard computer packages or writes a specification for programmers to adapt existing software or to prepare new software. May oversee the implementation and testing of a system and acts as a link between the user and the programmer.
2. g) network support person Maintains the link between PCs and workstations connected in a network. Uses telecommunications, software and electronic skills, and knowledge of the networking software to locate and connect faults. This may involve work with the controlling software, on the wiring, printed circuit boards, software or microchips on a file server, or on cables either within or outside the building.
3. b) hardware engineer Researches, designs, and develops computers, or parts of computers and the computerized element of appliances, machines, and vehicles. Also involved in their manufacture, installation, and testing. May specialize in different areas: research and development (r &d), design, manufacturing. Has to be aware of cost, efficiency, safety, environmental factors, as well as engineering aspects.
4. e) computer systems analyst programmer Produces the programs which control the internal operations of computers. Converts the system analyst's specification to a logical series of steps. Translates these into the appropriate computer language. Often comply programs from libraries or subprograms, combining these to make up a complete system program. Designs, tests and improves programs for

computer- aided design and manufacture, business applications, computer networks and games.

5. c) computer salesperson Advises potential customers about available hardware and sells equipment to suit individual requirements. Discusses computing needs with client to ensure that a suitable system can be supplied. Organizes the sale and delivery and, if necessary, installation and testing. May arrange support or training, maintenance and consultation. Must have sufficient technical knowledge.
6. a) systems analyst They are analyst programmers who are responsible for maintaining updating and modifying the software used by a company. Some specialize in software and electronic skills, and knowledge of which handles the basic operation of the computers. This involves the use of machine codes and specialized low-level computer languages. Most handle applications software. May sort out problems encountered by users. Solving problems may involve amending an area of code in the software, retrieving files and data lost when a system crashes, and a basic knowledge of hardware.
7. b) software engineer/designer Creates the software programs used by computers. May specialize in the internal operating systems using low-level computer language, or in applications programs. May specialize in one aspect of the work, e.g. programming, systems design, systems analysis or cover them all. May support the system through advice and training, providing user manuals, and by helping users with any problems that arise.

1. Which IT specialty studies methods of working within an organization to decide how tasks can be done efficiently by computers?
2. Who maintains the link between PCs and workstations connected in a network?
3. What are the duties of hardware engineer?
4. For what computer systems analyst programmer designs, tests and improves programs?
5. Why computer salesperson discusses computing needs with client?
6. Name the analyst programmers who are responsible for maintaining updating and modifying the software used by a company.
7. What solving problems encountered by users may involve to?
8. What does a software engineer/designer do?
9. Why computer systems support person makes a detailed analysis of the employer's requirements and work patterns?
10. Of what has hardware engineer to be aware?

3. **Find in the text the English equivalents of the following sentences:**

1) Это может включать рассмотрение аппаратных средств, а также программное обеспечение.
2) Использует телекоммуникации, программное обеспечение и электронные навыки и знания программного обеспечения сети, чтобы найти и подключить неисправности.
3) Это может включать работу с программным обеспечением управления, проводкой, печатными платами, программным обеспечением или

микрочипами на файловом сервере или кабелями внутри или снаружи здания.
4) Часто выполняет программы из библиотек или подпрограмм, объединяя их, чтобы составить полную системную программу.
5) Должен обладать достаточными техническими знаниями.
6) Это связано с использованием машинных кодов и специализированных низкоуровневых языков программирования.
7) Создает программное обеспечение, используемое компьютерами.

4. Find in the text the English equivalents of the following sentences

1.Бұл аппараттық құралдарды, сондай-ақ бағдарламалық қамтамасыз етуді қарастыруды қамтуы мүмкін.
2.Ақауларды табу және қосу үшін телекоммуникацияны, бағдарламалық қамтамасыз етуді, электрондық дағдыларды және желілік бағдарламалық қамтамасыз етуді қолданады.
3.Бұл басқарушы бағдарламалық жасақтама, сымдар, баспа схемалары, файлдық сервердегі бағдарламалық жасақтама немесе файлдық сервердегі микрочиптер немесе ғимарат ішінде не сыртында кабельдерде жұмыс істеуді қамтуы мүмкін.
4.Жиі кітапханалардың немесе кіші бағдарламалардың бағдарламаларын орындап, толық жүйелі бағдарлама жасау үшін біріктіреді.
5.Техникалық білімі жеткілікті болуы керек.
6.Бұл машиналық кодтарды және мамандандырылған төмен деңгейлі тілдерді пайдалануға байланысты.
7.Компьютерлер қолданатын бағдарламалық жасақтама жасайды.

5. If you could not find Russian equivalents for the first task, try to invent them using various translation transformations. Specify which of the sentences contains a true (T) statement, and which false (F).

1) Hardware engineer studies methods of working within an organization to decide how tasks can be done efficiently by computers.
2) Systems analyst uses telecommunications, software and electronic skills, and knowledge of the networking software to locate and connect faults.
3) Computer systems analyst programmer has to be aware of cost, efficiency, safety, environmental factors, as well as engineering aspects.
4) Software engineer/designer converts the system analyst's specification to a logical series of steps.
5) Computer systems support person discusses computing needs with client to ensure that a suitable system can be supplied.
6) Network support person may sort out problems encountered by users.

6.Guess the meaning of the following words and phrases:

detailed analysis; information technology; hardware; software; specification for programmers; network; installation and testing; handle the basic operation; sort out problems; user; when a system crashes.

7.Test

1. Find the meaning of the expression **“программное обеспечение” “бағдарламалық қамтамасыз ету”:**

a) Software,
b) Hardware,
c) Digit,
d) Ware;

2. Find the meaning of the expression **“сетевая поддержка” “желілік қолдау”:**

a) Computer support,
b) Network support,
c) Hardware support,
d) Software support;

3. Find the meaning of the expression **“обслуживать основные операции” “негізгі операцияларға қызмет көрсету ”:**

a) prepare a report,
b) adapt existing software,
c) handle the basic operation,
d) specialize in one aspect of the work;

4. Findtheverb**“предоставлять” “беру ”:**

a) Use,
b) Hold,
c) Handle,
d) Provide;

5. Translate the sentence into English - Разрабатывает, тестирует и совершенствует программы компьютерного проектирования и производства, бизнес-приложений, компьютерных сетей и игр. Компьютерлік жобалау және өндірістік бағдарламаларды, іскери қосымшаларды, компьютерлік желілерді және ойындарды дамытады, тестілейді және жетілдіреді.

a) Discusses computing needs with client to ensure that a suitable system can be supplied.
b) Designs, tests and improves programs for computer- aided design and manufacture, business applications, computer networks and games.
c) May specialize in the internal operating systems using low-level computer language, or in applications programs.

d) Makes a detailed analysis of the employer's requirements and work patterns to prepare a report on different options for using information technology.

6. Find in the sentence the verb in the Present Simple "*Makes* (1) a detailed *analysis* (2) of the employer's *requirements* (3) and work *patterns* (4) to prepare a report on different options for using information technology.

a) 1,
b) 2,
c) 3,
d) 4;

7. What part of speech is the highlighted word – "Discusses computing needs with client to ensure that a suitable system can be supplied".

a) Noun,
b) Pronoun,
c) Verb,
d) Adverb;

8. Choose the **irregular verb**:

a) Prepare,
b) Write,
c) Print,
d) Improve;

9. Choose the **compound word**:

a) Requirement,
b) Consideration,
c) Implementation,
d) Workstation;

10. Computer systems analyst programmer may specialize in different areas: research and development (r &d), design, manufacturing.

a) It's true.
b) It's false.

Unit 2: THE INTERNET

1. Study the following words:

1. interconnected – взаимосвязан,өзара байланысты
2. worldwide - в мире, әлемде
3. consists of – состоит, тұрады
4. private – частный,жеке
5. local scope – местный, жергілікті

6. a broad array - широкий спектр,кең ауқымды
7. notably - в частности, атап айтқанда
8. media - средства массовой информации, бұқаралық ақпараткұралдары
9. reshaped – реорганизован, қайта ұйымдастырылды
10. redefined – переопределены,қайта анықталды
11. Internet Protocol – интернет протокол, Интернет хаттама
12. Blogging – блоги,блогтар
13. enabled – включен,қоса алғанда
14. accelerated – ускоренный,жеделдетілген
15. researchproject - исследовательский, зерттеу
16. funded – финансируемый, қаржыландырылды
17. robust – надежный, сенімді
18. fault-tolerant – отказоустойчивый, ақаулыққа төзімді
19. backbone - позвоночник, омыртқа
20. spawn - порождать, вызывать,тудыру
21. countless – бесчисленный,сансыз
22. applications - приложения,қосымшалар
23. virtually – практически,іс жүзінде
24. governance – управление, басқару
25. implementation – осуществление, іске асыру
26. access – доступ,қол жеткізу
27. usage – использование,пайдалану
28. constituent – составляющая,құраушы
29. overreach - достигать, овладевать, жету, қол жеткізу
30. the Domain Name System - система доменных имен, домендік атау жүйесі
31. maintainer organization - сопровождающая организация, ілеспе ұйым
32. Internet Corporation for Assigned Names and Numbers - корпорация по присвоению имен и номеров, аттар мен нөмірлерді беру корпорациясы
33. underpinning standardization - основы стандартизации, стандарттау негіздері
34. coreprotocols - основные протоколы, негізгі хаттамалар

2. Read the text:

THE INTERNET

The Internet is a global system of interconnected computer networks that use the standard Internet Protocol Suite (TCP/IP) to serve billions of users worldwide. It is a network of networks that consists of millions of private and public, academic, business, and government networks of local to global scope that are linked by a broad array of electronic and optical networking technologies. The Internet carries a vast array of information resources and services, most notably the inter-linked hypertext documents of the World Wide Web (WWW) and the infrastructure to support electronic mail.

Most traditional communications media, such as telephone and television services, are reshaped or redefined using the technologies of the Internet, giving rise

to services such as Voice over Internet Protocol (VoIP) and IPTV. Newspaper publishing has been reshaped into Web sites, blogging, and web feeds. The Internet has enabled or accelerated the creation of new forms of human interactions through instant messaging, Internet forums, and social networking sites.

The origins of the Internet reach back to the 1960s when the United States funded research projects of its military agencies to build robust, fault-tolerant and distributed computer networks. This research and a period of civilian funding of a new U.S. backbone by the National Science Foundation spawned worldwide participation in the development of new networking technologies and led to the commercialization of an international network in the mid 1990s, and resulted in the following popularization of countless applications in virtually every aspect of modern human life. As of 2009, an estimated quarter of Earth's population uses the services of the Internet.

The Internet has no centralized governance in either technological implementation or policies for access and usage; each constituent network sets its own standards. Only the overreaching definitions of the two principal name spaces in the Internet, the Internet Protocol address space and the Domain Name System, are directed by a maintainer organization, the Internet Corporation for Assigned Names and Numbers (ICANN). The technical underpinning and standardization of the core protocols (IPv4 and IPv6) is an activity of the Internet Engineering Task Force (IETF), a non-profit organization of loosely-affiliated international participants that anyone may associate with by contributing technical expertise.

3. Fill in all the gaps using the words below:*browsers; click; content; copyright; design; format; Internet; layout; World Wide Web*

Tim: Hey! What are you looking at, Barbara?
Barbara: I am taking a class called 21st Century Advertising. The teacher wants us to study different web sites to learn about web page … .
Tim: That sounds like a great class for people who are studying business.
Barbara: It is. The … is the future of business. And the … is going to be the store front of the next century. To be competitive, businesses have to adapt their current advertising techniques. However, creating a good web site is much more difficult than most people think.
Tim: Have you discovered anything interesting which you consider to be well designed?
Barbara: Yeah, this site is fantastic. Take a look. It's very artistic and the technical … is convenient and very logical. It also looks good in different … . I have already viewed it in Microsoft Explorer and Firefox. The … is also fantastic; the size and shape of the text are perfect. I am going to borrow some of their techniques when I make my own web page for class.
Tim: Borrowing ideas is OK, but you have to remember that the … of all web pages is legally protected.

Barbara: I know. Our professor taught us about intellectual rights. He told us that … infringement is a real concern for people who publish on the Web.
Tim: That's right. Hey, that picture says "continue on." Why don't you … there so we can see the next page.
Barbara: OK.

4. Read the sentences and guess whether the following statements are true (T) or false (F):

1) The Internet first started in the USA.
2) The Internet and the WWW are different.
3) Bernes-Lee invented the Internet.
4) One file on the WWW can have two or more addresses.

5. Give the synonyms for the following phrases:

1) an address for Web pages;
2) a coding system that creates links;
3) this finds and shows Web pages;
4) rules for transferring files;
5) a group of computers joined together.

6. Relate each verb group (1-5) to one of the following verbs with a common meaning: move, make, start, join, look at, find

1) browse, surf, view;
2) download, navigate, transfer;
3) connect, link;
4) discover, locate;
5) originate, create, invent.

7. Finish the sentences:

1) The Internet carries a vast array of … … and services.
2) Newspaper publishing has been reshaped into … , … , and web feeds.
3) The origins of the Internet reach back to the … s.
4) Only the overreaching definitions of the two principal name spaces in the … , the … … address space and the … … … , are directed by a maintainer organization, the Internet Corporation for Assigned Names and Numbers.

8. Translate into English:

1) Интернет - это глобальная система взаимосвязанных компьютерных сетей, которые используют стандартный пакет протокола IP (TCP / IP) для обслуживания миллиардов пользователей по всему миру.
2) Интернет активировал или ускорил создание новых форм взаимодействия человека посредством обмена мгновенными сообщениями, интернет форумов и сайтов социальных сетей.

3) Это исследование и период гражданского финансирования нового государственного устройства США Национальным научным фондом породили всемирное участие в разработке новых сетевых технологий.
4) Техническое обоснование и стандартизация основных протоколов (IPv4 и IPv6) - это деятельность Целевой группы Internet Engineering Task Force (IETF).

9.Translate into English:

1) Ғаламтор - бүкіл әлемде миллиардтаған қолданушыларға қызмет көрсету үшін стандартты IP (TCP / IP) хаттама пакетін пайдаланатын өзара байланысты компьютерлік желілердің жаһандық жүйесі.
2) Интернет жылдам хабар алмасу, интернет-форумдар және әлеуметтік желілер арқылы адамның өзара әрекеттесуінің жаңа түрлерін құруды белсендірді немесе жеделдетді.
3) Бұл зерттеу және Ұлттық ғылыми қордың АҚШ-тың жаңа мемлекеттік жүйесін азаматтық қаржыландыру мерзімі жаңа желілік технологияларды дамытуға дүниежүзілік қатысуды қамтамасыз етті.
4) Негізгі хаттамалардың техникалық негіздемесі мен стандарттауы (IPv4 және IPv6) – бұл Internet Engineering Task Force (IETF) Мақсатты тобының қызметі.

10. Answer the questions to the text:

1. How is a global system of interconnected computer networks called?
2. Of what does the Internet consist?
3. What does the Internet carry?
4. Which traditional communications media were reshaped or redefined using the technologies of the Internet?
5. How the Internet has enabled or accelerated the creation of new forms of human interactions?
6. When do the origins of the Internet reach back?
7. What spawned worldwide participation in the development of new networking technologies?
8. Why does each constituent network set its own standards?
9. Which overreaching definitions of the two principal name spaces in the Internet are directed by a maintainer organization?
10. What is an activity of the Internet Engineering Task Force (IETF)?

11. Test

1. Find the meaning of the word **“ускоренный” “жеделдетілген”:**
   a) Enabled,
   b) Funded,
   c) Accelerated,
   d) Private;

2. Find the meaning of the word **“доступ” “рұқсат”:**

a) Usage,
b) Access,
c) Shape,
d) Backbone;

3. Find the meaning of the word **“управление” “басқару”:**
   a) Application,
   b) Implementation,
   c) Governance,
   d) Array;

4. Translate the expression **“the Domain Name System”:**
   a) Домены именных систем, тіркелген жүйелердің домендері,
   b) Системы именных доменов, тіркелген домендер жүйелері,
   c) Система доменных имен, домендік атаулар жүйесі,
   d) Доминирующая система имен, басым атау жүйесі;

5. Translate the sentence – “Истоки Интернета уходят в шестидесятые”“Интернеттің пайда болуы алпысыншы жылдарға оралады ”:
   a) The Internet is a global system of interconnected computer networks.
   b) The Internet carries a vast array of information resources and services.
   c) The origins of the Internet reach back to the 1960s.
   d) As of 2009, an estimated quarter of Earth's population uses the services of the Internet.

6. Find the adjective **“бесчисленный” “сансыз ”:**
   a) Countless,
   b) Enabled,
   c) Overreach,
   d) Reshaped;

7. Point out the sentence in which the Passive Voiceis used.
   a) The United States funded research projects of its military agencies to build robust, fault-tolerant and distributed computer networks.
   b) Newspaper publishing has been reshaped into Web sites, blogging, and web feeds.
   c) This research and a period of civilian funding of a new U.S. backbone by the National Science Foundation spawned worldwide participation in the development of new networking technologies.

8. Find the right forms of the **Irregular verbs**:
   a) Build, built, built;
   b) Build, build, build;
   c) Build, building, building;

d) Build, built, built;

9. Find the Passive form of the verb:
   a) Lead,
   b) Led,
   c) Is led,
   d) Leading;

10. Only the overreaching definitions of the two principal name spaces in the Internet, the Internet Protocol address space and the Domain Name System, are directed by a maintainer organization, the Internet Corporation for Assigned Names and Numbers (ICANN).
   a) It's true.
   b) It's false.

Unit 3: COMPUTERS MAKE THE WORLD SMALLER AND SMARTER

1. Guess the meaning of the words and phrases from the text:

1. edutainment (n)a system that has both educational and entertainment value
2. smart device (n) a device that contains an embedded processor and memory
3. handheld (computer) (n) a small portable computer that can be held in one hand

2. Read the text.

The ability of tiny computing devices to control complex operations has transformed the way many tasks are performed, ranging from scientific research to producing consumer products. Tiny 'computers on a chip' are used in medical equipment, home appliances, cars and toys. Workers use handheld computing devices to collect data at a customer site, to generate forms, to control inventory, and to serve as desktop organizers.

Not only is computing equipment getting smaller, it is getting more sophisticated. Computers are part of many machines and devices that once required continual human supervision and control. Today, computers in security systems result in safer environments, computers in cars improve energy efficiency, and computers in phones provide features such as call forwarding, call monitoring, and call answering.

These smart machines are designed to take over some of the basic tasks previously performed by people; by so doing, they make life a little easier and a little more pleasant. Smart cards store vital information such as health records, drivers' licenses, bank balances, and so on. Smart phones, cars, and appliances with built in computers can be programmed to better meet individual needs. A smart house has a built-in monitoring system that can turn lights on and off, open and close windows, operate the oven, and more.

With small computing devices available for performing smart tasks like cooking dinner, programming the DVD recorder, and controlling the flow of information in an organization, people are able to spend more time doing what they often do best - being creative. Computers can help people work more creatively.

Multimedia systems are known for their educational and entertainment value, which we call 'edutainment'. Multimedia combines text with sound, video, animation, and graphics, which greatly enhances the interaction between user and machine and can make information more interesting and appealing to people Expert systems software enables computers to 'think' like experts. Medical diagnosis expert systems, for example, can help doctors pinpoint a patient's illness, suggest further tests, and prescribe appropriate drugs.

Connectivity enables computers and software that might otherwise be incompatible to communicate and to share resources. Now that computers are proliferating in many areas and networks are available for people to access data and communicate with others, personal computers are becoming interpersonal PCs. They have the potential to significantly improve the way we relate to each other. Many people today telecommute - that is, use their computers to stay in touch with the office while they are working at home. With the proper tools, hospital staff can get a diagnosis from a medical expert hundreds or thousands of miles away. Similarly, the disabled can communicate more effectively with others using computers.

Distance learning and video conferencing are concepts made possible with the use of an electronic classroom or boardroom accessible to people in remote locations. Vast databases of information are currently available to users of the Internet, all of whom can send mail messages to each other. The information superhighway is designed to significantly expand this interactive connectivity so that people all over the world will have free access to all these resources.

People power is critical to ensuring that hardware, software, and connectivity are effectively integrated in a socially responsible way. People - computer users and computer professionals - are the ones who will decide which hardware, software, and networks endure and how great ail impact they will have on our lives. Ultimately people power must be exercised to ensure that computers are used not only efficiently but in a socially responsible way.

3. Translate the text and find the sentences which best summarise each paragraph.

4. Translate these words and word combinations into English:

настольный, в настольном исполнении; запоминать, хранить, сохранять; карманный компьютер; усложнённый, утончённый; дистанционный, удалённый; аппаратные средства, аппаратура, оборудование; компьютерные программы, программное обеспечение.

5. Translate these words and word combinations into English:

Үстел үстінде, жұмыс үстелінде; есте сақтау, сақтау, сақтап қою; қалта компьютері; күрделі, нәзік; қашықтан, алыстатылған; аппараттық құралдар, аппаратура, жабдықтар; компьютерлік бағдарламалар, бағдарламалық қамтамасыз ету.

6. Answer the questions to the text:

1)Name some types of devices that use computers on a chip'
2)What uses of handheld computers are mentioned in the text?
3)What are the benefits of using computers with the following items?
a) Security systems
b) Cars
c) Phones

4) What smart devices are mentioned in the text?
5) What are smart cards used for?
6) What are the advantages of multimedia?
7) What can medical expert systems do?
8) How can computers help the disabled?
9) What types of computing systems are made available to people in remote locations using electronic classrooms or boardrooms?
10) What aspects of computing can people power determine?

7. Fill in the missing words:

1) Workers use handheld computing … to collect … at a customer site, to generate forms, to control inventory, and to serve as … organizers.
2) Computers are part of many machines and devices that once … continual human supervision and control.
3) Smart cards store … information such as health … , drivers' licenses, bank balances, and so on.
4) …. can help people work more creatively.
5) Multimedia combines text with … , … , … , and …, which greatly enhances the interaction between user and machine.
6) With the proper … , hospital staff can get a diagnosis from a … … hundreds or thousands of miles away.
7) Vast … of information are currently available to … of the Internet, all of whom can send mail … to each other.
8) People power is critical to … that … , … , and connectivity are effectively integrated in a socially responsible way.

8. Translate into English:

1) Способность крошечных вычислительных устройств управлять сложными операциями изменила способ выполнения многих задач.

2) Сегодня компьютеры в системах безопасности приводят к созданию более безопасных условий.
3) Смарт-карты хранят важную информацию.
4) Программное обеспечение экспертных систем позволяет компьютерам «думать», как эксперты.
5) Власть людей должна быть использована для обеспечения того, чтобы компьютеры использовались не только эффективно, но и социально ответственным образом.

8.1 Translate into English:

1) Кішігірім есептеуіш құрылғылардың күрделі операцияларды басқару қабілеті көптеген тапсырмалардың орындалу жолын өзгертті.
2)Бүгінгі күні қауіпсіздік жүйелеріндегі компьютерлер қауіпсіздікті қамтамасыз етеді.
3) Смарт-карталары маңызды ақпаратты сақтайды.
4) Сарапшы жүйелердің бағдарламалық жасақтамасы компьютерлерге сарапшылар сияқты «ойлауға» мүмкіндік береді.
5) Адамдардың күші компьютерлердің тиімді түрде ғана емес, сонымен бірге әлеуметтік жауапты түрде қолданылуын қамтамасыз ету үшін пайдаланылуы керек.

9. Answer the questions to the text:

1. Which ability of tiny computing devices has transformed the way many tasks are performed?
2. In what areas tiny 'computers on a chip' are used?
3. How is computing equipment getting more sophisticated?
4. For what smart machines are designed?
5. Give the examples how do smart machines make life a little easier?
6. How can computers help people work more creatively?
7. Why Multimedia systems are known for their educational and entertainment value?
8. How do many people today telecommute?
9. What is the purpose of the information super highway?
10. Why people power must be exercised?

10. Test

1. Find the correct translation of the word **“устройство”“құрылғы”:**
   a) Device,
   b) Chip,
   c) Machine,
   d) System;

2. Find the meaning of the verb **“улучшать”“жақсарту”:**
   a) Operate,
   b) Enable,

c) Improve,
d) Share;

3. Choose the synonym of the verb **“improve”:**
   a) Use,
   b) Send,
   c) Ensure,
   d) Enhance;

4. Find the meaning of the word **“tool”:**
   a) Доступ, рұқсат,
   b) Инструмент, құрал
   c) Источник, көзі
   d) Устройство, құрылғы;

5. Give the synonym of the adjective **“smart”:**
   a) Clever,
   b) Vital,
   c) Creative,
   d) Available;

6. Use verbs given in parentheses, so that sentence expresses the **real condition**. - He (find) the answers if he (look) in the keys.
   a) Finds, looks;
   b) Find, look,
   c) Will find, will look,
   d) Will find, looks;

7. Use verbs given in parentheses, so that sentence expresses the **unreal condition**. - If I (know) her address, I (write) a letter to her.
   a) Knew, would write;
   b) Know, would write;
   c) Had known, would have written;
   d) Have known, would had written;

8. Find the **Irregular verb**:
   a) Mention,
   b) Know,
   c) Provide,
   d) Collect;

9. What type of conditional sentence expresses an **unlikely condition**?
   a) 1,
   b) 2.

c) 3,
d) 4;

10. Vast databases of information are currently available to users of the Internet, but not all of them can send mail messages to each other.
    a) It's true.
    b) It's false.

UNIT 4: DATA PROCESSING AND DATA PROCESSING SYSTEMS

1. Learn the new words:

- To enter - входить; вводить (данные); заносить, записывать; кіру; енгізу (деректерді); жазу
- comprehensive groupings —полные, обширные, универсальные образования;толық, кең, әмбебап құрылым
- meaningful — имеющий смысл; значащий (о данных) мәні бар; мәнді деректер жайлы
- item — элемент; составная часть құрам бөлік
- record — запись, регистрация; записывать, регистрировать жазба, тіркеу; жазу, тіркеу
- file — файл; заносить (хранить) в файл; файл; файлға енгізу(сақтау)
- set — набор; множество; совокупность; серия; группа; система; жиынтық;көптеген; жиынтық; серия; топ; жүйе
- database — база данных; дерекқор
- related — смежный; взаимосвязанный; относящийся (к ч.-л.) шектес;өзара байланысты; тиесілі

2. Read the text and say how you understand the terms "processing information" and "hierarchy of remembering information."

The necessary data are processed by a computer to become useful information. In fact this is the definition of data processing. *Data* are a collection of facts — unorganized but able to be organized into useful information. *Processing* is a series of actions or operations that convert inputs into outputs. When we speak of data processing, the input is data, and the output is useful information. So, we can define *data processing* as a series of actions or operations that converts data into useful information.

We use the term *data processing system* to include the resources that are used to accomplish the processing of data. There are four types of resources: people, materials, facilities, and equipment. People provide input to computers, operate them, and use their output. Materials, such as boxes of paper and printer ribbons, are consumed in great quantity. Facilities are required to house the computer equipment, people and materials.

The need for converting facts into useful information is not a phenomenon of modern life. Throughout history, and even prehistory, people have found it necessary to sort data into forms that were easier to understand. For example, the ancient Egyptians recorded the ebb and flow of the Nile River and used this information to predict yearly crop yields. Today computers convert data about land and water into recommendations to farmers on crop planting. Mechanical aids to computation were developed and improved upon in Europe, Asia, and America throughout the seventeenth, eighteenth, and nineteenth centuries. Modern computers are marvels of an electronics technology that continues to produce smaller, cheaper, and more powerful components.

Basic data processing operations

Five basic operations are characteristic of all data processing systems: inputting, storing, processing, outputting, and controlling. They are defined as follows.

Inputting is the process of entering data, which are collected facts, into a data processing system. *Storing* is saving data or information so that they are available for initial or for additional processing. *Processing* represents performing arithmetic or logical operations on data in order to convert them into useful information. *Outputting* is the process of producing useful information, such as a printed report or visual display.

Controlling is directing the manner and sequence in which all of the above operations are performed.

Data storage hierarchy

It is known that data, once entered, are organized and stored in successively more comprehensive groupings. Generally, these groupings are called a data storage hierarchy. The general groupings of any data storage hierarchy are as follows.

1) *Characters*, which are all written language symbols: letters, numbers, and special symbols. 2) *Data elements*, which are meaningful collections of related characters. Data elements are also called data items or fields. 3) *Records*, which are collections of related data elements. 4) *Files*, which are collections of related records. A set of related files is called a data base or a data bank.

3. Review the text again. Answer the questions using the information of text.

1) What is processing?
2) What is data processing?
3) What does the term of data processing system mean?
4) What basic operations does a data processing system include?
5) What is inputting / storing / outputting information?
6) What do you understand by resources?
7) How did ancient Egyptians convert facts into useful information?
8) When were mechanical aids for computation developed?
9) What does data storage hierarchy mean?
10) What are the general groupings of any data storage hierarchy?

4. Find in the text the English equivalents of the following phrases:

Системы обработки информации; определение (термина) обработки данных; совокупность фактов; последовательность действий; преобразование входных данных в полезную информацию; включать ресурсы; завершить обработку данных; обеспечивать ввод информации в компьютер; ленты принтера; расходовать в большом количестве; размещать компьютерное оборудование; нуждаться (требовать) в приспособлениях; явление современной жизни; на протяжении доисторического периода; превращать информацию в выражения; регистрировать отливы и приливы, прогнозировать урожай зерновых культур; механические средства вычисления; ввод данных; хранение данных; первоначальная обработка данных; дополнительная обработка; выдача полезной информации; напечатанное сообщение; зрительное отображение; последовательность запоминания информации; записанные символы языка; элементы информации; база данных; набор взаимосвязанных файлов.

5. Find in the text the English equivalents of the following phrases:

Ақпаратты өңдеу жүйелері; деректерді өңдеудің анықтамасы (терминнің); фактілер жиынтығы; әрекеттер тізбегі; енгізу деректерінің пайдалы ақпаратқа айналуы; қорларды қамту; дерек өңдеуді аяқтау; компьютерге ақпарат енгізуді қамтамасыз ету; принтер таспасы; көп мөлшерде жұмсау; компьютерлік жабдықтарды орналастыру; құралдарды қажет ету (талап ету); қазіргі өмірдің құбылысы ; көне заман барысында; ақпаратты өрнектерге түрлендіру; дәнді дақылдар өнімін болжау; механикалық есептеу құралдары; деректерді енгізу; деректерді сақтау; деректерді бастапқы өңдеу; қосымша өңдеу; пайдалы ақпарат беру; басып шығарылған хабарлама; көрнекі бейнеленуі; ақпаратты есте сақтау реті; жазылған тіл символдары; ақпарат элементтері; мәліметтер базасы; өзара байланысты файлдардың жиынтығы.

6. Translate the following chains of nouns:

Data resource; storage resource; network resource; security resource; system resource.

Communication facilities; data base facilities; display facilities; management facilities.

Distance control; device control; keyboard control; position control; program control.

Computer storage; laser storage; file storage; disk storage; data storage hierarchy.

Character sequence; instruction sequence; message sequence; pulse sequence.

Batch file; catalog file; data file; help file; input file; output file; menu file; user file.

Command input; data input; disk input; file input; keyboard input; program input.

7. Choose the definitions presented to the right of the terms given in the left column.

Computer literacy	a) the set of instructions that direct the operations of computers;
A program	b) a part of a computer, entering data into the device;

Data	c) facts unorganized but able to be organized;
Data processing	d) the output of a data processing system;
Input	e) possessing sufficient knowledge of how computers work and what they can do to use them as problem-solving tools;
Output	f) a series of operations that results system in the conversion of data system into useful information;
Useful information	g) an electronic device performing calculations on numerical data;
Data bank	h) an electronic device accepting the data processing results from the computer and displaying them;
Data processing system	i) a set of related files;
Computer	j) the resources required to accomplish the processing of data. These resources are personnel, material, facilities and equipment.

8. Analyze the non-finite forms of the verb and correct the sentence.1. Data are processed to become useful information.

1) We use the term data processing to include the resources applied for processing of information.
2) Resources required for accomplishing the processing of data are called data processing system.
3) Processing is a series of operations converting inputs into outputs.
4) Facilities are required to house the computer equipment.
5) Egyptians used the information to predict crop yields.
6) Information to be put into the computer for processing should be coded into ones and zeroes.
7) Processing is operations on data to convert them into useful information.
8) The first machines designed to manipulate punched card data were widely used for business data processing.
9) Hollerith built one machine to punch the holes and the other to tabulate the collected data.

9. Test

1. Find the meaning of the word expression **“явление современной жизни**” **“ қазіргі өмір құбылысы”:**
   a) Useful information,
   b) Facilities are required,
   c) Phenomenon of modern life,
   d) Data elements;

2. Find the meaning of the word expression **“база данных”“дерекқор”:**
   a) Database,
   b) Basic operations,

c) Data elements,
d) Data processing;

3. Translate the word **“Input”:**
   a) Ход, жүру
   b) Вывод, шығу
   c) Вход, кіру
   d) Ввод; еңгізу

4. Translate the verb **“хранить”“сақтау”:**
   a) Enter,
   b) Store,
   c) Define,
   d) Collect;

5. Give the synonym to the word **“store”:**
   a) Keep,
   b) Control,
   c) Call,
   d) Relate;

6. What is called a data base or a data bank?
   a) Data elements,
   b) Characters,
   c) Data elements,
   d) A set of related files;

7. What is highlighted? **- Processing** represents performing arithmetic or logical operations on data in order to convert them into useful information.
   a) Gerund,
   b) Participle 1,
   c) Infinitive,
   d) Participle 2;
8. Find the case of **Participle 1** in the sentence – Storing (1) is saving (2) data or information so that they are available for initial or for additional processing (3).
   a) 1,
   b) 2,
   c) 3,
   d) -;

9. Find the case of **Participle 2** in the sentence - We use (1) the term data processing (2) system to include (3) the resources that are used (4) to accomplish the processing of data.
   a) 1,

b) 2,
c) 3,
d) 4;

10. Controlling is the process of producing useful information, such as a printed report or visual display.
    a) It's true.
    b) It's false.

UNIT 5: TYPES OF ERROR

System errors affect the computer on its peripherals. For example, you might have written a program, which needs access to a printer. If there is no printer present when you run the program, the computer will produce a system error message. Sometimes a system error makes the computer stop working altogether and you will have to restart the computer. A sensible way of avoiding system errors is to write code to check that peripherals are present before any data is sent into it. Then the computer would warn you by a simple message on the screen, like "printer is not ready or available".

Syntax errors are mistakes in the programming language (like typing PRNIT instead of PRINT). Syntax errors cause the program to fail. Some translator programs won't accept any line that has syntax errors. Some only report a syntax error when they run the program. Some languages contain special commands such as *debug*,which will report structural errors in a program. The programming manual for the particular language you're using will give details of what each error message means.

Mistakes that are much more difficult to detect than syntax errors are called logic errors. This is because a program containing logic errors will run, but it won't work properly. For example, you might write a program to clear the screen and then print "hello". Here is a code for this:

10//message 30 CLS
20 PRINT 'Hello' 40 END

This code has a logic error in it, but the syntax is right so it will run. You can get rid of logic errors from simple programs by "hand- testing" them or doing a "dry run" which means working through each line of the program on paper to make sure it does what you want it to do. This code has a logic error in it, but the syntax is right so it will run.

1. Fill in the missing words:

1) If there is no … present when you run the … , the … will produce a system error message.
2) Syntax … are mistakes in the programming language.

3) The programming manual for the … … you're using will give details of what each error … means.
4) You might … a program to clear the screen and then … "hello".
5) This code has a logic … in it, but the syntax is right so it will run.

2. Give the translation of the phrases:
system error message; to write code; syntax errors; programming language; translator programs; special commands; programming manual; logic errors; to clear the screen; get rid of; dry run.

3. Find in the text the English equivalents of the following sentences:
1) Если при запуске программы нет принтера, компьютер выдаст сообщение об ошибке системы.
2) Разумным способом избежать системных ошибок является запись кода для проверки присутствия периферийных устройств перед отправкой любых данных.
3) Некоторые только сообщают об ошибке этапа компиляции при запуске программы.
4) Ошибки, которые намного сложнее обнаружить, чем ошибки этапа компиляции, называются логическими ошибками.
5) Вы можете избавиться от логических ошибок в простых программах, «проверив их вручную» или выполнив «холостой прогон».

3.1. Find in the text the English equivalents of the following sentences:
1) Егер іске қосу кезінде принтер болмаса, компьютерде қате туралы хабар пайда болады.
2) Жүйелік қателерді болдырмаудың ақылға қонымды тәсілі кез келген деректерді жібермес бұрын перифериялық құрылғылардың болуын тексеру үшін кодты жазу болып табылады.
3) Кейбіреулер бағдарламаны іске қосқан кезде компиляция кезіндегі қателіктер туралы ғана хабарлайды.
4) Компиляция сатысындағы қателерден гөрі анықтау әлдеқайда қиынырақ болатын қателер логикалық қателер деп аталады.
5) Сіз қарапайым бағдарламаларда логикалық қателерден «оларды қолмен тексеру арқылы» немесе «бос жүгірумен» құтылуға болады.

4. Make a summary of the text.

5. Answer the questions to the text:
1) What types of error are mentioned in the text?
2) What are the ways to avoid or deal with errors?
1. How system errors affect the computer on its peripherals?
2. What is a sensible way of avoiding system errors?
3. How do we call mistakes in the programming language?

4. What do syntax errors cause?
5. Where can you find the meaning of each error message?
6. How do translator programs react to syntax errors?
7. What do logic errors mean?
8. Why it is much more difficult to detect logic errors than syntax errors?
9. How can you get rid of logic errors?
10. How do you call working through each line of the program on paper to make sure it does what you want it to do?

6. Test

1. Find the meaning of the word **“сообщение” “хабарлама”:**
   a) Message,
   b) Access,
   c) Report,
   d) Language;

2. Give the translation of the word combination **“to write code”:**
   a) Выполнить разработку кода, кодты әзірлеу,
   b) Написать код, код жазу
   c) Закодировать, кодтау,
   d) Зашифровать, шифрлау;

3. Give the translation of the word combination **“очистить экран”“экранды тазалау”:**
   a) To stop working,
   b) To clear the screen,
   c) To restart the computer,
   d) To affect the computer;

4. Give the translation of the word combination **“пробный прогон”“сынақ нұсқасы”:**
   a) the program to fail,
   b) dry run,
   c) logic error,
   d) special command;

5. Fill in the appropriate word - Syntax errors cause the program …
   a) To write,
   b) To enter,
   c) To fail,
   d) To clear;

6. Choose the correct form of the verb - Sometimes a system error makes the computer (stop) working altogether and you will have to restart the computer.

a) To stop,
b) Stopped,
c) Stopping,
d) Stop;

7. Fill in missed words - If there is no printer present when you run the program, the computer … … a system error message.
   a) Would produce,
   b) Will produce,
   c) Produced,
   d) Would have produced;

8. Define the function of the infinitive in the sentence - You might write a program **to clear** the screen and then print "hello".
   a) Обстоятельство, пысықтауыш,
   b) Определение, анықтауыш,
   c) Прямое дополнение, тура толықтауыш,
   d) Именная часть составного именного сказуемого, күрделі есім баяндауыштың есім бөлігі;

9. Choose the correct form of the verb - This is because a program containing logic errors will (run), but it won't (work) properly.
   a) Run, work;
   b) Running, working;
   c) Runs, works;
   d) To run, to work;

10. Mistakes that are much more difficult to detect than syntax errors are called logic errors.
   a) It’s true.
   b) It’s false.

TEXTS FOR ADDITIONAL READING

реферировать — to summarize реферат — summary

The **summary** is a condensed statement of the text with the main facts and conclusions. Summaries on one source are called monographic, and on several sources on one topic - overview.

The summary is characterized by an independent form, which is characterized by a harmonious sequence of presentation and constancy of the structure. The summary reflects only the **basic** information contained in the text. In order to correctly draw a summary, you need to understand the content of the text and

determine the values of unfamiliar words that interfere with the understanding of the text, by context or by dictionary. Then you need to determine **the degree of importance** of the material. The most important information requires accurate reflection in the summary, secondary information is transmitted in a reduced form, and low-value information is omitted. Finally, the language material is processed and presented in the summary. The summary is characterized by some stable expressions **- speech clichés:**

This text deals with (is about, is devoted to, dwells upon, considers, tells us about, presents, is connected with, etc.) smth.

The text gives figures (facts, data, diagrams, pictures, examples) illustrating smth.

The text contains the description (information, examination, investigation) of some process (properties, problems) concerning smth.

The main idea of the text is...

The text describes methods (of metal working) / types (of programs) / features (of software).

In my opinion …

It should be noted ...

It should be mentioned …

In conclusion …

To sum up …

ARTIFICIAL INTELLIGENCE (PART I)

Task 1.Read the blocks and find in the blocks answers to the questions below.

1. What is artificial intelligence?
2. But what is intelligence?
3. Isn't there a solid definition of intelligence that doesn't depend on relating it to human intelligence?
4. Is intelligence a single thing so that one can ask a “yes” or “no” question? Is this machine intelligent or not?
5. Can AI simulate a human intelligence?
6. What about IQ? Do computer programs have IQs?
7. What is the main problem in comparing human and computer intelligence?

a) No. As we said, intelligence involves mechanisms, and AI research has discovered how to make computers carry out some of them and not others. If doing some tasks requires only mechanisms that are well understood today, computer programs can give very impressive performances on these tasks. Such programs should be considered "somewhat intelligent".

b) Intelligence is the computational part of the ability to achieve goals in the world. Different kinds and degrees of intelligence occur in people, many animals and some machines.

c) Artificial Intelligence is the science and engineering of making intelligent machines, especially intelligent computer programs. The task of this science of using computers to understand human intelligence, but AI has not to limit itself to the methods that are biologically observable.

d) No, they don't. IQ is based on the rates at which intelligence develops in children. Later, the scale of IQ is extended to adults. It correlates well with the degree of various measures of success or failure in life. But making computers that can compete with humans score high on IQ tests would be a useless thing. For example, the ability of a child to repeat back a long sequence of digits depends on its other correlates well with other intellectual abilities, perhaps because it measures how much information the child can compute with at once. However, the same digit task is trivial for even extremely limited computers.

However, some of the problems on IQ tests are useful challenges for AI.

e) Sometimes they can, but usually not. On the one hand, we can learn something about how to make machines solve problems by observing other people or our own methods. But on the other hand, most AI work needs studying the problems that the world presents to intelligence rather than studying people or animals. In studying these world problems AI researchers more often use methods that involve much more computing than people can do.

f) Not yet. There is no such definition. The problem is that we cannot yet characterize in general what kinds of computational procedures may be called intelligent. We understand some of the mechanisms of intelligence and not others.

g) Some scientists suggest that all normal humans have the same intellectual mechanisms and that difference in intelligence depends on "quantitative biochemical and physiological conditions". The difference in intelligence is expressed in differences in speed, short-term memory, and the ability to form accurate and retrievable long-term memories.

As to computer programs, they have plenty of speed and memory, but their abilities correspond to the intellectual mechanisms that program designer understands well enough to put in programs. The problem is that cognitive sciences still have not succeeded in determining exactly what the human abilities are. It is likely that organization of the intellectual mechanisms for AI can be different from that in people.

Notes

IQ – intelligence quotient, your level of intelligence, measured by a special test.

Task 2. Write the resume of the resulted text "Artificial Intelligence" (Part I).

ARTIFICIAL INTELLIGENCE (PART II)

Task 1. Read the text and check the difference between the information in the Iand II Parts of the text.

There is interest in the results of AI from at least four directions. In particular there is the study of robotics which is concerned, to a large extend, with the practical requirements of industry for mechanical devices which can perform 'intelligent' tasks — tasks of a versatility and complication which have previously demanded human intervention or control — and to perform them with a speed and reliability beyond any human capabilities, or under adverse conditions where human life could be at risk. Also of interest commercially, as well as generally, is the development of expert systems, according to which the essential knowledge of an entire profession — medical, legal, etc. — is intended to be coded into a computer package! Is it possible that the experience and expertise of human members of these professions might actually be supplanted by such packages? The question of whether the computers can simulate genuine intelligence clearly has considerable social implications. Another area in which AI could have direct relevance is psychology. It is hoped that by trying to imitate the behaviour of a human brain (or that of some other animal) by means of an electronic device — or by failing to do so —-one may learn something of importance concerning the brain's workings. Finally, there is the optimistic hope that for similar reasons AI might have something to say about deep questions of philosophy.

2. How far has AI been able to progress to date? It would be hard to try to summarize. There are many active groups in different parts of the world. Nevertheless, it would be fair to say that, although many clever things have indeed been done, the simulation of anything that could pass for genuine intelligence is yet a long way off. But to give an optimistic example it should be mentioned some of the impressive achievements, and then some remarkable recent progress with chess computers.

3. One of the first AI devices was W. Grey Walter's 'tortoise', made in the early 1950s, which moved around the floor under its own power until its batteries ran low. A somewhat separate line of development is exemplified by the computer program, designed in 1972, which can converse sensibly about a collection of blocks, of various shapes and colours which, in simulation, it places on top of one another in different orders and arrangements. Despite such early successes, it is remarkable how difficult it proved to design the control of even a simple, jointed 'robot arm', which has to manoeuvre around, avoiding crowded obstacles, where the required motions may seem 'obvious' to a human looking on. The Interpretation of visual scenes generally is also an area where the procedures of Al have so far got nowhere close to what the human brain (and, indeed, most other animals) seems ‘effortlessly' to be able to achieve.

4. Perhaps more close to the human intelligence is the computer program developed in the mid-1960s, which simulates a psychotherapist — so successfully that some patients find that they prefer the computer to a human therapist, and are prepared to reveal more of themselves to it than they are to its human counterparts. Though this may give an impression that the computer has some understanding, in fact it has none, and is merely following some fairly simple mechanical rules.

5. Chess-playing computers probably provide the best examples of machines exhibiting what might be thought of as “intelligent behaviour”. In fact, some machines have now reached an extremely respectable level of performance in relation to human players approaching that of 'International Master'. (These computers' ratings would be a little below 2300, where, for comparison, Kasparov, the world champion, has a rating greater than 2700.) In particular, a computer program by Dan and Kathe Spracklen has achieved a rating of 2110 and has now been awarded the 'Master' title. Even more impressive is 'Deep Thought' which has a rating of about 2500 and recently achieved the remarkable feat of sharing first prize (with Grandmaster Tony Miles) in a chess tournament (in California, 1988) actually defeating a Grandmaster (Bent Larsen) for the first time! Chess computers now also excel at solving chess problems, and can easily outstrip humans at this endeavour.

6. Chess-playing machines rely a lot on 'book knowledge' in addition to accurate calculational power. It is worth remarking that chess-playing machines far better on the whole, relative to a comparable human player, when it is required that the moves are made very quickly; the human players perform relatively better in relation to the machines when a good measure of time is allowed for each move. The computer's decisions are made on the basis of precise and rapid extended computations, whereas the human player takes advantage of 'judgements', that rely upon comparatively slow conscious assessments. These human judgements serve to cut down drastically the number of serious possibilities that need be considered at each stage of calculation, and much greater depth can be achieved in the analysis, when the time is available, than in the machine's simply calculating and directly eliminating possibilities, without using such judgements.

Task 2. Define the number of blocks where you can find information about:

1) the program simulating a psychotherapist;
2) the results of active groups working on AI;
3) the differences in chess-playing strategy between chess-playing computers and humans;
4) the main directions that are of interest as to the results of AI development;
5) the impressive success with chess-playing machines;
6) the attempts to construct the first robot;
7) the score of the last chess match “Computer-Kasparov”.

Task 3. Write the précis of the text “Artificial Intelligence” (Parts I and II).

COMPUTER GAME PREHISTORY

Task 1. Read the text and pay attention to the chronological stages of computer games development.

1. 1890. The USA is hit by a mass movement of the customers to play games on coin operated devices - the first ones being phonographs. These recording devices were set

up in hotel lobbies, railway stations and small pubs or restaurants. The working class population, clerks and businesspeople used the machines during their lunch breaks.
Around 1885 the kinematoscope became the favourite toy of the population. Now people used to look at wonders of the world, famous buildings, athletic men movies.
In the end of th 1890ies the kinematoscopic devices have again been replaced by the mutoscopes. Mutoscopes were interactively controllable kinematoscopes. A lever served as the interface for replay speed, forward/ backward movement or freeze frames.

The History of Computer Games

2. The history of computer games - mistakenly termed videogames - probably started in 1961. The early programmers and game designers came up with ideas which have been taken over by the industry and have nowadays become cultural stereotypes. Game types like combat games, strategy, simulation or dungeons and dragons were early 60ies inventions but they are still alive today and probably more vital than ever. Having a look at the old predecessors of today's PlayStation and Dreamcast games might explain why certain stereotypes are so persistent. Comparing early games with today's programmes also shows the technological progress achieved during the last 4 decades. It seems that the gaming industry and game technology nowadays challenges the complete computer industry in becoming the key industrial branch.

Autumn 1961 Digital Equipment Corp. delivers a PDP-1 computer to the MIT in Cambridge, Mass. This was the first computer equipped with a cathode ray tube monitor and a keyboard. DEC expected the MIT scientists to develop scientific programmes with the machine they donated, yet two scientists programmed an application which is said to have been the first computer game.
1962. Stephen Russell, Peter Samson, Dan Edwards, and Martin Graetz realized spacewar**,** a shoot-up game with animated spaceship icons on a black and white monitor. Two users could shoot the other player's spaceships in order to "survive".
A number of programmers working on big mainframe computers developed different computer games during the following years. Most of these games have been programmed in BASIC programming language:
3. Lunar Lander was a text based simulation game. The user had to type in to what amount a lunar spacecraft should accelerate or decelerate. The computer then calculated the fuel consumption, landing speed and height above the lunar ground. All the information was output in monochrome numbers on a black and white screen.
More recent adoptions of the basic idea of Lunar Lander add graphics and sound to the game, which of course were not available on 1966ies computer terminals. (A recent remake of Lunar Lander is the Web application Mars Lander.)

HAMMURABI (KINGDOM) simulated economic processes in a virtualMesopotamian kingdom. The player was asked to numerically specify tax rates and other parameters and was then told about tax revenues, food supplies available, birth and death rates and the profits of the kingdom. Hammurabi could be considered a predecessor of SimCity.

HUNT THE WUMPUS consisted of a network of tunnels and rooms. The firstimplementation was said to have used a dodeocaedric structure. Players were able to wander around in the tunnels and they were warned whenever they approached the "Wumpus". Nobody knows what a Wumpus is, but it must have been something dangerous, because you could read on your console when coming close to it: “You are in node x. I smell a Wumpus. Move or shoot”. Then there were bats able to move you to another room. (Console message: “I smell a bat”.). Hunt the Wumpus is a predecessor of the Dungeon & Dragons genre.

4. The software developers at Epic Megagames released a programme called UNREAL in 1998. The programme was written in C++ by Tim Sweeney, programmer of the small corporation. Tim Sweeney made ample use of the 3D features of the Voodoo graphic card, then one of the best 3D cards available. The game was also bundled with a 3D Editor enabling the consumer to build levels of his own. Not only was it possible to use the textures and sounds shipped with the software, but it was also possible to import any texture material, 3D object or soundfile, if it was in the PCX, DXF or WAV-file format. The most exciting feature of UNREAL is a scripting language called UNREALScript, which is a close dialect to Java and C++. UNREALScript is an object-oriented language. Classes already implemented in the game (like effects, water, fog, monsters, moving objects) can easily be extended by creating new classes which inherit the original classes’ properties.

Task 1.

a) write out from the text key words and word combinations that support the main idea of the text;

b) using these words and word combinations write they summary of the text reflecting the reasons of computer games progress.

Task 2. Topics for discussion.

1. Is it possible nowadays to play such games as “Spacewar”, “Luna Lander”, “Hammurabi”, “Hunt the Wumpus”? If it is yes, have you ever played them? If it is not, why?
2. What other computer games are played today?
3. Could you explain why the programme called UNREAL became a novelty for computer games?
4. Are you a fan of computer games or are you indifferent to them?

READ THE TEXT. Entitle it so that the title renders the main idea of the problem.

The idea of an optical computer was first conceived in the 1960's after the discovery of optical nonlinearity; rather than using electronics, it was proposed that

the use of optics could yield advantages such as massive parallelism, and speed that could beat any electronic counterpart.

The matter is that the speed of conventional computers is achieved by miniaturizing electronic components to a very small micron-size scale so that those electrons need to travel only very short distances within a very short time. The goal of improving on computer speed has resulted in the development of the Very Large Scale Integration (VLSI) technology with smaller device dimensions and greater complexity. Whereas VLSI technology has revolutionized the electronics industry and established the 20th century as the computer age, increasing usage of the Internet demands better accommodation of a 10 to 15 percent per month growth rate. Additionally, our daily lives demand solutions to increasingly sophisticated and complex problems, which requires more speed and better performance of computers. For these reasons, VLSI technology is approaching its fundamental limits in the sub-micron miniaturization process. Further miniaturization of lithography introduces several problems such as dielectric breakdown, hot carriers, and short channel effects. Therefore, a dramatic solution to the problem is needed, and unless we gear our thoughts toward a totally different pathway, we will not be able to further improve our computer performance for the future.

Optical interconnections and optical integrated circuits will provide a way out of these limitations to computational speed and complexity inherent in conventional electronics. Optical computers will use photons traveling on optical fibers or thin films instead of electrons to perform the appropriate functions. In the optical computer of the future, electronic circuits and wires will be replaced by a few optical fibers and films, making the systems more efficient with no interference, more cost effective, lighter and more compact. Optical components would not need to have insulators as those needed between electronic components because they don't experience cross talk. Indeed, multiple frequencies (or different colors) of light can travel through optical components without interfacing with each others, allowing photonic device to process multiple streams of data simultaneously.

Photonic device is made of a few ultrathin layers of non-conducting material. This photonic crystal is the latest in series of materials that reflect various wave lengths of light almost perfectly. Photonic crystals are on the cutting edge of microphotonics: Technologies for directing light on a microscopic scale that will make a major imact on telecommunication. Photonic crystals may make light do as many things as possible.

But even if the dream of on all-optical Internet is realized. Another problem will come. So far, network designers have found ingenious ways to pack more and more information into fiber optics, both by improving the fibers and by using new tricks. But within five to 10 years, some expert fear it won’t be possible Squeeze any more data into existing fiber optics.

John Yoannopoulos
“Technology Review”

Task 1. Choose about 5-7 sentences which support the main points of the text.

Task 2. Write the summary of the text (in English).

PROGRAMMING LANGUAGE

Read the blocks below and arrange them in their logical order. Choose a suitable headline for each block.

1. In the 1940s the first recognizably modem, electrically powered computers were created. Some military calculation needs were a driving force in early computer development. At that time, computers were extremely large, slow and expensive: advances in electronic technology in the post-war years led to the construction of more practical electronic computers. At that time only Konrad Zuse imagined the use of a programming language (developed eventually as Plankalkul) like those of today for solving problems.

2. A programming language is a stylized communication technique intended to be used for controlling the behaviour of a machine (often a computer). Like human languages programming languages have syntactic arid semantic rules used to define meaning.

3. The development of programming languages follows closely the development of the physical and electronic processes used in today's computers. At the beginning of the XIX century, Charles Babbage designed the first computer-like machines, which had several programs written for them (in the equivalent of assembly language) by Ada Lovelace.

4. Shortly after in 1958, Lisp was introduced. Lisp was based on lambda calculus, and is far more regular in its syntax than most non-Lisp derived languages. During the 1970s, Xerox PARC developed Smalltalk, an object oriented language. Based on the development of Smalltalk and other object oriented languages, it developed a programming language based on the syntax of C, called C++ in 1985. Sun Microsystems released Java in 1995 which became very popular as an introductory programming language taught in universities. Microsoft presented the C# programming language in 2001 which is very similar to C++ and Java. There are many, many other languages.

5. Subsequent breakthroughs in electronic technology (transistors, integrated circuits, and chips) drove the development of increasingly reliable and more usable computers. The first widely used high-level programming language was FORTRAN, developed during 1954-57 by an IBM team led by John W. Backus. It is still widely used for numerical work, with the latest international standard released in 2004. A Computer Languages History graphic shows a timeline from FORTRAN in 1954.

6. Programming languages have been under development for years and will remain so for many years to come. They got their start with a list of steps to wire a computer to perform a task. These steps eventually found their way into software and began to acquire newer and better features. The first major languages were characterized by the simple fact that they were intended for one purpose and one purpose only, while the languages of today are differentiated by the way they are programmed in, as they can be used for almost any purpose. And perhaps the

languages of tomorrow will be more natural with the invention of quantum and biological computers.

Task 1.Render the resulted text into English (about 6-7 sentences).

Task 2. Make a Computer Language history graphic.

GLOSSARY

Asynchronous: Transferring data with the help of start and stop bits that indicate the beginning and end of each character being sent.
ASP: **A**ctive **S**erver **P**ages. An invention from Microsoft that runs on their server software.
AVI: Stands for **A**udio/**V**ideo **I**nterleaved. Microsoft's format for encoding video & audio for digital transmission.
Backbone: Well, all of these computers have to come together somewhere. There are many "backbones" on the Internet. Think of the backbone as the next larger grouping of computers you connect with to get included in the Web. You're at the end of a rib coming off of the backbone -- get the picture? The main backbone of the Internet here in the U.S. is the NSFNet. It stands for **N**ational **S**cience **F**oundation Net.
Binary: This is a basic system of numbering using ones and zeros.
Bit/s: "Bit" is a grouping of the words "binary" and "digits." Think of a bit as a number, a 1 or a 0 to be exact. A grouping of bits helps to make up ASCII code. Data transfer is often in terms of the number of these "bits" that can be moved in a second.
Buffer: The buffer is a section of the computer where data is stored before being used. This buffering allows time for an application to fix differences in bit rates among other things. It creates a space of time for compensation.
Browser: User's software program for viewing & browsing information on the Internet.
Burst: Most people know this from "pipeline burst cache." Burst means to send data in a large package all at one time rather than small bits over a longer time.
Bus: There are wires between all the parts of your computer. There is a wire from the memory to the brain, and from the brain to the printer, etc., etc. Those wires are called busses. They differ from one another by the amount of data they will transfer at one time.
Byte: A unit of space. It is also used to represent a series of seven or eight ASCII code digits representing a character.
Cache: This is a memory section that holds data while the CPU (central processing unit) or brain, is working on it. Go to your Netscape directory -- you'll see a cache full of files marked ".moz". Those are "mozilla" files. That's what Netscape calls pages after they've been displayed and saved.
CD-ROM: **C**ompact **D**isc - **R**ead **O**nly **M**emory. It's a storage place that disallows recording or manipulating of its data.

CGA: Stands for **C**olor **G**raphics **A**dapter. It's a piece of hardware that plays with colors.
Client: A computer attached to an Internet server.
COBOL: Stands for **Co**mmon **B**usiness **O**riented **L**anguage.
COM: Stands for **C**omponent **O**bject **M**odule.
Compiler: This is an application that converts a programming language into a machine language program.
CPU: Stands for **C**entral **P**rocessing **U**nit. This is the brain of your computer. It is made up of two parts: The Arithmetic Logic Unit (this does all the processing) and the Control Unit (this makes sure every part of the computer is working together to present the information).
Cyberspace: This is a term that gives us a way to sort of "see" what we are surfing while on the Net. It's a generic term for the entire Internet, not just the World Wide Web.
Data: Anything that is recorded or used for processing. The stuff that transfers between computers needed a name -- data seemed good.
Database: Anything that accepts data is a database. A pile of newspapers is a database. A computer database has the ability to manipulate that data.
Digital: Your CD player is digital. It is a series of small samples of data playing together very quickly (30,000 times a second). Digital recording of information means representing the bits of data through ones and zeros. Playing the bits back to again create what was recorded is called digital processing.
Domain: This is a higher level section of the Internet, usually given its own DNS. The domain is the section of an address before the directory slashes start. "htmlgoodies.com" is *my* domain.
DOS: Stands for **D**isc **O**perating **S**ystem. It is a generic term for the many programs that accept commands to trip applications to run. The most popular is MS-DOS (MS stands for **M**icro**s**oft).
E-Mail: Stands for **E**lectronic Mail. E-mail is actually a method of transferring files among computers, rather than the file itself, but that's what the name has come to mean.
Engine (as in "Search Engine"): This is the working part of a database or application.
FAT Stands for File Allocation Table. Basically this is a table of contents in a directory that tells the computer what al is in there. Look at your Netscape cache, you'll see a FAT. It'll be the first file.
FAQ Stands for Frequently Asked Questions. An FAQ is a file or document where a moderator or administrator will post commonly asked questions and their answers.
FORTRAN Stands for FORmula TRANslation.
Freeware This a shortened version of Free Software. Programmers offer their work without wanting pay in return.
Gateway As in Common Gateway Interface (CGI). It is a piece of software that allows two items to communicate with each other. They are used to make connections between computers and systems inside that computer.

GIF Pronounced "jif." Stands for Graphical Interchange Format. It is an image format created by Compuserve.
Gigabyte (GB) It's about a billion bytes. Actually it's 2 to the 30th power or 1,073,741,824.
Hardware These are the physical items including your computer and floppy discs.
HTML Stands for HyperText Markup Language. Common language used to write documents on World Wide Web.
HTTP Stands for HyperText Transport Protocol. Common protocol used to communicate between World Wide Web Servers.
Hypertext This is a mark-up language that allows for non-linear transfers of data. The method allows your computer to provide the computational power rather than attaching to a mainframe and waiting for it to do the work for you.
IBM Stands for International Business Machines
Icon A small video display that acts as an activation link when clicked on.
Interface This is any type of point where two different things come together. Most often, the term is used to describe the programs between you and your computer like Windows, OS/2 and others. What you see on the screen is the interface between you and what your computer is doing.
IS Stands for Information System.
Java Java is an Object Oriented Program developed by James Gosling at Sun Microsystems. Java is delivered over the Internet in the form of little applications or "applets" that do tricks when they download and are read by the browser.
JPEG Pronounced "J-Peg." Stands for Joint Photographic Experts Group. It's an image format that allows for compression when stored.
Kilobyte (KB) This is about a thousand bytes of space. In reality, it's two to the 10th power or 1,024 bytes.
Kbit/s Stands for thousands of bits per second.
Login To attach to a computer. It has also come to represent your User ID command.
Mainframe Mostly a mainframe is only a mainframe when compared to a desktop computer. It's bigger and much more powerful. Sometimes it's called a server or CPU.
Megabyte (MB) About a million bytes of space. Actually it's 2 raised to the 20th power or 1,048,576 bytes of space.
MIDI Stands for Music Instrument Digital Interface. It allows a computer to store and replay a musical instrument's output.
Modem This is a word created out of the beginning letters of two other words: MOdulation and DEModulation. The words mean the changing of data from digital (computer language) to analog (phone line language) and then back again. It represents the purpose of your computer's modem.
Network This a system that sends and receives data.
Network Adapter This is the hardware that allows the computers that are part of a network to communicate with each other.
Object Something that contains both the data and the application that operates on that data.

Operating System Often written just as OS. This is the software that manages the computer system. It controls all functions and direction. Examples include Windows and Windows 95.
PPP Stands for Point To Point Protocol. It's a software application that allows an attachment to a server.
Plug-In This is a program that your browser uses to manipulate a downloaded file. It differs from a Helper Application in that the plug-in works inside the browser window.
Port This is the connecting component or hardware that allows two computers to attach to one another.
Protocol This is a series of set rules that allow items to transfer.
RAM Stands for Random Access Memory. It's the memory of the computer.
ROM Stands for Read-Only Memory. This is memory and information that cannot be changed.
Serial This is a consecutive occurrence of two items in the same channel.
Server This is a mainframe computer that serves the other computers attached to it.
Shareware This is an application that a programmer makes available to users for a set amount of time and then asks for a donation. In return for the donation, a registration number is often returned that can be used to "turn on" the features of the program.
Software This is a program, the actual code the computer reads. All other stuff is hardware. A floppy disc is hardware.
Spam This is to transmit unwanted messages, usually over email, to a great many people.
SVGA Stands for Super Video Graphics Adapter. It's a high level monitor.
Terabyte (TB) It's about a trillion bytes. Actually it's 2 to the 40th power or 1,009,511,627,776 bytes.
Terminal This is what you look at when you're on the Internet. It's your computer screen.
Transparent Something that occurs without being known to the user.
URL Stands for Universal Resource Locator. It's a fancy way of saying Internet Address.
User Someone attached to a server or host.
VGA Stands for Video Graphics Adapter. This is a lower level color monitor.
VIRUS Stands for Very Important Resource Under Siege (or...Vicious Internal Rabbit/Rodent Uprooting Stuff). Actually, it's a small program written specifically to cause problems in your computer. I caught a computer virus that disallowed me to save any of my text files as anything but temporary files. That meant each time I turned off the computer, the files were lost.
WWW Short for World Wide Web.
Workgroup Persons sharing files and data between themselves.
Workstation The computer attached to the Internet.
WPG Stands for Word Perfect Graphics.

ZIP Stands for Zone Information Protocol. This is an application that allows for the compression of application files.

INFORMATION SYSTEMS

Unit 1: CREATING PROJECT

1. Read and learn the meaning of the following words:

1.To click – нажать, басу
2.To select – выбирать, таңдау
3. To apply - использовать, қолдану
4. To select project template – выбрать образец проекта, жоба үлгісін таңдау
5. To choose - выбрать, таңдау
6. To accelerate - ускорить, тездету
7. To learn - учиться,үйрену
8. To create a template – создать образец, үлгіні жасау
9. To specify– устанавливать, уточнять, нақтылау
10.To enter a short Description – вводить краткое описание, қысқаша сипаттаманы енгізу
11.To sort alluse the filter – сортировать фильтр, барлық қолданушыларды сыныптау
12.to use the filter – использовать фильтр, сүзгі пайдалану
13. to notify the project manager – уведомлять менеджера проекта, жобаның менеджеріне жеткізу, хабарлау
14. to start - начать, бастау
15. to click the manage team – нажать выбрав команду управления, басшылық тапсырысын таңдау
16. to select all – выбрать все, барлығын таңдау
17. To add - добавить, қосу
18. The mouse cursor – курсор мыши, сүзгі күтімі
19. Toedit project structure – редактировать структуру проекта, жобаның құрылымын редакциялау
20. To add milestone– добавить этап, кезеңді қосу
21. To edit - редактировать, редакциялау
22. To add a task – добавить задание, міндетін қосу
23. To delete - удалить,өшіру
24. to be available – быть доступным,қолжетімді болу
25. Project administrator – администратор проекта, жоба жетекшісі
26. To follow this project – следовать проекту, осы жобаны ұстану
27. To save - сохранить, сақтау

2. Read the text and say what the area of creating project is.

Text: 1. CREATING PROJECT

The very first thing you should do to coordinate the workflow is to create a project. To do that,

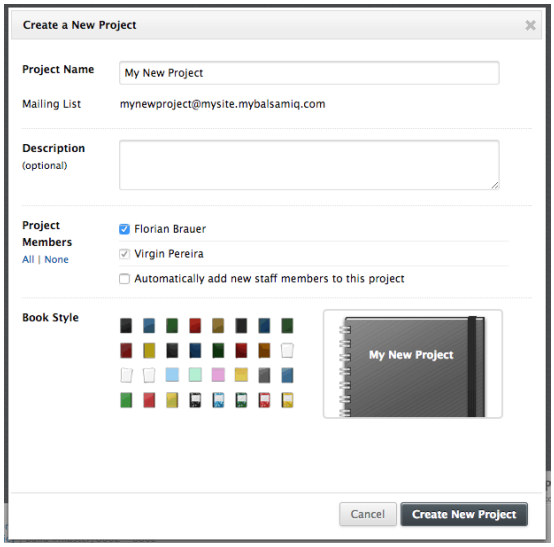
1. If you have previously created a template and want to apply it to a new project click the **Select** link under the **Select project template** caption and choose the necessary template. Use the search field to accelerate the search process. To learn more about how to create a template visit our Tips & Tricks section.
2. Specify your project **Title** and enter a short **Description**, if necessary.
3. Assign a **Project Manager**.

To do that, open the corresponding drop-down list and select a person you need. Sort all users by group or use the filter field at the top to facilitate the search. Check the box near this field if you wish to notify the project manager by email.

1. Create a project **Team**.

To start adding members to the project team, click the **Manage Team** link. Check the users you wish to add to your team. Use the filter field at the top to facilitate the search. Check the necessary group or the **Select All** option to add the users from the selected group or all the users respectively. Click the **Save** button. If you want to delete a user added by mistake, place the mouse cursor over the needed user and click the ⊗ icon.

All the selected users will be notified by email.



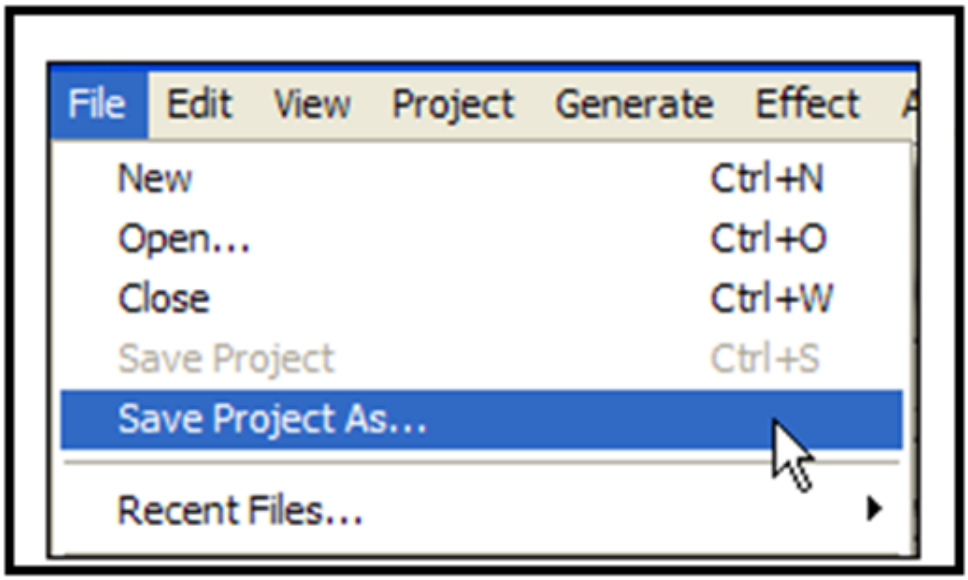
2. **Edit Project structure** if it's necessary.

Click the **Add milestone** link and introduce it's 'Title' in the corresponding field, then set it's due date, choose the responsible person from the list and click the **Ok** button. You can easily **Edit**, **Add a task** to a new milestone or **Delete** it using the ⊙ icon.

Use the **Add task** link situated under the **Tasks without milestones** caption if you want to add a task which won't belong to any milestone. Introduce the 'Title' of your task in the corresponding field, choose the responsible person from the list and click the **Ok** button.

1. Enter tags separating them with commas.

This helps categorize the project and facilitate the search for the other users.
2. Check the **Save this project as private** box.
Use this option if you'd like to restrict access to the newly created project. In this case the project will be available only to the project administrator, the project manager and its members with corresponding rights.
3. Check the **Follow this project** box, if you don't plan to participate in this project but need to keep track of it.
4. Click the **Save** button.



Only portal owner and administrators, who have full privileges to manage the portal or **Projects** module, can create new projects on the portal.
Making changes in your project when it is underway is as much inevitable as indispensable step in the project progress.

To adjust some project settings,
1. open the project page clicking its title,
2. click the icon to the right of the project title,
3. select the **Edit** option from the drop-down list,
4. make all the changes you need and click the **Save Project** button.

3. Guess the meaning of the following international words and phrases:
Project; administrator; manager; on the portal; progress; algebra; differential; geometry; structure; axioms; parallel; mental; theorems; aspect; fundamental facts.

4. Find in the text the English equivalents of the following phrases:
Координировать рабочий процесс; выпадающий список; поле поиска; отслеживать;
значок; введите теги; классифицировать проект; неизбежный; незаменимый шаг; запятая; ограничить доступ; соответствующие права; настроить некоторые параметры проекта; портал; быть доступным; щелкнув его заголовок.

5. Find in the text the English equivalents of the following phrases:

Жұмыс процесін үйлестіру ; ашылмалы тізім; іздестіру өрісі; қадағалау; белгі; тегтерді енгізіңіз; жобаны жіктеу; шарасыз; таптырмайтын қадам; қатынасты шектеу;үтір;тиісті құқықтар; кейбір жоба параметрлерін реттеу;портал;қол жетімді болу;оның тақырыбын басу арқылы.

6. Find in the text the English equivalents of the following sentences:

1. Егер бұрын үлгіні жасасаңыз және оны жаңа жобаға қолданғыңыз келсе, «Жобаны таңдау» тақырыбының астында «Таңдау» сілтемесін басып, қажетті үлгіні таңдаңыз
2. Үлгіні жасау туралы қосымша ақпарат алу үшін біздің «Кеңестер мен ұсыныстар» бөлімін қараңыз
3. «Кезеңді қосу» сілтемесін басыңыз және тиісті өріске «Тақырып» сөзін енгізіңіз, содан кейін оның мерзімін орнатыңыз, тізімнен жауапты адамды таңдап, «ОК» батырмасын басыңыз.
4. Бұл жағдайда жоба тек жоба жетекшісіне, жоба менеджеріне және тиісті құқықтарымен оның мүшелеріне қол жетімді болады.
5. Жаңадан жасалған жобаға қатынасты шектегіңіз келсе, осы параметрді пайдаланыңыз. Бұл жағдайда жоба тек жоба жетекшісіне, жоба менеджеріне және тиісті құқықтарымен оның мүшелеріне қол жетімді болады.
6. Қандай-да бір кезеңге жатпайтын тапсырманы қосқыңыз келсе, «Тақырыпсыз тапсырмалар» атауының астындағы «Тапсырманы қосу» сілтемесін пайдаланыңыз.
7. Жаңадан жасалған жобаға қатынасты шектегіңіз келсе, осы параметрді пайдаланыңыз .
8. Жобаңызды жүзеге асырған кезде оған өзгертулер енгізу жоба барысында таптырмайтын қадам болып табылады.
9. Жоғарғы сол жақ бұрыштағы «Жаңа ... жасау» батырмасын басып, ашылмалы тізімнен «Жоба» опциясын таңдаңыз.

6.1. Find in the text the English equivalents of the following sentences:

1. Если вы ранее создали шаблон и хотите применить его к новому проекту, нажмите ссылку «Выбрать» под заголовком «Выбрать проект» и выберите нужный шаблон.
2. Чтобы узнать больше о том, как создать шаблон, посетите наш раздел «Советы и рекомендации»
3. Нажмите ссылку «Добавить стадию, этап» и введите «Название» в соответствующее поле, затем установите дату выполнения, выберите ответственного человека из списка и нажмите кнопку «ОК».
4. В этом случае проект будет доступен только администратору проекта, руководителю проекта и его членам с соответствующими правами.
5. Используйте этот параметр, если вы хотите ограничить доступ к вновь созданному проекту. В этом случае проект будет доступен только администратору проекта, руководителю проекта и его членам с соответствующими правами.

6. Используйте ссылку «Добавить задачу», расположенную под заголовком «Задачи без заголовка», если вы хотите добавить задачу, которая не будет принадлежать какой-либо вехе.
7. Используйте этот параметр, если вы хотите ограничить доступ к вновь созданному проекту.
8. Внесение изменений в ваш проект, когда он выполняется, столь же неизбежно, как незаменимый шаг в ходе проекта
9. Нажмите кнопку «Создать новый ...» в верхнем левом углу и выберите «Проект» в раскрывающемся списке.

7. Review the text and answer the questions using the text information:

1. What is the very first thing you should do to coordinate the workflow?
2. What should you do to apply previously created template to a new project?
3. For what you should visit the Tips & Tricks section?
4. How can you assign a **Project Manager**?
5. What link should you click to start adding members to the project team?
6. What helps categorize the project and facilitate the search for the other users?
7. In which case should you use the option **save this project as private** box?
8. Who have full privileges to manage the portal or Projects module and can create new projects on the portal?
9. When you should check the **Follow this project** box?
10. What is the indispensable step in the project progress?

8. Make a plan of the text and give the titles of each part.

9. Give written translation of the last part of the text.

10. Test

1. The very first thing you should do to coordinate the workflow is to create a …:
   a) template
   b) list
   c) project

2. Choose the correct translation of the word **to accelerate:**
   a) ускорить, тездету
   b) устанавливать, уточнять, тексеру
   c) выбирать, таңдау

3. Choose the correct translation of the word **to click:**
   a) выбирать, таңдау
   b) нажать, басу
   c) сохранить, сақтау

4. Choose the correct translation of the word **to apply:**

a) учиться,үйрену
b) использовать, қолдану
c) добавить, қосу

5. Choose the correct translation of the word **to specify:**

a) устанавливать, уточнять, нақтылау
b) удалить,өшіру
c) начать, бастау

6. Choose the correct translation of the word **to notify:**

a) добавить, қосу
b) уведомлять,хабарлау
c) нажать, басу

7. Choose the correct translation of the word **milestone:**

a) образец, үлгі
b) описание, сипаттама
c) этап, кезең

8. To assign a Project Manager , open Tips & Tricks section and select a person you need.

a) True
b) False

9. Tags separating with commas helps categorize the project and facilitate the search for the other users.

a) True
b) False

10. Only portal owner can create new projects on the portal.

a) True
b) False

Unit 2: CREATING TASK LIST TEMPLATES

1.Read and learn the meaning of the following words:

1. to create - создать, жасау
2. predefined - заранее намеченное, алдын ала белгіленген
3. lists - списки, тізімдер
4. existing task listes - существующие списки заданий, бар тапсырмалар тізімі

5. tn the top right - сверху справа, жоғарғы оң жақта
6. templates - образцы, үлгілер
7. to make changes - ввести изменения, өзгерістер еңгізу
8. to edit link - изменить ссылку, сілтемені өзгерту
9. task lists - лист заданий, тапсырмалар тізімі
10. to button - нажать на кнопку, батырманы басу
11. task Templates - образец заданий, тапсырмалар үлгілері
12. to give the templatea name - дать шаблону имя, үлгіге ат беру
13. to show - показывать, көрсету
14. to select - выбирать, таңдау
15. privacy of the tasks - секретность заданий, міндеттердің құпиялығы
16. to add tasks to a template - добавить задания к образцу тапсырманы үлгіге қосу
17. options - опции, опциялар
18. slightly - слегка, аздап
19. to start date Due date - басталатын күн мерзімнің өту күні
20. to set - орнату
21. specific date - определенный, нақты күн
22. the task start - задание начинается, тапсырма басталады
23. counting - счет, санау
24. Who should do this? - Кто это сделает? Мұны кім жасайды?
25. unassigned - неназначенный, тағайындалмаған
26. to select - выбрать, таңдау
27. to be assigned - тағайындалу керек
28. to leave the selection - оставить выбор, таңдау қалдыру
29. multiple people - многочисленное количество людей, көптеген адам
30. actual assignees - фактические правопреемники, нақты құқық иеленушілер
31. to edit – Редактировать, өңдеу
32. duplicate - копировать, көшірме жасау
33. to sort the tasks - классифицировать задания, тапсырмаларды жіктеу
34. to create a template - создатьобразец, үлгі жасау
35. from an existing task list - из существующего списка заданий, бар тапсырмалар тізімінен
36. an administrator - администратор
37. permission - разрешение, рұқсат
38. to save - сохранять, сақтау
39. prototype design - дизайн прототипа, прототиптің дизайны

2. Read the text and say what the area of creating task list templates are.

Text 2: CREATING TASK LIST TEMPLATES

You can create predefined lists of tasks that can be used to create new task lists in your projects, or added to existing task lists.

In the site 'Settings' menu in the top right of your screen, choose the 'Templates' area and to make changes to existing templates or add a new one, click the 'Edit' link:

1. Task Templates 2. 3.	2 templates
Create predefined lists of tasks that you can quickly add to your future projects.	New campaign tasks – 6 tasks
	New employee onboarding – 9 tasks
Edit	

In the main 'Task Templates' screen, you can add a new task list to use as a template using the 'Add Template' button in the top right:

TASK TEMPLATES

- When you add a new template, you can enter some details:
- Give the template a name.
- Add any notes you'd like to show as task list notes when the template is used to create a task list in a project.
- Select who can see the template in the 'Who can view this' tab. Note - this option does not affect the privacy of the tasks or task lists created from the template.

Note - you won't see this template listed to be used in a project until you add some tasks to it.

- **Adding tasks to a template**
- Once you've created a new template, you can add tasks just like you add them to a task list in a project. In a template though, some of the options are slightly different:
- **Start date/Due date**: within the task list templates you cannot set a specific date for the task start and due date. Instead, choose a number from this list and when the template is used, the dates will be set counting from the day that you're using the template (for example, if you set it as 0 then the date will be set as 'today').
- **Who should do this**:

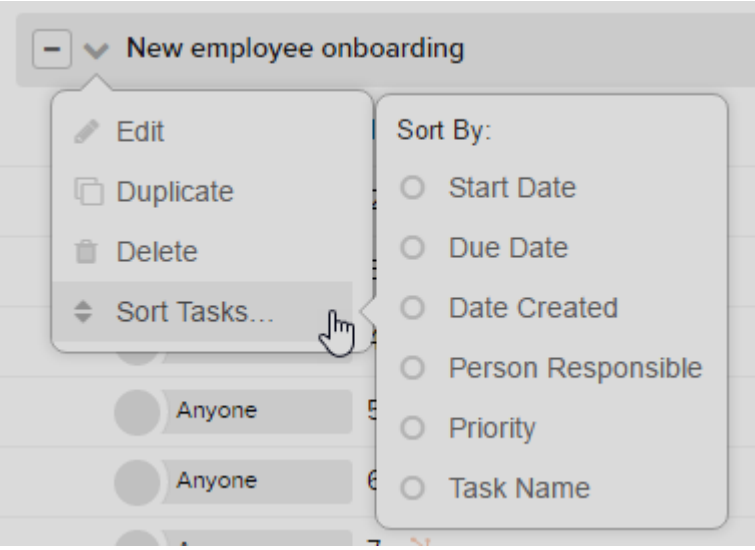
✓ Leave the selection as 'Anyone' to show the task unassigned when the template is used.

✓ Select a specific person for the task to be assigned to when the template is used.

✓ Select multiple people for the tasks to be assigned to when the template is used.

✓ Use the 'Choose Later' option to add a note of who should do the task, and the actual assignee(s) can be chosen when the template is used.

You can also edit, duplicate, delete or sort the tasks in a template using the option in the menu to the left of the template name:



3. Creating a template from an existing task list in a project
If you are an administrator or have the Can manage Templates permission, you can save any task list from any project into the templates section. Simply click the drop-down arrow to the left of the task list name -> Templates -> Save as Template.

4. Guess the meaning of the following international words and phrases:
Mathematics; etymologically; auditors; discipline; system; arithmetic; algebra; differential; geometry; structure; axioms; parallel; mental; theorems; aspect; fundamental facts.

5. Find in the text the English equivalents of the following phrases:
Заранее намеченное; сверху справа; изменить ссылку; существующие списки заданий; дать шаблону имя; неназначенный; классифицировать задания, стрелка раскрывающегося списка; опция в меню.

6. Find in the text the English equivalents of the following phrases:
Алдын ала белгіленген; жоғарғы оң жақта; сілтемені өзгерту; бар тапсырмалар тізімі; үлгіге ат беру; тағайындалмаған;тапсырмаларды жіктеу; ашылмалы тізім көрсеткісі,мәзірдегі опция.

7. Find the English equivalents of the following sentences:
1. В меню «Настройки» сайта в правом верхнем углу экрана выберите область «Шаблоны» и внесите изменения в существующие шаблоны или добавьте новый, нажмите ссылку «Изменить».
2. Создавайте предопределенные списки задач, которые вы можете быстро добавить в свои будущие проекты.
3. Выберите, кто может видеть шаблон на вкладке «Кто может просмотреть это». Примечание. Этот параметр не влияет на конфиденциальность задач или списков задач, созданных из шаблона.
4. Оставьте выделение как «Любое», чтобы показать задачу не назначенной при использовании шаблона

5. Вместо этого выберите номер из этого списка и, когда используется шаблон, даты будут установлены с момента, когда вы используете шаблон (например, если вы установите его как 0, тогда дата будет установлена как «сегодня».)
6. Используйте опцию «Выбрать позже», чтобы добавить примечание о том, кто должен выполнять эту задачу, и фактические правопреемники могут быть выбраны при использовании шаблона
7. Если вы являетесь администратором или имеете разрешение Can Management Templates, вы можете сохранить любой список задач из любого проекта в разделе шаблонов

7.1. Find the English equivalents of the following sentences:
1. Экраныңыздың жоғарғы оң жағындағы «Параметрлер» мәзірінде «Үлгілер» аймағын таңдап, бар үлгілерге өзгертулер енгізіңіз немесе жаңасын қосыңыз, «Өзгерту» сілтемесін басыңыз.
2. Болашақ жобаларыңызға жылдам қосуға болатын тапсырмалардың алдын ала анықталған тізімдерін жасаңыз.
3. «Кім көре алады» деген қойындыдағы үлгіні кім көре алатынын таңдаңыз. Ескертпе. Бұл параметр үлгіден жасалған тапсырмалар немесе тапсырмалар тізімі құпиялылығына әсер етпейді.
4. Үлгіні пайдаланған кезде тағайындалмаған тапсырманы көрсету үшін, таңдауды «Кез келген» ретінде қалдырыңыз.
5. Оның орнына, осы тізімдегі нөмірді таңдаңыз.Үлгі қолданылғанда, күндер үлгіні пайдаланып жатқан күннен бастап есептеледі (мысалы, егер сіз оны 0 деп орнатсаңыз, күн «бүгін» деп орнатылады).
6. Тапсырманы кім орындағаны туралы ескертуді қосу үшін «Кейінірек таңдау» опциясын қолданыңыз, және үлгіні пайдаланған кезде нақты құқық иеленушілерді таңдауға болады.
7. Администратор болсаңыз немесе Can Management Templates рұқсатынаие болсаңыз, кез-келген жобадан кез-келген тапсырмалар тізімін үлгілер бөлімінде сақтай аласыз.

8. Review the text and answer the questions using the text information:
1. What should you do to make changes to existing templates or add a new one?
2. Which details you can enter, when you add a new template?
3. Which option does not affect the privacy of the tasks or task lists created from the template?
4. Is it possible to see this template listed to be used in a project until you add some tasks to it?
5. How can you add tasks to a template?
6. Which template options are slightly different from the project?
7. What cannot you set within the task list templates?
8. How can you choose the actual assignee(s) of the tasks in a template?
9. What actions can you do with the tasks in a template using the option in the menu to the left of the template name?

10. Who can save any task list from any project into the templates section?

9. Make a plan of the text and give the titles of each part.

10. Give written translation of the last part of the text.

11. Test

1. Choose the correct translation of the word **duplicate:**
   a) копировать, көшірме жасау
   b) классифицировать
   c) выбрать, таңдау

2. What's the English for **разрешение, рұқсат:**
   a) list
   b) template
   c) permission

3. Choose the correct translation of the word **privacy:**
   a) изменения, өзгеріс
   b) ссылку, сілтеме
   c) секретность, құпия

4. What's the English for **заранее намеченное,алдын ала белгіленген:**
   a) existing
   b) predefined
   c) assigned

5. Choose the correct translation of the word **assignees:**
   a) правопреемники, құқықиеленушілер
   b) образцы, үлгілер
   c) задания, тапсырмалар

6. You can create predefined lists of tasks that can’t be used to create new task lists in your projects, or added to existing task lists.
   a) True
   b) False

7. In the main 'Task Templates' screen, you can add a new task list to use as a template.
   a) True
   b) False

8. You won't see template listed to be used in a project until you add some tasks to it.
   a) True

b) False

9. You can’t edit, duplicate, delete or sort the tasks in a template.
a) True
b) False

10. Use the 'Choose Later' option to add a note of who should do the task, and the actual assignee(s) can be chosen when the template is used.
a) True
b) False

Unit 3: APPOINTMENT OF LINKS BETWEEN TASKS

1. Read and learn the meaning of the following words:

1. to create tasks – создать задания, тапсырмаларды жасау
2. contact record - запись контактов, байланыс жазбасы
3. to coordinate tasks – координировать обязанности, міндеттерді үйлестіру
4. appointments - встречи, кездесулер
5. to alert you – напомнить, сізге ескерту
6. to prevent double - booking - предотвратить двойное бронирование, екінше рет брондамау
7. to click - отметить, белгілеу
8. to add appoinment - добавить встречу, кездесуді қосу
9. to add tasks - добавить задания, тапсырмаларды қосу
10. to assign a date and time – назначить дату и время, күн мен уақытты белгілеу
11. to block out a window of time - блокировать окно времени, уақыт терезесін оқшаулау
12. a start date – день начало, басталатын күні
13. to complete - заканчивать, аяқталу
14. to block out – закрыть, бұғаттау
15. specific period – определенный период, нақты кезең
16. to be linked to - быть на связи, байланыста болу
17. to select a different contact –выбрать различный контакт, әр түрлі контактіні таңдау
18. to link - связать, байланыстыру
19. to multiple- умножить, көбейту
20. tasks Appoinment Information- информация об назначении заданий, тапсырмаларды тағайындау туралы ақпарат
21. to enter the event details- ввести детали событий, оқиғаның егжей-тегжейін еңгізу
22. to specify- устанавливать, көрсету

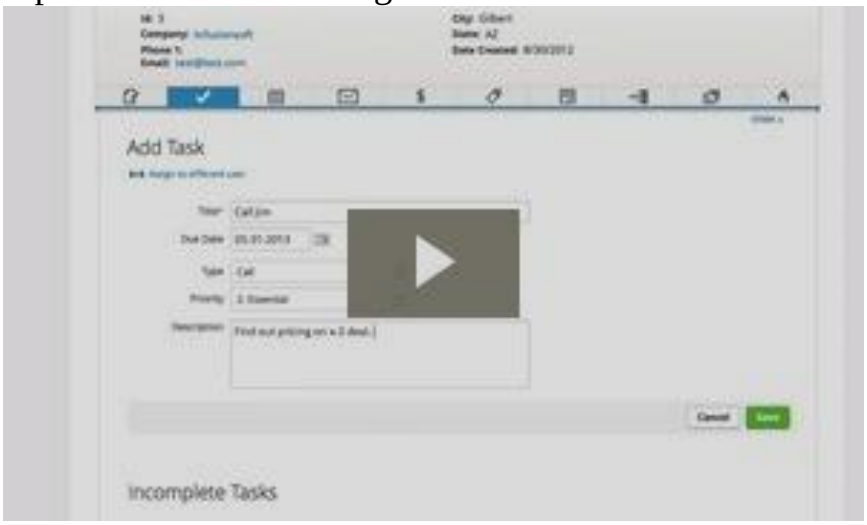
23. to show up on- показывать, анықтау
24. to assign an - назначить,тағайындау
25. to identify- определять,анықтау
26. critical- важный, өте маңызды
27. to send - послать, жіберу
28. email notification- предупреждение по электрон-ной почте, электронды пошта хабарландыруы
29. a pop –up – всплывающее окно, қалқымалы терезе
30. to trigger- запускать, бастау
31. to be logged - зарегистрироваться, тіркелу
32. to save the task- сохранить, тапсырманы сақтау

2. Read the text and say what the area of appointment of links between tasks is.

Text 3: APPOINTMENT OF LINKS BETWEEN TASKS

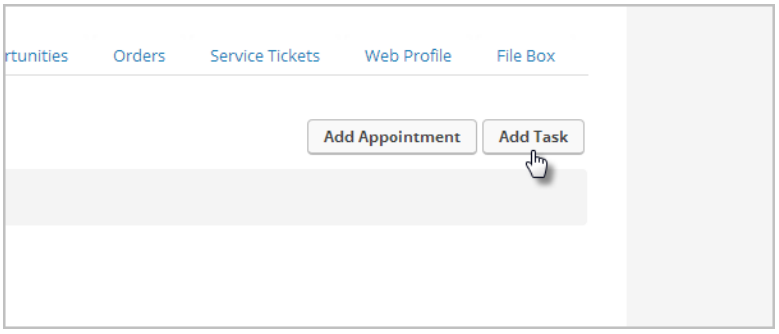
1 INTRODUCTION

You can create tasks or appointments from a contact record or from My Day. When you use the My Day calendar, you'll be able to coordinate tasks or appointments with your overall schedule. When you create tasks or appointments on a contact record, Infusion soft will not alert you to existing of tasks or appointments or prevent double-booking.



2 STEP-BY-STEP INSTRUCTIONS

1. While on a contact record, click on the **Add Appointment** or **Add Task** button.



- Create a task to create a "to do" item on your calendar. You can assign a date and time, but cannot block out a window of time on your calendar for a task. Note: Tasks have a start date, but the end date is not recorded until the task is complete.

- Create an appointment to block out a specific period of time and/or to record a firm commitment. Note: Appointments have a Start and End date and time.

2. Fill in the task or appointment details.

- **Linked Information**: The task or appointment will automatically be linked to the contact record you are in. Click on the **Select a different contact** link to link it to a different person. Note that it will only be linked to one contact. If you need to link it to multiple contacts, you must create multiple tasks/appointments.

- **Task / Appointment Information**: Enter the event details. Note that your date/time entry will specify when it shows up on the user's calendar.

- **Advanced Info**: Assign an Action Type and Priority. The priority helps you identify which tasks are most critical so you can work on them first.

- **Notifications**: Click on one or more users to send them an email notification when this task is created. Set a pop-up reminder to trigger before the appointment. The pop-up reminder displays when the user is logged into Infusion soft.

3. Click the Save button to save the task or appointment to the calendar and/or task list.

3. Guess the meaning of the following international words and phrases:
Create; prevent; priority; coordinate; show; calendar; period; differential; display; identify; start; details; fundamental facts.

4. Find in the text the English equivalents of the following phrases:
Общий график; двойное бронирование; всплывающее напоминание; уведомление по электронной почте; несколько контактов; твердое обязательство; зарегистрироваться; обратите внимание; ваша дата / время входа.

5. Find in the text the English equivalents of the following phrases:
Жалпы кесте; екінше рет брондау; қалқымалы еске салғыш; электрондық пошта хабарландыруы; бірнеше байланыстар; қатаң міндеттеме; тіркелу тапсырмаларды жіктеу, есіңізде болсын; сіздің күні / уақыты кіруі.

6. Find the English equivalents of the following sentences:

1. Когда вы создаете задания или встречи в записи контактов, программа Infusion soft не предупреждает вас о существующих задачах или встречах, или не допускает двойного бронирования.
2. Создать встречу, чтобы заблокировать определенный период времени и / или записать строгое соблюдение распорядка. Примечание. Назначения имеют дату и время начала и окончания.
3. Нажмите ссылку «Выбрать другую ссылку», чтобы связать ее с другим человеком.
4. Обратите внимание, что ваша дата / время будет указывать, когда она отображается в календаре пользователя.
5. Назначьте тип действия и приоритет.
6. Приоритет помогает определить, какие задачи наиболее важны, чтобы вы могли сначала работать над ними.
7. Установите всплывающее напоминание для запуска до назначения.
8. Всплывающее напоминание отображается, когда пользователь регистрируется в программе Infusion soft
9. Когда вы создаете задания или встречи в записи контактов, программа Infusion soft не предупреждает вас о существующих задачах или встречах, или не допускает двойного бронирования.

7. Find the English equivalents of the following sentences:

1. Контакт жазбасында тапсырмалар немесе кездесулер жасағанда, Infusion soft сізді бұрыннан бар тапсырмалар немесе кездесулер туралы хабардар етпейді немесе екі рет брондауды болдырмайды.
2. Белгілі бір уақыт кезеңін бұғаттау және / немесе қатаң жоспарға сәйкес болу үшін кездесу жасаңыз Ескерту: Кездесудің басталу және аяқталу мерзімі мен уақыты бар.
3. Басқа адамға байланыстыру үшін «Басқа контактіні таңдау» сілтемесін басыңыз
4. Күні / уақыты пайдаланушы күнтізбесінде көрсетілетініне назар аударыңыз.
5. Әрекет түрі мен басымдықты тағайындаңыз.
6. Басымдық алдымен солармен жұмыс істеу үшін қандай тапсырмалар ең маңызды екенін анықтауға көмектеседі
7. Кездесуден бұрын іске қосу үшін қалқымалы еске салуды орнатыңыз.
8. Қалқымалы еске салғыш пайдаланушы Infusion soft бағдарламасында тіркелгенде көрсетіледі.
9. Контакт жазбасында тапсырмалар немесе кездесулер жасағанда, Infusion soft сізді бұрыннан бар тапсырмалар немесе кездесулер туралы хабардар етпейді немесе екі рет брондауды болдырмайды.

8. Review the text and answer the questions using the text information.

1. From what can you create tasks or appointments?

2. What can you do, when you use the My Day calendar?
3. What are the advantages of creating tasks or appointments on a contact record?
4. What should you do to create a "to do" item on your calendar?
5. What can you say about the date and time of appointments?
6. What should you do to block out a specific period of time and/or to record a firm commitment?
7. Why must you create multiple tasks/appointments, when you need to link it to multiple contacts?
8. When will your date/time entry specify?
9. What helps you to identify which tasks are most critical so you can work on them first?
10. What is the function of a pop-up reminder?

9. Make a plan of the text and give the titles of each part.

10. Give written translation of the last part of the text.

11. Test

1. What's the English for **зарегистрироваться, тіркелу:**
   a) to trigger
   b) to be logged
   c) to identify

2. Choose the correct translation of the word **to show up on**:
   a) показывать, анықтау
   b) закрыть, бұғаттау
   c) связать , байланыстыру

3. What's the English for **двойное бронирование:**
   a) Email notification
   b) double-booking
   c) appointment

4. Choose the correct translation of the word **a pop –up:**
   a) встреча, кездесу
   b) запись контактов, байланыс жазбасы
   c) всплывающееокно, қалқымалытерезе

5. What’s the English for **запускать, бастау:**
   a) to trigger
   b) to assign
   c) to multiple

6. You can create tasks or appointments only from a contact record.
   a) True
   b) False

7. Tasks have a start date, but the end date is not recorded until the task is complete.
   a) True
   b) False

8. Appointments have only a Start and End date.
   a) True
   b) False

9. The pop-up reminder displays when the user is logged into Infusion soft.
   a) True
   b) False

10. Create a task to block out a specific period of time and/or to record a firm commitment.
   a) True
   b) False

Unit 4: RESOURCE PLANNING AND PROJECT COSTS

1. Read and learn the meaning of the following words:

1. cost management - управление расходами, қаржыны басқару
2. resource planning - планирование ресурсов,қорды жоспарлау
3. project costs - стоимость проекта, жобаның бағасы
4. allocation and control of the budget - распределение и контроль бюджета, бюджетті бөлу және бақылау
5. to make certain - быть уверенным, сенімді болу
6. a prerequisite skill - необходимое условие, қажетті дағды
7. to be completed - быть завершенным, аяқталу
8. within an agreed upon budget - в пределах запланированного бюджета, келісілген бюджет шеңберінде
9. to establishing oneself- упрочить, өзіңізді жетілдіру
10. to ensure- обеспечивать, қамтамыз ету
11. to overshoot their budget - превысить запланированный бюджет, келісілген бюджетті асыру
12. profitability - доход, кіріс
13. to involve - включать, тарту, қосу
14. cost estimations - оценка стоимости, құнын бағалауы
15. cost - tracking spreadsheet development - разработка таблиц с отслеживанием расходов, шығындарды бақылаудың электрондық кестесін жасау

16. the integration of a project cost management software - интеграция программного обеспечения для управления затратами проекта, жоба бағасын басқаруды бағдарламалық қамсыздандыру интеграциясы
17. to determine - определять, анықтау
18. raw material - сырье, шикізат
19. facilities - средства, нысандар
20. to be required - требуемые, қажетті болып табылатын
21. to deliver - доставлять, жеткізу
22. executing the project - осуществления проекта, жобаны жетілдіру
23. vital - важный, маңызды
24. software - программное обеспечение, бағдарламалық қамтамасыз ету
25. applications - приложения, қосымшалар
26. to be relevant - быть актуальным, керек болу, қажетті болу
27. a subject matter expert - эксперт в этой сфере, осы сала сарапшысы
28. to create a workflow structure - создать структуру рабочего процесса, жұмыс процесін жасау
29. work breakdown structure - структура разделения работ, міндеттерді бөлу құрылымы
30. to refer to data- ссылаться на данные, деректерге сілтеме жасау
31. to consult the SOW document - проконсультироваться с документом SOW, SOW құжатына кенес беру
32. requirements - требования, талаптар
33. to be in-line with the organization's policies and procedures -быть в соответствии с политикой и процедурами организации,ұйымның саясаты мен рәсімдеріне сәйкес келу
34. analogous estimating - аналогичная оценка, аналогтық бағалау
35. parametric estimating - параметрическая оценка, параметрлік бағалау
36. bottom-up estimating - нижняя оценка, басынан аяғына дейін бағалау
37. The use of cost accounting tools or computerized tools – использование инструментов учета затрат или компьютеризированных инструментов, шығындарды есепке алу құралдарын немесе компьютерленген құралдарды пайдалану
38. accurately - точно, нақты
39. to estimate Project Cost and Duration - оценить стоимость и продолжительность проекта, жобаның қаржысын және ұзақтылығын бағалау

2. Read the text and say what the area of resource planning and project costs are.

TEXT 4: RESOURCE PLANNING AND PROJECT COSTS

What is Cost Management? Cost management in project management is the science behind the planning, allocation and control of the budget for a project or an organization. It is a process that makes certain that a project would be completed

within an agreed upon budget and cost management in project management is a prerequisite skill for establishing yourself as a great project manager.

A good project cost management plan ensures that the organization does not overshoot their budget, thereby maximizing profitability.

The process involves a lot of project cost estimations and calculations, cost-tracking spreadsheet development, reviews and approvals from top management and the integration of a project cost management software.

4 Steps to Creating a Project Cost Management Plan

1. Resource Planning

Resource planning helps the project manager determine how much human resource, raw material, equipment and facilities that would be required to deliver on the project. At this phase, the project manager would be looking at all the physical resources necessary for executing the project.

So let's say, a project manager is working on an IT related project, he would need to be made aware of what IT skills are vital to the project and what software or applications are relevant to the project.

A great way to do this would be to have a sit-down with a subject matter expert, professional associations and members of the project team to create a workflow structure (work breakdown structure). This will aid in the identification of components of the project that would require certain resources.

The project manager can also refer to data from past projects, consult the SOW document and ensure that all activities and requirements are in-line with the organization's policies and procedures.

2. Cost Estimation

This involves developing an approximate value of how much the resources identified are going to cost. The process involves identifying and examining different pricing alternatives with the aim of going with the option that is most profitable for the company without necessarily compromising on quality.

At this stage, the project team would want to be considering resource requirements, the duration of activities, the work breakdown structure, information from previous similar projects concluded and resource rates (labor fees per hour, wholesale versus retail costs).

There are 4 techniques for estimating costs, they include:

- Analogous estimating
- Parametric estimating
- Bottom-up estimating.
- The use of cost accounting tools or computerized tools

You can find out more about them by reading this post on, "How to Accurately Estimate Project Cost and Duration".

3. Cost Budgeting

Now that we have gotten our cost estimates, the next step would be to do the cost budgeting. This refers to the allocation of cost estimates to the identified project components that require a certain amount of resources.

It makes use of the project schedule (where costs are allocated by time periods), work breakdown structure and cost estimates to come up with a cost baseline for the project. The cost baseline is essential for tracking project management cost during the project life cycle.

4. Cost Control

Cost control involves tracking and measuring financial variances from the cost baseline that we came up with during cost budgeting.

These changes could be as a result of an increase in the supplier's rates that may be attributed to the scarcity of certain raw materials in the market.

It could also be that the time duration for certain components of the projects were just not enough or the introduction of a more efficient software of tool into the market that was not available during the resource planning phase but which the project manager felt was a better fit for the project as opposed to a lower priced one that was initially agreed upon.

It takes into cognizance any changes that might have occurred at the different project phases and alerts top management and stakeholders of all the relevant changes.

3. Guess the meaning of the following international words and phrases:

Prerequisite; planning; budgeting; project components; phase; manager; market; efficient; components; structure; resources; professional associations; examining; identify; technique; relevant.

4. Find in the text the English equivalents of the following phrases:

Управление расходами; соответствующий; в рамках согласованного бюджета; придумать базовый уровень затрат для проекта; определенный объем ресурсов; увеличение ставок поставщиков; базовый уровень затрат; для отслеживания затрат; управление проектами; более эффективное программное обеспечение инструмента на рынке; принимать во внимание.

5. Find in the text the English equivalents of the following phrases:

Қаржыны басқару; орынды; келісілген бюджет шеңберінде; жоба үшін шығындардың негізін құрастыру; жеткізушілердің тарифтерінің өсуі; екі нүкте сызықты анықтайды; жобаның басқару құны; нарыққа құралдарды неғұрлым тиімді бағдарламалық қамтамасыз ету; назараудару.

6. Find the English equivalents of the following sentences:

1. Управление затратами в управлении проектами - это наука, лежащая в основе планирования, распределения и контроля бюджета для проекта или организации.
2. Этот процесс включает в себя множество оценок и расчетов затрат по проекту, разработку таблиц с отслеживанием затрат, обзоры и одобрения высшего руководства и интеграцию программного обеспечения для управления затратами на проект.

3. Отличным способом сделать это, было бы сесть с экспертом этой сферы, профессиональными ассоциациями и членами проектной команды для создания структуры рабочего процесса (структуры разбивки работ).
4. Менеджер проекта также может ссылаться на данные прошлых проектов, консультироваться с документом SOW и следить за тем, чтобы все действия и требования соответствовали политике и процедурам организации.
5. Этот процесс включает в себя выявление и изучение различных альтернатив ценообразования с целью перехода на вариант, который является наиболее выгодным для компании, без ущерба для качества.
6. Он использует график проекта (где затраты распределяются по периодам времени), структура разбивки работ и сметы расходов, чтобы составить базовый уровень затрат для проекта.
7. Также может быть, что времени для некоторых компонентов проектов просто недостаточно или введения более эффективного программного обеспечения инструмента на рынок, который не был доступен на этапе планирования ресурсов, но который, по мнению руководителя проекта, был лучше подходит для проекта, в отличие от более дешевого, который был первоначально согласован.
8. Он принимает во внимание любые изменения, которые могли произойти на разных этапах проекта, и предупреждает высшее руководство и заинтересованных сторон обо всех соответствующих изменениях.

6.1. Find the English equivalents of the following sentences:

1. Жобаны басқарудағы шығындарды басқару–жобаға немесе ұйымға бюджетті жоспарлау, бөлу және бақылаудың артындағы ғылым.
2. Процесс көптеген жобалық шығындарды және есептеулерді, шығынды қадағалайтын электрондық кестелерді әзірлеуді, жоғарғы басшылықтан шолуды және мақұлдауды және жобаның шығындарын басқарудың бағдарламалық жасақтамасын біріктіруді қамтиды.
3. Бұл жасаудың керемет тәсілі жұмыс процесінің құрылымын жасау үшін сарапшылардың, кәсіби қауымдастықтардың және жобалық топ мүшелерінің көмегімен (жұмыс үзілісінің құрылымы).
4. Процесс сапа бойынша міндетті түрде зиян келтірместен компания үшін ең тиімді болып табылатын опцияға бару мақсатында әртүрлі баға белгілеудің баламаларын анықтауды және зерттеуді қамтиды.
5. Бұл үдеріс сапаға зиян келтірместен компания үшін ең тиімді болып табылатын опцияға көшу үшін баға белгілеудің әр түрлі баламаларын анықтау мен зерттеуді қамтиды.
6. Ол жоба үшін шығындардың базалық сызбасын құрастыру үшін жобалық кестені (шығындар уақытша бөлінген кезде), жұмыстың бөліну құрылымын және шығын сметасын қолданады.
7. Сондай-ақ, жобаның белгілі бір компоненттері үшін уақыт ұзақтығы жеткіліксіз немесе ресурстарды жоспарлау кезеңінде қол жетімді емес, бірақ

жобаның менеджері жақсы сезінген нарыққа құралдарды тиімдірек енгізу бастапқыда келісілген төмен бағаға қарағанда, жоба үшін.
8. Бұл әртүрлі жобалық кезеңдерде орын алуы мүмкін барлық өзгерістерді тануды талап етеді және барлық тиісті өзгертулердің жоғарғы басшылығы мен мүдделі тұлғаларын ескертеді.

7. Review the text and answer the questions using the text information:
1. Give some definitions of the cost management.
2. What does a good project cost management plan ensure?
3. Name 4 Steps to Creating a Project Cost Management Plan.
4. To do what resource planning helps the project manager?
5. What are the project managers' duties?
6. What should the project manager do to create a workflow structure?
7. Which step involves developing an approximate value of how much the resources identified are going to cost?
8. Name 4 techniques for estimating costs.
9. Which stage refers to the allocation of cost estimates to the identified project components that require a certain amount of resources?
10. What is the function of cost control?

8. Make a plan of the text and give the titles of each part.

9. Give written translation of the last part of the text.

10. Test

1. Choose the correct variant **сырье, шикізат:**
   a) profitability
   b) facility
   c) raw material

2. Choose the correct variant **allocation:**
   a) приложение, қосымша
   b) требование, талап
   c) распределение, бөлу

3. Choose the correct variant **превысить, асыру:**
   a) to determine
   b) to overshoot
   c) to deliver

4. Choose the correct variant **bottom-up estimating:**
   a) нижняя оценка, басынан аяғына дейін бағалау
   b) параметрическая оценка, параметрлік бағалау

c) аналогичная оценка, аналогтық бағалау

5. Choose the correct variant **структура разделения работ, міндеттерді бөлу құрылымы:**

a) workflow structure
b) work breakdown structure
c) executing the project

6. A good project cost management plan ensures that the organization does not overshoot their budget, thereby maximizing profitability.

a) True
b) False

7. At the phase of cost estimation, the project manager would be looking at all the physical resources necessary for executing the project.

a) True
b) False

8. Cost Estimation involves identifying and examining different pricing alternatives with the aim of going with the option that is most profitable for the company without necessarily compromising on quality.

a) True
b) False

9. Cost Budgeting takes into cognizance any changes that might have occurred at the different project phases and alerts top management and stakeholders of all the relevant changes.

a) True
b) False

10. Cost Budgeting makes use of the project schedule (where costs are allocated by time periods), work breakdown structure and cost estimates to come up with a cost baseline for the project.

a) True
b) False

Unit 5: PROJECT ANALYSIS

I. Read and learn the meaning of the following words:

1. successful - успешный, сәтті
2. cost benefit analysis – анализ выгоды и затрат, шығындарды талдау
3. capital budget – бюджет капиталовложений, қаржы бюджеті

4. tools to use in evaluation – инструменты для использования в оценке; бағалауда қолданылатын құралдар
5. financial analysis – финансовый анализ, қаржылық талдау
6. investment- инвестиция, салым
7. to be increased - быть увеличенным,өсіру
8. while allocating limited means – при распределении ограниченных средств, шектеулі қаражат бөлу
9. to find out - выяснить, табу,сұрау
10. to be accepted - быть принятым, қабылдануы тиіс
11. to be rejected - бытьотклоненным,қабылданбайды
12. to be measured–бытьизмеренным, өлшенеді
13. with monetary value – денежной стоимостью, ақшалай құны бар
14. payback period – срок возврата, өтеу мерзімі
15. avoid- отменять, избегать, жою, болдырмау
16. currency - валюта
17. the cash flows - денежные потоки, ақша ағымдары
18. Internal rate of return - внутренняя норма прибыли,ішкі кіріс нормасы
19. to be supposed - предполагается, жоспарланған
20. loss - ущерб,шығын
21. monetary benefit - финансовая выгода, қаржылық пайда
22. productivity - продуктивность, өнімділік
23. less costly - менее дорогостоящий, қымбат емес
24. effective - эффективный, тиімді
25. social responsibilities- общественная ответственность, әлеуметтік жауапкершілік
26. the annuity table - таблица аннуитет, аннуитет кестесі
27. qualitative basis - качественнаяоснова, сапалықнегіз

2. Read the text and say what the area of project analysis is.

TEXT 5: PROJECT ANALYSIS

Tools of project Analysis and Evaluation

Regular analysis and evaluation should be done to make a project successful. There are many tools to use in evaluation and analysis of project. They are: cost benefit analysis, capital budget and financial analysis.

Cost benefit analysis

Cost benefit analysis is also called benefit cost analysis. This is an important tool of project analysis and evaluation. Limited resources and means should be allocated for the proper sectors. If investment is to be increased in one sector, it becomes less in other sectors. For instance, if investment is increased in agricultural sector, it becomes less in education, health and other sectors. So, it is necessary to analyze cost benefit of the project and evaluate while allocating limited means and resources. Without doing cost benefit analysis and evaluating it, investment goes in

less beneficial sectors. Or possible benefit is lost. So, cost benefit of a project should be studied, analyzed and evaluated. While investing in any project, analysis should be done to find out how much benefit may be possible. Satisfactory, if not adequate, benefit is found possible from cost benefit analysis and then the project is accepted. Otherwise it is rejected.

Generally cost benefit is measured with monetary value but the present day business world includes social responsibilities in their sector. So, while analyzing cost benefit of a project only monetary profit should not but social benefits also should be considered. In other words, social interest also should be considered. Project is the product of society. So, it should work remaining within the society.

Cost benefit analysis accepts the projects, which give both monetary and social benefits. It provides qualitative basis to accept or reject the project. So, cost benefit is an important tool for analyzing and evaluating a project.

Capital budget

The other important tool for evaluating and analyzing a project is capital budget. This includes payback period, net present value and internal rate of return which are analyzed below:

Payback period

The invested amount returns in the form of cash flow. The faster the cash flows back in the form of annual return, the more beneficial becomes the project. If the investment returns before the end of the project period, the cash flow during the period before the end of the project is profit. If the investment does not return during the project period, the project leads towards loss. So, project should be analyzed and evaluated to determine which project should be invested and which avoided.

Net present value

This technique is based on the concept of present value of currency. According to this concept, present value of Re. 1 becomes more than its future value. Or what/how much we can buy for Re. 1 at present cannot be bought in future. According to this technique project period is changed into present value and compared with investment. While comparing, if the cash flows is found more than the investment, profit is received from the project. Otherwise it leads towards loss. In this way, project can be analyzed and evaluated by calculating net present value.

Internal rate of return

The other technique of analyzing and evaluating project is internal rate of return (IRR). IRR should be more than cost of capital. If the cost of capital becomes more than IRR, the project is supposed to be unsuccessful. For calculating IRR, at first net investment is divided by annual cash flow to get its factor. The annuity table is looked into.

Financial analysis

The other important tool of project analysis and evaluation is financial analysis. This includes investment in the project and return from it is analyzed. It is also analyzed in cost benefit analysis. But under cost benefit method of analysis monetary benefit and social benefit are analyzed. But under financial analysis purely monetary elements are analyzed. So, under this technique proper sources of finance, sectors of

investment, and productivity are given more emphasis and analyzed. The sources of finance should be proper and less costly. Financial management should be very effective.

3. Guess the meaning of the following international words and phrases:
Analysis; budget; agricultural; project; investment; capital; technique; analyze; monetary; social; adequate; parallel; productivity; calculating; finance; effective.

4. Find in the text the English equivalents of the following phrases:
Финансовый анализ; при распределении ограниченных средств; измеренный; финансовая выгода; срок возврата; денежные потоки; общественная ответственность; ущерб; внутренняя норма прибыли; таблица аннуитет.

5. Find in the text the English equivalents of the following phrases:
Қаржылық талдау; шектеулі қаражат бөлу; өлшенген; қаржылық пайда; өтеу мерзімі; екі нүкте сызықты анықтайды; ақша ағымдары; әлеуметтік жауапкершілік; шығын; ішкі кіріс нормасы ; аннуитет кестесі.

6. Find the English equivalents of the following sentences:
1. Жобаны табысты жүргізу үшін тұрақты түрде талдау жасау және бағалау қажет.
2. Егер бір секторда инвестициялар ұлғайтылса, ол басқа секторларда аз болады.
3. Шектеулі ресурстарды және қаражатты тиісті секторларға бөлу керек.
4. Осылайша, жобаның экономикалық пайдасын талдау және шектеулі қаражат пен ресурстарды бөлу кезінде бағалау қажет.
5. Жалпы алғанда, өзіндік құн ақшалай құнымен өлшенеді, бірақ қазіргі бизнес әлемі өз салаларында әлеуметтік жауапкершілікті қамтиды.
6. Егер инвестиция жобаның аяқталуына дейін қайтарылса, жобаның аяқталуына дейінгі кезеңде ақша ағымы пайда болып табылады.
7. Салыстыру кезінде ақшалай қаражаттардың ағымы инвестициялардан көп болса, жобадан пайда алынады.
8. Егер капитал құны кірістің ішкі нормасынан көп болса, жоба сәтсіз болады.
9. Осылайша, осы әдіске сәйкес қаржыландырудың тиісті көздері, инвестициялар секторы және өнімділікке көбірек көңіл бөлініп, талданды.

6.1. Find the English equivalents of the following sentences:
1. Для успешной реализации проекта необходимо регулярно анализировать и оценивать.
2. Если инвестиции в тот же сектор увеличится, то он будет меньше в других секторах.
3. Ограниченные ресурсы и средства должны распределяться по соответствующим секторам.

4. Таким образом, необходимо проанализировать экономические выгоды проекта и оценить распределение ограниченных ресурсов.
5. Как правило, стоимость измеряется наличными деньгами, но современная бизнес-среда охватывает социальную ответственность в своих областях.
6. Если инвестиции возвращаются до конца проекта, денежные потоки генерируются до конца проекта.
7. При сравнении денежных потоков больше, чем инвестиций, преимущества проекта будут.
8. Если стоимость капитала превышает внутреннюю норму прибыли , проект потерпит неудачу.
9. Таким образом, в соответствии с этим методом больше внимания уделяется адекватным источникам финансирования, сектору инвестиций и производительности.

7. Review the text and answer the questions using the text information:

1. What should be done to make a project successful?
2. Name the tools of project analysis and evaluation?
3. Why is it necessary to analyze cost benefit of the project and evaluate it?
4. How is cost benefit measured?
5. Why social benefits also should be considered?
6. Which steps does capital budget include?
7. Why project should be analyzed and evaluated?
8. What is the essence of calculating net present value?
9. Explain the internal rate of return technique.
10. What is the difference between cost benefit analysis and financial analysis?

8. Make a plan of the text and give the titles of each part.

9. Give written translation of the last part of the text.

10. Test

1. Choose the correct variant **валюта:**
   a) benefit
   b) currency
   c) value

2. Choose the correct variant **the cash flows:**
   a) денежные потоки, ақша ағымдары
   b) качественная основа, сапалық негіз
   c) финансовый анализ, қаржылық талдау

3. Choose the correct variant**monetary:**
   a) эффективный, тиімді

b) ущерб, шығын
c) денежный, ақшалай

4. Choose the correct variant **internal rate of return:**
a) срок возврата, өтеу мерзімі
b) менее дорогостоящий, қымбат емес
c) внутренняя норма прибыли, ішкі кіріс нормасы

5. Choose the correct variant **ограниченные средства, шектеулі қаражат:**
a) limited means
b) less costly
c) monetary benefit

6. According to Net present value, present value of Re. 1 becomes less than its future value.
a) True
b) False

7. If the investment returns before the end of the project period, the cash flow during the period before the end of the project is profit.
a) True
b) False

8. If the cost of capital becomes more than IRR, the project is supposed to be successful.
a) True
b) False

9. Financial analysis accepts the projects, which give both monetary and social benefits.
a) True
b) False

10. Under Cost benefit analysis proper sources of finance, sectors of investment, and productivity are given more emphasis and analyzed.
a) True
b) False

TEXTS FOR ADDITIONAL READING

TEXT 1. INFORMATION SYSTEM

1.Read and learn the meaning of the following words:

1. an integrated set of components – комплексный набор компонентов, құрамдас бөліктердің жиынтығы
2. rely on – полагаться на, сүйену
3. interact with - взаимодействовать, өзара әрекеттесу
4. financial accounts – финансовые счета, қаржы шоттар
5. suppliers - поставщики, жеткізушілер
6. online promotions - онлайн-акции, онлайн акциялар
7. competein - конкурировать, бәсекелесу
8. deploy - внедрять, применять, орналастыру
8. cost-effectively a profound revolution - рентабельно, үнемді
9. disseminate - распространять,тарату
10. census tabulator – табулятор переписи, санақ табуляторы
11. dispersed computers - дисперсные компьютеры, дисперсті компьютерлер
12. enable - давать возможность, мүмкіншілік беру
13. exert a profound influence - оказывать глубокое влияние, терең әсерін тигізу,ету

2. Read the text and say what information system is.

INFORMATION SYSTEM

Information system, an integrated set of components for collecting, storing, and processing data and for providing information, knowledge, and digital products. Business firms and other organizations rely on information systems to carry out and manage their operations, interact with their customers and suppliers, and compete in the marketplace. Information systems are used to run inter organizational supply chains and electronic markets. For instance, corporations use information systems to process financial accounts, to manage their human resources, and to reach their potential customers with online promotions. Many major companies are built entirely around information systems. These include eBay, a largely auction marketplace; Amazon, an expanding electronic mall and provider of cloud computing services; Alibaba, a business-to-business e-marketplace; and Google, a search engine company that derives most of its revenue from keyword advertising on Internet searches. Governments deploy information systems to provide services cost-effectively to citizens. Digital goods—such as electronic books, video products, and software—and online services, such as gaming and social networking, are delivered with information systems. Individuals rely on information systems, generally Internet-based, for conducting much of their personal lives: for socializing, study, shopping, banking, and entertainment.

As major new technologies for recording and processing information were invented over the millennia, new capabilities appeared, and people became empowered. The invention of the printing press by Johannes Gutenberg in the mid-15th century and the invention of a mechanical calculator by Blaise Pascal in the 17th century are but two examples. These inventions led to a profound revolution in the ability to record, process, disseminate, and reach for information and knowledge. This led, in turn, to even deeper changes in individual lives, business organization, and human governance.

The first large-scale mechanical information system was Herman Hollerith's census tabulator. Invented in time to process the 1890 U.S. census, Hollerith's machine represented a major step in automation, as well as an inspiration to develop computerized information systems.

One of the first computers used for such information processing was the UNIVAC I, installed at the U.S. Bureau of the Census in 1951 for administrative use and at General Electric in 1954 for commercial use. Beginning in the late 1970s, personal computers brought some of the advantages of information systems to small businesses and to individuals. Early in the same decade the Internet began its expansion as the global network of networks. In 1991 the World Wide Web, invented by Tim Berners-Lee as a means to access the interlinked information stored in the globally dispersed computers connected by the Internet, began operation and became the principal service delivered on the network. The global penetration of the Internet and the Web has enabled access to information and other resources and facilitated the forming of relationships among people and organizations on an unprecedented scale. The progress of electronic commerce over the Internet has resulted in a dramatic growth in digital interpersonal communications (via e-mail and social networks), distribution of products (software, music, e-books, and movies), and business transactions (buying, selling, and advertising on the Web). With the worldwide spread of smartphones, tablets, laptops, and other computer-based mobile devices, all of which are connected by wireless communication networks, information systems have been extended to support mobility as the natural human condition.

As information systems enabled more diverse human activities, they exerted a profound influence over society. These systems quickened the pace of daily activities, enabled people to develop and maintain new and often more-rewarding relationships, affected the structure and mix of organizations, changed the type of products bought, and influenced the nature of work. Information and knowledge became vital economic resources. Yet, along with new opportunities, the dependence on information systems brought new threats. Intensive industry innovation and academic research continually develop new opportunities while aiming to contain the threats.

3. Find the English equivalents of the following sentences:

1. Информационные системы используются для организации межорганизационных цепочек поставок и электронных рынков.

2. К ним относятся eBay, в основном рынок аукционов; Amazon, расширяющийся электронный центр и поставщик услуг облачных вычислений; Alibaba, электронный рынок для бизнеса; и Google, поисковая компания, которая получает большую часть своего дохода от рекламы ключевых слов в Интернете.
3. Правительства внедряют информационные системы для предоставления услуг экономически эффективные для граждан.
4. Эти изобретения привели к глубокой революции в способности регистрировать, обрабатывать, распространять и распространять информацию и знания.
5. В 1991 году Всемирная паутина, изобретенная Тимом Бернерс-Ли в качестве средства доступа к взаимосвязанной информации, хранящейся на всемирно рассредоточенных компьютерах, подключенных через Интернет, начала функционировать и стала основной услугой, предоставляемой в сети.
6. Поскольку информационные системы способствовали более разнообразной человеческой деятельности, они оказали глубокое влияние на общество.
7. Эти системы ускорили темпы повседневной деятельности, позволили людям разрабатывать и поддерживать новые и часто более полезные отношения, влияли на структуру и объединение организаций, меняли тип купленной продукции и влияли на характер работы.
8. Интенсивные инновации в промышленности и научные исследования постоянно развивают новые возможности, стремясь сдержать угрозы.

3.1. Find the English equivalents of the following sentences:
1. Ақпараттық жүйелер ұйымдастырушылық қамтамасыз ету желілері мен электронды нарықтарды іске қосу үшін қолданылады.
2. Оларға eBay, негізінен, аукциондық базар; Amazon, кеңейтілген электронды сауда орталығы және бұлтты есептеу қызметтерін жеткізуші; Alibaba, бизнес-бизнеске арналған е-базар; және Google-дің интернет-іздестірудегі кілтсөз жарнамасынан түсетін кірістерінің көп бөлігін алатын іздеу жүйесі жатады.
3. Үкімет азаматтарға тиімді қызметтер көрсету үшін ақпараттық жүйелерді еңгізеді.
4. Бұл өнертабыстар ақпарат пен білімге қол жеткізуге, өңдеуге, таратуға және жетуге қабілетті терең революцияға әкелді.
5. 1991 жылы Интернеттегі ғаламдық деңгейде таратылған компьютерлерде сақталған өзара байланысты ақпаратқа қол жеткізу құралы ретінде ойлап тапқан World Wide Web компаниясы жұмысқа кірісті және желіде жеткізілетін негізгі қызмет болды.
6. Ақпараттық жүйелер адамның әртүрлі әрекеттеріне мүмкіндік бергендіктен, олар қоғамға қатты әсер етті.
7. Бұл жүйелер күнделікті іс-қимылдардың қарқынын жеделдетті, адамдарға жаңа және жиі-жиі кездесетін қарым-қатынастарды дамытты және ұстап тұрды, ұйымдардың құрылымы мен араласуына әсеретті, сатып алынған өнім түрін өзгертті және жұмыс сипатына әсеретті.

8. Индустрияның қарқынды инновациалық және академиялық зерттеулері қатерді жоюға бағытталған жаңа мүмкіндіктерді үнемі дамытады.

4. Review the text and answer the questions using the text information.

1. Give the definition of the term “information system”.
2. For what the information systems are used?
3. Name the information systems entirely around major companies are built.
4. What are the inventions led to a profound revolution in the ability to record, process, disseminate, and reach for information and knowledge?
5. What can you say about the first large-scale mechanical information system?
6. What is the UNIVAC I?
7. What happened in the late 1970s?
8. Speak about the World Wide Web.
9. What are the consequences of the progress of electronic commerce over the Internet?
10. How did the information systems change human activities?

TEXT 2: TEN BENEFITS OF GOOD PROJECT MANAGEMENT

1. Read and learn the meaning of the following words:

1. the benefits-преимущества, артықшылықтар
2. good project management – хорошее управление проектом, жобаларды дұрыстап басқару
3. to serve-служить, қызметету
4. the customer-клиент
5. the production-производство, өндірістік
6. necessary-необходимый, қажетті
8. toresist- противостоять, қарсы тұру
9. ingoodquality –хорошего качества, жақсы сапада
10. perform a job- выполнять работу, өз жұмысын орындау
11. it enables managers- дает возможность менеджеру, бұл менеджерлерге мүмкіндік береді
12. to have a close look- внимательно смотреть, мұқият болу
13. Better efficiency in delivering services - повышение эффективности предоставления услуг, қызметтерді жеткізудегі тиімділік
14. to provide - обеспечить, қамтамасыз ету
15. Roadmap - дорожная карта, жол картасы
16. to project completion - завершение проекта, жобаны аяқтау
17. to avoid - избежать,болдырмау үшін
18. productivity - производительность, өнімділігі
19. improve customer satisfaction - повысить уровень удовлетворенности клиентов, клиенттердің қанағаттандыру деңгейін арттыру

20. to complete - завершить, аяқтау
21. to satisfy - удовлетворить, қанатғаттандыру
22. to recommend - рекомендовать, ұсыну
23. Greater awareness - повышение осведомленности, ұлкен хабардар болу
24. enableclient/manager - включить клиента /менеджера; клиент/менеджер қосу
25. to flourish - процветать, гүлдену
26. enhance efficacy in delivering services - повысить эффективность предоставления услуг, қызметтерді жеткізудегі тиімділікті арттыру
27. to improve development and growth within your team - сіздің командаңызға жақсартылған дау мен өсу
28. Results - результаты, нәтижелер
29. to continue - продолжить,жалғастыру
30. efficient way - эффективный способ, тиімді тәсілі
31. Greater competitive edge and standing - конкурентные преимущества и устойчивость, үлкен бәсекелестік және тұрақтылық
32. not visible - незаметные, көрінбейтін
33. superior performance - превосходная производительность, жоғары өнімділік
34. enhance - усовершенствовать, жақсарту
35. chance to expand your services - возможность расширить услуги, қызметтеріңізді кеңейту мүмкіндігі
36. better flexibility - лучшая гибкость, жақсы икемділік
37. increaseinquality - улучшить качество, сапаны жоғарылату
38. increase risk assessment - повысить оценку риска, тәуекелдерді бағалауы арттыру
39. increase productivity - увеличить производительность, өнімділікті арттыру
40. narrow - узкий, тар
41. engage - вовлекать, ақпараттандыру
43. informative - информирующий, қызықты
44. To receive - принять, қабылдау

2. Read the text and say what the area of creating project is.

Text: 2. TEN BENEFITS OF GOOD PROJECT MANAGEMENT

The benefits of good project management serve all those who are involved in the process: the manager who is responsible for the project, the customer who is anxiously waiting for the completed project and the production team that gets this project up and running.

Understanding benefits of professional management is not difficult, but they often get dressed up that way. At its base lies the basic organization skills that are necessary to succeed in any project. Which is the reason why many managers fail to understand its concept and resist investing in good quality project management courses to better learn how to perform their job. A project can be managed efficiently using a set of tools. A project management plan, fit the sizes and complexity of the

project, is important, because it enables managers to guide any project from point "A" to point "B" in a most cost effective and efficient way.

Let's have a close look at some benefits of project management.

1. **Better efficiency in delivering services**-Efficient management can provide a roadmap that can be easily followed and may lead to project completion. Once you know where to avoid pot holes and bumps, it's certain that you'll work smarter and not harder resulting in greater productivity that will last for a very long time.
2. **Improved customer satisfaction**-Whenever you complete any project on time and within budget, the customer will walk away satisfied and happy. So happy customer is one that you'll see again and again, and he will also recommend your business to hundreds of other people. Greater awareness about your business means greater sales and profits. Smart management of project is done using tools that enable client/manager relationship to flourish.
3. **Enhanced efficacy in delivering services**-The strategies you used to complete one project will serve you for many future projects.
4. **Improved development and growth within your team**-Positive results from your project will inspire your team and it will continue to look for ways to perform in a more efficient way.
5. **Greater competitive edge and standing**-The benefits of efficient management of any projects are visible not only within the workplace, but outside as well. With superior performance, you will enhance your position in the market and will get more business
6. **Chance to expand your services**-It's a byproduct of great standing. Good performance leads to even more opportunities to succeed.
7. **Better flexibility**-The biggest benefit of efficient management is ultimate flexibility. It allows you to firmly map out your strategies on how you want your project to get completed. But, the biggest benefit of this organization is that when you discover any smarter direction, you can immediately take it. For all types of companies, this alone is worth the cost of admission.
8. **Increase in quality**-With enhanced effectiveness, there is will considerable increase in quality.
9. **Increased risk assessment**-When all project players are lined up and your strategy is in place, then all potential risks will jump out and may slap your in your face. Efficient management of projects helps you in assessing the risks and warns you in time, even before you start working on any project.
10. **Increased productivity**-Increase in quality and better management will automatically lead to greater productivity.

With successful implementation of various strategies for management of any project, you can narrow down your focus, reach your goals within the set time and cost perimeters. Finally, everybody in the team comes out as winner, which is the biggest benefit of project management. To deliver these benefits of project management, you or your team may need the support of a project management course. Parallel Project Training offer training courses with are highly practical engaging and informative. As an accredited APM training provider and PMI

registered education provider then you can be sure of the quality of the training you will receive.

3. Find the English equivalents of the following sentences:

1. Преимущества хорошего управления проектами обслуживают всех тех, кто участвует в этом процессе: менеджер, отвечающий за проект, клиент, который с нетерпением ждет завершения проекта и производственную команду, которая запускает этот проект.
2. Понимание преимуществ профессионального управления не сложно, но они часто являют себя таким образом.
3. Как только вы знаете, где можно избежать выбоин и кочек, несомненно, что вы будете работать умнее и не сложнее, что приведет к большей производительности, которая будет длиться очень долго.
4. Повышение осведомленности о вашем бизнесе означает увеличение продаж и прибыли.
5. Умное управление проектом осуществляется с использованием инструментов, которые позволяют поддерживать отношения клиент / менеджер.
6. Благодаря превосходной производительности вы повысите свою позицию на рынке и получите больше прибыли.
7. Это позволяет вам четко определить свои стратегии относительно того, как вы хотите, чтобы ваш проект был завершен.
8. Когда все участники проекта готовы к работе и ваша стратегия эффективна, тогда все потенциальные риски выступают и могут нанести вашему бизнесу урон.
9. При успешной реализации различных стратегий по управлению любым проектом вы можете ограничить свое внимание, достичь поставленных целей в установленные сроки и по затратам.
10. В качестве аккредитованного провайдера обучения APM и зарегистрированного поставщика услуг PMI, вы можете быть уверены в качестве обучения, которое вы получите.

3.1. Find the English equivalents of the following sentences:

1. Жақсы жобаларды басқарудың артықшылықтары процеске қатысқандардың барлығына қызмет етеді: жобаға жауапты менеджер, жобаны аяқталғаннын күтіп тұрған тұтынушы және осы жобаны іске асыратын өндіруші командасы.
2. Кәсіби менеджменттің артықшылықтарын түсіну қиын емес, бірақ олар көбіне өзін осылай танытады.
3. Тесіктерді және соққылардан қайдан аулақ болатынын білсеңіз, сіз ақылдылықпен жұмыс жасайсыз және одан да көп жұмыс істемесеңіз, көп уақытқа созылатын өнімділікті арттырады.
4. Сіздің бизнесіңіз туралы көбірек білсе, сатуды және пайда табуды білдіреді.
5. Жобаны тиімді басқару клиент / менеджер қарым-қатынастарын жақсартуға мүмкіндік беретін құралдардың көмегімен жасалады.

6. Жоғары өнімділікпен сіз өзіңіздің позицияңызды нарықта жақсартасыз және көп табысқа жетесіз.
7. Бұл сіздің жобаңызды аяқтауды қалай қалайтыныңызға қатысты сіздің стратегияңызды қатаң картамен салыстыруға мүмкіндік береді.
8. Жобаның барлық мүшелері жұмысқа дайын болғанда және сіздің стратегияңыз тиімді болған кезде, барлық ықтимал тәуекелдер сіздің бизнесіңізге зиян келтіруі мүмкін.
9. Кез келген жобаны басқарудың әр түрлі стратегияларын табысты іске асыра отырып, сіз өзіңіздің назарыңызды төмендетіп, белгіленген уақыт пен шығындардың периметрі бойынша мақсаттарыңызға қол жеткізе аласыз.
10. Аккредитациядан өткен APM оқыту провайдері және PMI білім беру провайдерін тіркеді, сол кезде Сіз алатын оқытудың сапасына сенімді бола аласыз.

4. Review the text and answer the questions using the text information.
1. What is the essence of the benefits of good project management?
2. Why the project management plan is important?
3. What can efficient management provide in delivering services?
4. How to reach greater awareness about your business?
5. With what you will enhance your position in the market and will get more business?
6. What is a byproduct of great standing?
7. Name the biggest benefit of efficient management?
8. What are the benefits of better flexibility?
9. When will all potential risks jump out and may slap you in your face?
10. How can you narrow down your focus, reach your goals within the set time and cost perimeters?

TEXT 3: SOFTWARE REQUIREMENT SPECIFICATION

1. Read and learn the meaning of the following words:

1. software requirement specification - специфика требований программного обеспечения,бағдарламалық қамтамасыз етуталаптары
2.validation - утверждение, тексеру
3.implementation - осуществление,жүзеге асырылуы
4. waterfall model - модель водопада, сарқырама моделі
5.constrainon function - ограничить функцию;функцияға шектеу қойыу
6. start up- запуск, іскеқосу
7. shut down - выключение, өшіру
8. error conditions - условия ошибки, қате жағдайлары
9.to be installed - установлен,орнатылған
10. put into practical use - использовать, практикалық пайдалануға берілді

11. maintenance - обслуживание,техникалық қызмет көрсету
12. feedback - обратная связь,кері байланыс
13. allocate the requirement - выделять требование,талапты бөлу
14. inflexible partition - негибкий раздел,икемсіз бөлім
15. suffer from - страдатьот, зардапшегу

2. Read the text and say what the area of software requirement specification is.

TEXT 3: SOFTWARE REQUIREMENT SPECIFICATION

There are many software process but four activities that are fundamental to software engineering are

1. Software specification
2. Software design and implementation
3. Software validation
4. Software evolution

These are complex activities and of course include sub activities architecture design, unit testing etc.

Waterfall Model

Waterfall model include fundamental software process specification, design, validation, evolution and represent them as requirement specification, software design, implementation, testing, operation, maintenance. In this model each process phase is complete and then move to another phase, so this model is known as 'waterfall model' or 'software life cycle'. In waterfall model you must specify all the function and constrain on function before starting work on them.

Waterfall model is used when system requirement specified at an early stage of software development process.

Principle stage of waterfall model is **Requirement analysis and definition**

Requirements are define according to the need of end user. System's function, constrain and goal are define by negotiation with end user in this step. System functions are defined in detail and behave as system specification. System specification document is used in next phase as input.

System and software design

System design process allocates the requirement to either hardware or software system by establishing an overall system architecture. In software design phase interfaces and interactions of the modules are described, as well as their functional contents and other system states like startup, shutdown, error conditions and diagnostic modes have to be considered. The output of this phase is a Software Design Document.

Implementation and unit testing

Software design is realized as a program or unit program. Each unit is developed independently. Unit testing check each unit meets it specification.

Integration and system testing

Unit program are integrated and test as whole system to check that the software requirement have been met. After software system is delivered to customer.

Operation and maintenance

This is the longest life cycle phase. System is installed and put into practical use. Maintenance involves correcting error, improving the implementation of system unit and enhancing system services as new requirement are discover and ensure software system work properly.

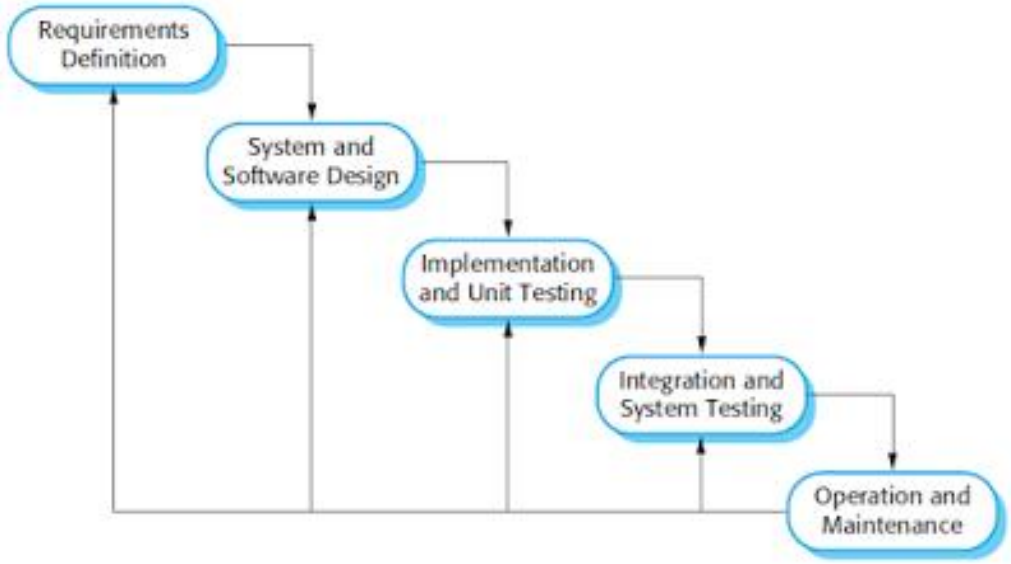


Figure 1: The Waterfall Model

This software model process is not a simple linear model but involves feedback from one phase to another phase. Changes in the process are also reflected in documentation, which is produced in each phase of process. Iteration can be costly and involve significant work. In final phase the software is implemented to use. After implementation we check software must meet the requirement that is specified and also program and design error are checked and the need of new functionality is identified.

Waterfall model drawback

1. The major problem is inflexible partition of process stage
2. Waterfall model is only used when requirement are well understood during the first phase of requirement analysis and unlikely to change radically during system development. If requirement are not specified in initial phase subsequent phase will suffer from it.

3. Find the English equivalents of the following sentences:

1. Функция, ограничения и цель системы определяются путем согласования с конечным пользователем на этом этапе.

2. Модель водопада включает в себя фундаментальную спецификацию программного обеспечения, дизайн, валидацию, эволюцию и представляет их как спецификацию требований, разработку программного обеспечения, внедрение, тестирование, эксплуатацию, обслуживание.

3. Функция, ограничения и цель системы определяются путем согласования с конечным пользователем на этом этапе.

4. Процесс проектирования системы выделяет требования к аппаратной или программной системе путем создания общей архитектуры системы.

5. В программном обеспечении описаны фазовые интерфейсы и взаимодействия модулей, а также их функциональное содержимое и другие системные состояния, такие как запуск, выключение, условия ошибки и режимы диагностики.

6. Изменения в процессе также отражены в документации, которая производится на каждой фазе процесса.

7. Этот процесс модели программного обеспечения не является простой линейной моделью, но включает в себя обратную связь от одной фазы к другой фазе.

8. Техническое обслуживание включает в себя исправление ошибок, улучшение внедрения системного блока и расширение системных служб, поскольку новые требования обнаруживают и обеспечивают правильную работу системы программного обеспечения.

3.1. Find the English equivalents of the following sentences:

1. Жүйенің функциясы, шектеуі және мақсаты осы қадамда соңғы пайдаланушымен келіссөздер арқылы анықталады.

2. Сарқыраманың үлгісі бағдарламалық қамтамасыз етудің негізгі ерекшеліктерін, жобалау, валидацияны, эволюцияны сипаттайды және оларды талап етілу ерекшелігі, бағдарламалық қамтамасыз етуді жасау, енгізу, тестілеу, пайдалану, қызмет көрсету ретінде көрсетеді.

3. Жүйенің функциясы, шектеуі және мақсаты осы қадамда соңғы пайдаланушымен келіссөздер арқылы анықталады.

4. Жүйені жобалау процесі жалпы жүйелік архитектураны құру арқылы аппараттық немесе бағдарламалық жасақтама жүйесіне талап етеді.

5. Бағдарламалық жасақтаманың фазалық интерфейстері мен модульдердің өзара әрекеттесуі, сондай-ақ олардың функционалды мазмұны және іске қосу, өшіру, қате жағдайлары және диагностикалық режимдер сияқты басқа жүйелік жағдайларды қарастырған жөн.

6. Процестің өзгеруі процестің әрбір сатысында өндірілетін құжаттамада да көрінеді.

7. Бұл бағдарламалық жасақтама үлгісі қарапайым сызықтық модель болып табылмайды, бірақ бір фазадан басқа фазаға кері байланысты қажет етеді.
8. Техникалық қызмет көрсету қатені түзетуді, жүйелік блоктың енгізілуін жақсартуды және жүйелік қызметтерді жетілдіруді талап етеді, себебі жаңа талаптарды анықтап, бағдарламалық қамтамасыз етудің дұрыс жұмыс істеуін қамтамасыз етеді.

3. Review the text and answer the questions using the text information.
1. Name four activities that are fundamental to software engineering.
2. What does waterfall model include?
3. How called the model in which each process phase is complete and then move to another phase?
4. What is principle stage of waterfall model?
5. What are described in software design phase?
6. What can you say about implementation and unit testing?
7. When integration and system testing are performed?
8. Name the longest life cycle phase.
9. Which phase involves correcting error, improving the implementation of system unit and enhancing system services?
10. Speak about waterfall model drawbacks.

TEXT 4: WHY A FEASIBILITY STUDY IS IMPORTANT IN PROJECT MANAGEMENT

1. Read and learn the meaning of the following words:
1. a feasibility study- технико-экономическое обоснование; техникалық - экономикалық негіздеме
2. imply - подразумевать, заключать в себя, білдіреді, біреудің ой-санасына сену - есіңізде болу
3. the viability of an idea-жизнеспособность идеи, идеяның өміршеңдігі
4. to determine - определить,анықтау
5. technically feasible-техническиосуществимый,техникалықмүмкін
6. economically justifiable - экономически оправданный,экономикалық негізделген
7. Technical Feasibility - техническая осуществимость, техникалық негіздемесі
8. Economic Feasibility - экономическая осуществимость,экономикалық негіздемесі
9. Legal Feasibility- юридическая целесообразность, құқықтық техникалық-экономикалық негіздеме
10. The credibility - достоверность, сенімділік
11. **Operational Feasibility** - оперативная осуществимость, пайдаланудың орындылуы
12. **Scheduling Feasibility** - планирование, технико-экономическое обоснование; жоспарлаудың орындылуы

13. assessment- оценка, бағалау
14. focuson- сконцентрироваться, назар аудару
15. investigate - расследовать, зерттеу
16. before committing resources- перед передачей ресурсов, до выделения ресурсов, ресурстарды жасамас бұрын
17. any constraints- любые ограничения, кез келген шектеулер
18. to identify new opportunities- выявить новые возможности, жаңа мүмкіндіктерді анықтау
19. a valid reason - главная причина, негізгі себеп
20.undertake the project - осуществить проект, жобаны іске асыру
21. narrow the business alternatives - сузить бизнес-альтернативы, бизнес-баламаларды шектеу
22. improve project teams' focus - улучшить фокус проектных групп, жоба топтарының назарын жақсарту
23. enhance the success rate - повысить вероятность успеха, табыстылық деңгейін жақсарту
23. by evaluating multiple parameters - путем оценки нескольких параметров, көптеген параметрлерді бағалау арқылы

2. Read the text and say why a feasibility study is importantin project management.

TEXT 4: WHY A FEASIBILITY STUDY IS IMPORTANT IN PROJECT MANAGEMENT

What is a feasibility study? As the name implies, a feasibility study is used to determine the viability of an idea, such as ensuring a project is legally and technically feasible as well as economically justifiable. It tells us whether a project is worth the investment—in some cases, a project may not be doable. There can be many reasons for this, including requiring too many resources, which not only prevents those resources from performing other tasks but also may cost more than an organization would earn back by taking on a project that isn't profitable.

A well-designed study should offer a historical background of the business or project, such as a description of the product or service, accounting statements, details of operations and management, marketing research and policies, financial data, legal requirements, and tax obligations. Generally, such studies precede technical development and project implementation.

Five Areas of Project Feasibility

A feasibility study evaluates the project's potential for success; therefore, perceived objectivity is an important factor in the credibility of the study for potential investors and lending institutions. There are five types of feasibility study—separate areas that feasibility study examines, described below.

1. Technical Feasibility - this assessment focuses on the technical resources available to the organization. It helps organizations determine whether the technical resources meet capacity and whether the technical team is capable of converting the ideas into working systems. Technical feasibility also involves evaluation of the hardware, software, and other technology requirements of the proposed system. As an exaggerated example, an organization wouldn't want to try to put Star Trek's transporters in their building—currently, this project is not technically feasible.

2. Economic Feasibility - this assessment typically involves a cost/ benefits analysis of the project, helping organizations determine the viability, cost, and benefits associated with a project before financial resources are allocated. It also serves as an independent project assessment and enhances project credibility—helping decision makers determine the positive economic benefits to the organization that the proposed project will provide.

3. Legal Feasibility - this assessment investigates whether any aspect of the proposed project conflicts with legal requirements like zoning laws, data protection acts, or social media laws. Let's say an organization wants to construct a new office building in a specific location. A feasibility study might reveal the organization's ideal location isn't zoned for that type of business. That organization has just saved considerable time and effort by learning that their project was not feasible right from the beginning.

4. Operational Feasibility - this assessment involves undertaking a study to analyze and determine whether—and how well—the organization's needs can be met by completing the project. Operational feasibility studies also analyze how a project plan satisfies the requirements identified in the requirements analysis phase of system development.

5. Scheduling Feasibility - this assessment is the most important for project success; after all, a project will fail if not completed on time. In scheduling feasibility, an organization estimates how much time the project will take to complete.

When these areas have all been examined, the feasibility study helps identify any constraints the proposed project may face, including:

- Internal Project Constraints: Technical, Technology, Budget, Resource, etc.
- Internal Corporate Constraints: Financial, Marketing, Export, etc.
- External Constraints: Logistics, Environment, Laws and Regulations, etc.

Benefits of Conducting a Feasibility Study

The importance of a feasibility study is based on organizational desire to "get it right" before committing resources, time, or budget. A feasibility study might uncover new ideas that could completely change a project's scope. It's best to make these determinations in advance, rather than to jump in and learning that the project just won't work. Conducting a feasibility study is always beneficial to the project as it gives you and other stakeholders a clear picture of the proposed project.

Below are **some key benefits** of conducting a feasibility study:

- Improves project teams' focus
- Identifies new opportunities

- Provides valuable information for a “go/no-go” decision
- Narrows the business alternatives
- Identifies a valid reason to undertake the project
- Enhances the success rate by evaluating multiple parameters
- Aids decision-making on the project
- Identifies reasons not to proceed
- Apart from the approaches to feasibility study listed above, some projects also require for other constraints to be analyzed -
- Internal Project Constraints: Technical, Technology, Budget, Resource, etc.
  Internal Corporate Constraints: Financial, Marketing, Export, etc.
  External Constraints: Logistics, Environment, Laws and Regulations, etc.

3. Find the English equivalents of the following sentences:

1. Для этого может быть много причин, в том числе требующих слишком много ресурсов, что не только предотвращает выполнение этими ресурсами других ресурсов, но и может стоить дороже, чем организация заработает, взяв на себя проект, который не выгоден.
2. Хорошо исследованные исследования должны обеспечивать историческую основу для бизнеса или проекта, такие как описание продукта или услуги, учет, информация о деятельности и управлении, маркетинговые исследования и политика, финансовые данные, юридические требования и налоговые обязательства.
3. Техническая осуществимость также включает в себя оценку аппаратного, программного обеспечения и других технологических требований предлагаемой системы.
4. Эта оценка включает проведение исследований для анализа и выяснения того, как и в какой степени, организация должна удовлетворять потребности организации путем завершения проекта.
5. Эти определения должны быть предварительно подготовлены, а не узнать о провале проекта.
6. Технико - экономическое обоснование оценивает потенциал проекта для успеха; поэтому воспринимаемая объективность является важным фактором доверия к исследованию потенциальных инвесторов и кредитных учреждений.
7. В оперативных технико-экономических обоснованиях также анализируется, как план проекта удовлетворяет требованиям, установленным на этапе анализа требований развития системы.
8. Важность технико-экономическое обоснования основывается на организационном желании «сделать все правильно», прежде чем использовать ресурсы, время или бюджет.
9. Технико - экономическое обоснование может выявить новые идеи, которые могут полностью изменить сферу действия проекта.

3.1. Find the English equivalents of the following sentences:

1. Бұл үшін көптеген себептер болуы мүмкін, соның ішінде тым көп ресурстар талап етіледі, бұл сол ресурстардың басқа тапсырмаларды орындауға кедергі келтіріп қана қоймай, сондай-ақ ұйымнан табысты емес жобаны қабылдау арқылы пайда табуға болатын қымбатырақ болуы мүмкін
2. Жақсы ойластырылған зерттеу өнім немесе қызметтің сипаттамасы, бухгалтерлік есеп, операциялар мен басқару туралы мәліметтер, маркетингтік зерттеулер мен саясаттар, қаржылық деректер, заңды талаптар және салық міндеттемелері сияқты бизнестің немесе жобаның тарихи негізін ұсынуы керек
3.Техникалық-экономикалық негіздеме ұсынылатын жүйенің аппараттық, бағдарламалық және басқа да технологиялық талаптарын бағалауды қамтиды
4. Бұл бағалау жобаны аяқтау арқылы ұйым қажеттіліктерін қанағаттандыруды қаншалықты және қаншалықты жақсартуға болатындығын талдауға және анықтауға зерттеу жүргізуді көздейді
5. Жобаның жұмыс істемейтінін біліп, үйрену денгөрі бұл анықтамаларды алдын-ала жасау керек
6. Техникалық-экономикалық негіздеме жобаның табысқа жету мүмкіндігін бағалайды; сондықтан қабылданған объективтілік әлеуетті инвесторлар мен несие мекемелерін зерттеудің сенімділігінде маңызды фактор болып табылады
7. Операциялық техникалық-экономикалық негіздеме сонымен қатар, жобаның жоспары жүйенің даму талаптарын талдау кезеңінде анықталған талаптарды қалай қанағаттандыратынын талдайды.
8. Техникалық-экономикалық негіздеменің маңыздылығы ресурстарды, уақытты немесе бюджетті пайдаланбас бұрын «барлығын дұрыс жасау» ұйымдық ниетіне негізделген.
9. Техникалық -экономикалық негіздеме жобаның ауқымын толығымен өзгерте алатын жаңа идеяларды ашуы мүмкін.

4. Review the text and answer the questions using the text information.
1. What does a feasibility study mean?
2. What should well-designed study offer?
3. What evaluates the project’s potential for success?
4. Name five types of feasibility study.
5. Which assessment focuses on the technical resources available to the organization?
6. What does economic feasibility involve?
7. Which type of feasibility investigates whether any aspect of the proposed project conflicts with legal requirements like zoning laws, data protection acts, or social media laws?
8. What is the essence of operational feasibility?
9. Why scheduling feasibility is the most important for project success?
10. Name constraints the proposed project may face which the feasibility study helps identify?
11. Speak about the importance of a feasibility study.
12. Why conducting a feasibility study is always beneficial to the project?
13. Name key benefits of conducting a feasibility study.

14. Which other constraints to be analyzed some projects also require for?

TEXT 5: PROJECT MANAGEMENT CUSTOMER STORIES

1. Read and learn the meaning of the following words:

1.linkage - связь,байланыс
2. maintainable code -поддерживаемыйкод,қолдау көрсетілетін код
3. cohesive - сплоченный,үйлесімді
4. a series of acquisitions – серия приобретений,сатыпалу сериясы
5. impeded - затруднено,кедергікелтіру
6.Confounded – сбитый с толку,шатастырылған, әбден абыр жытты
7.Comply with- соответствовать, сәйкескелуі
8.for launching projects – для запуска проектов, жобаларды іске қосу үшін
9.To wade through - пробираться сквозь, арқылыөту
10.ablizzard of e-mail messages – метель сообщений электронной почты; электрондық пошта хабарларының боран
11.deliverables - результаты, шығыс құжаттары
12.parent firm- родительская фирма, ата-ана фирмасы
13. productivity boost - повышение производительности, өнімділікті арттыру
14.eliminating the licensing - исключая лицензирование, лицензиялауды жою
15.to upgrade,update - модернизировать, обновить, жаңарту
16.the ubiquitously known - повсеместно известный, барлық жерде белгілі
17.code reuse - повторное использование кода, кодты қайта пайдалану
18.expanding rapidly through - быстро растет благодаря, тез арада кеңейеді
19. home grown tools- доморощенные инструменты, отандық құралдары
20. interoperability - функциональная совместимость, өзара әрекеттесу
21. boost development productivity- повысить производительность разработки, өнімділікті дамытуға жәрдемдесу
22. bridge the gaps- преодолеть пробелы, кемшіліктерді жою
23. to deliver real-timeup dates - доставить обновления, нақты уақыттағы жаңартуларды жеткізу
24.dash boards- панели мониторинга, бақылау тақталарын
25. visibility - видимость, көрініс
26. overall project costs - общие затраты по проекту, жобаның жалпы шығындары
27. cost savings - экономия затрат, шығындарды үнемдеу
28. portfolio management solution - решение для управления портфелем, порт-фельді басқару шешімі
29. on-premises - наместе, жергілікті

2. Read the text and say what project management customer stories are.

PROJECT MANAGEMENT CUSTOMER STORIES.

XEROX UPS PRODUCTIVITY BY UP TO 40 PERCENT WITH INTEGRATED APPLICATION AND PROJECT MANAGEMENT

August 14, 2015

The Xerox Services Healthcare Payer Group deployed the latest version of Microsoft Project Server and linked it to Microsoft Visual Studio Team Foundation Server to connect its software development and project management teams. Through this linkage, the Healthcare Payer Group improved development project productivity by up to 40 percent and reduced IT development costs by up to 30 percent. The use of a common tool set resulted in more maintainable code, improved capacity planning, and reduced tool support costs.

Situation

Joe DiVincenzo, Director of the Program Management Office (PMO) and Governance at Xerox Services Healthcare Payer Group, needed to make global development project teams more cohesive, productive, and competitive. A series of acquisitions had resulted in a mix of third-party and homegrown software development and project management tools and methodologies. This impeded effective integration of acquired project teams, confounded project status reporting, and slowed projects due to ineffective resource planning and allocation.

The Healthcare Payer Group within Xerox Services helps healthcare payer organizations comply with industry regulations, operate more efficiently, reduce administrative costs, process claims, and simplify workflows. It is a global services organization of more than 860 IT professionals, including 410 software developers, that is expanding rapidly through organic growth and acquisitions. Parent firm Xerox is one of the world's leading providers of business process and document management services, based in Norwalk, Connecticut, and employing 140,000 employees that serve customers in 160 countries.

"We've always been primarily a Microsoft shop, but we also had homegrown tools for launching projects, tracking hours, and other activities," DiVincenzo says. "Our developers had adopted Microsoft Visual Studio Team Foundation Server 2008 as their development environment, and most project managers were using Microsoft Project Server 2007 and Microsoft Project Professional 2007 as their project management software." However, the applications did not really talk to one another, which left developers and project managers to wade through a blizzard of email messages, instant messages, and phone calls to stay coordinated. Keeping the disconnected systems synchronized also required a lot of double data entry, which meant extra work and introduced opportunity for error.

"We wanted a full project and portfolio management solution and an integrated, standardized set of tools across all locations and teams for better resource utilization and coordination," DiVincenzo says. "With a common toolset, we could complete projects sooner, create code that was easier to support, and reduce life-cycle costs."

Solution

The Xerox Healthcare Payer Group decided to upgrade to Microsoft Project Server 2013, Microsoft Project Professional 2013, and Microsoft SharePoint Server 2013 to gain extensive linkages when it upgraded to Team Foundation Server 2013. "We chose Project Server 2013 because of our existing Microsoft Visual Studio Team Foundation Server investment and the Gartner Magic Quadrant Reports, which identified Microsoft as a leader in ALM [Application Lifecycle Management] and IT Project and Portfolio Management," DiVincenzo says. "It's also very easy to find project managers with Microsoft Project experience." Additionally, the Xerox Healthcare Payer India Development Group, a software development team, had dramatically reduced costs and development inefficiency by using Team Foundation Server 2010, Project Server 2010, and Microsoft SharePoint 2010 Server portal to implement ALM and project portfolio management (PPM).

"The significant interoperability between Microsoft ALM and PPM products gives us a great way to bring together our development and project management teams," DiVincenzo says.

Instead of starting with a static requirements document, developers use the requirements management capability in Team Foundation Server to take project requirements (called User Stories in the Agile Scrum project management methodology) and separate them into tasks, create estimates, build quality assurance tests, and ultimately develop and test the software.

Project managers incorporate those User Stories into the project plan using Project Professional 2013 and Project Server 2013. They also store team-shared documents in the project document library, along with project issues, risks, and deliverables in the Project Workspace. The project manager easily creates a Project Workspace, built on SharePoint 2013 using a standardized Healthcare Payer template, by simply checking a box when publishing the Microsoft Project Plan to Project Server 2013.

As developers elaborate tasks for the User Stories in Team Foundation Server, those tasks are automatically reflected in the project plans in Project Server. The Healthcare Payer Enterprise Resource Pool uses the same resource names in both Team Foundation Server 2013 and Project Server 2013, so resource assignment changes in one application easily synchronize with the other.

"This reduces the need to update Project Server 2013 manually," DiVincenzo says. "We run capacity reports, critical path analyses, and other functions that Project Server 2013 is so good at without retyping all that data. Capacity planning reports have been extremely helpful for us. Resource managers, using the Microsoft Project Web App, can see at a glance individual employees' current workloads before assigning resources to a new project."

All 410 software developers and 83 quality assurance personnel use Team Foundation Server. The names of the 860 project managers, resource managers, and project team members are contained in the Healthcare Payer Project Server Enterprise Resource Pool. Project managers and resource managers use this pool to effectively plan and staff more than 250 projects each year. All Project Server users can access

their project data at any time from any Internet-enabled location using Project Web App.

A recent Xerox Services reorganization will significantly increase the number of projects managed by the former Healthcare Payer PMO. DiVincenzo says, "I anticipate that this could more than double the number of projects we manage using Project Server 2013, SharePoint 2013, and Team Foundation Server in the future. No longer limited to just Healthcare Payer clients, we will now manage projects across all Xerox Services Industry Business Groups that utilize Xerox Transaction Processing Capability (TPC) services."

DiVincenzo has also been sharing the results of the Healthcare Payer PMO Project Server 2013, SharePoint 2013, and Team Foundation Server deployments with his colleagues managing other Xerox Services PMOs. Many of these PMO groups have experience using Microsoft Project Standard version without Project Server. Some are using Project Server 2007 and looking to upgrade.

"Sharing our Project Server 2013 experience and results has created strong interest among many of my colleagues to standardize on Project Server 2013, SharePoint 2013, and Team Foundation Server integration across all Xerox Services PMO organizations," DiVincenzo says. "If we're successful in our goal, many thousands of Xerox Services projects will use Project Server 2013 to realize the same benefits we demonstrated with our Healthcare Payer Group PMO rollout."

Benefits

By deploying the latest version of Project Server, the new Xerox Services Transaction Processing Capability (TPC) Group will boost development productivity by up to 40 percent, finish projects sooner, and lower project development costs by up to 30 percent. With familiar, standardized software tools across all geographic areas, the TPC Group will bring new staff on more quickly and utilize resources more flexibly.

Improve productivity up to 40 percent

With Project Server, Team Foundation Server, and SharePoint Server, the new TPC Group will bridge the gaps between business and IT and streamline application development, testing, and project management. It will use automatic synchronization between Project Server and Team Foundation Server to deliver real-time updates, dashboards, and reports to project members and management. This will provide on-demand, real-time information flow across the organization.

Previously, project managers used Project Server to report to management on a project's status, but the developers doing the work did not have the same visibility. With critical path analysis and other reports in Project Server, project managers keep developers focused on the most important tasks and show them the schedule benefit of completing critical path tasks sooner.

"With Project Server and Team Foundation Server, we have a unified environment for analysts, developers, testers, project managers, and support staff, resulting in up to a 40 percent productivity boost," Di Vincenzo says. "This helps us finish projects sooner, which means we can take on more new projects and reduce overall project costs."

Reduce IT costs up to 30 percent.

DiVincenzo estimates that the Healthcare Payer Group is experiencing up to a 30 percent reduction in IT development-related costs thanks to the Microsoft ALM/PPM toolset. “Our 30 percent cost savings comes from improving staff productivity, eliminating the licensing, training, and maintenance costs of older third-party and homegrown management tools, and creating code using Agile ALM methodologies that better meet client needs,” DiVincenzo says.

Use development resources more flexibly

Because Microsoft Project is “the ubiquitously known gold standard application for project management,” according to DiVincenzo, nearly all newly hired project managers know how to use it. This greatly reduces training costs and helps new project managers come up to speed more quickly.

With a consistent set of tools and everyone trained to use the Microsoft ALM process, the new TPC Group will more easily move developers around in the organization for greater resource flexibility and code reuse, creating a more customer-focused organization.

Microsoft Project 2013

The new Project Server 2013 and Project Online offer flexible solutions for project portfolio management (PPM) and everyday work, delivered either on-premises or as an online service. Enable your workforce to effectively execute with the intended business value to achieve strategic priorities with Project Server 2013. For more flexibility, take your PPM capabilities into the cloud with Project Online subscriptions through Office 365 as an always-up-to-date service with simplified IT management. Project Online and Project Online with Project Pro for Office 365 help your team deliver value from virtually anywhere.

3. Find the English equivalents of the following sentences:

1. Xerox Services Healthcare Payer Group развернула последнюю версию MicrosoftProjectServer и связала ее с MicrosoftVisualStudioTeamFoundationServer для подключения своих команд разработки программного обеспечения и управления проектами.
2. Это затрудняло эффективную интеграцию приобретенных проектных групп, смешение отчетов о статусе проекта и замедление проектов из-за неэффективного планирования и распределения ресурсов.
3. Для синхронизации синхронных отключенных систем потребовалось много двойного ввода данных, что означало дополнительную работу и возможность для ошибок.
4. «Значительная совместимость между продуктами MicrosoftALM и PPM дает нам отличный способ объединить наши команды по разработке и управлению проектами», - говорит Ди Винченцо.
5. «Это уменьшает необходимость обновления ProjectServer 2013 вручную», - говорит Дивинченцо.

6. «Мы запускаем отчеты о производительности, анализы критических путей и другие функции, которые ProjectServer 2013 настолько хорош, не перепечатывая все эти данные.
7. «Я ожидаю, что это может привести к более чем удвоению количества проектов, которыми мы управляем, используя ProjectServer 2013, SharePoint 2013 и TeamFoundationServer в будущем.
8. «Обмен опытом и результатами нашего ProjectServer 2013 вызвал большой интерес у многих моих коллег по стандартизации на платформе ProjectServer 2013, SharePoint 2013 и TeamFoundationServer во всех организациях PMOXeroxServices.
9. Развернув последнюю версию ProjectServer, новая функциональность XCoxServicesTransactionProcessingCapability (TPC) повысит производительность разработки на 40%, закончит проекты раньше и снизит затраты на разработку проектов на 30%.
10. Это обеспечит поток информации в режиме реального времени по всей организации.
11. С анализом критического пути и другими отчетами в Project Server руководители проектов заставляют разработчиков сосредоточиться на наиболее важных задачах и показать им преимущество графика выполнения задач критического пути раньше.
12. «Наша 30-процентная экономия средств достигается за счет повышения производительности персонала, устранения затрат на лицензирование, обучение и обслуживание старых сторонних и домашних инструментов управления и создания кода с использованием методологий AgileALM, которые лучше отвечают потребностям клиентов», - говорит Ди Винченцо.
13. Новый ProjectServer 2013 и ProjectOnline предлагают гибкие решения для управления портфелем проектов (PPM) и повседневной работы, предоставляемые либо на месте, либо в виде онлайн-сервиса.

3.1. Find the English equivalents of the following sentences:
1. Xerox Services Healthcare Payer тобы Microsoft Project Server бағдарламасының ең соңғы нұсқасын орналастырды және оны Microsoft Visual Studio Team Foundation Server бағдарламасына байланыстырды, оның бағдарламалық жасақтамасын әзірлеу және жобаларды басқару топтарын.
2. Бұл сатып алынған жобалық топтардың тиімді интеграциясына кедергі келтірді, жобаның мәртебесі туралы есептерді араластырды және ресурстарды тиімді жоспарлау мен орналастырудың салдарынан жобаларды баяулады.
3. Синхрондалған ажыратылған жүйелерді сақтау, сонымен қатар, қосарланған деректерді енгізуді талап етеді, бұл қосымша жұмыс және қателікке мүмкіндік берді.
4. «Microsoft ALM мен PPM өнімдерінің арасында үлкен өзара әрекеттестік бізге даму мен жобаларды басқару жөніндегі топтарды біріктіруге тамаша мүмкіндік береді», - дейді Ди Винченцо.

5. «Бұл Project Server 2013 бағдарламасын қолмен жаңарту қажеттілігін азайтады», - дейді Ди Винченцо.
6. «Біз жобалық серверлердің барлық деректерін қайта жазбастан, қуатты есептерді, сыни жол талдауларын және басқа да функцияларды орындаймыз.
7. «Мен бұл жобаның біз басқаратын жобалар санын екі есе арттыра алатынын болжаймын, болашақта Project Server 2013, SharePoint 2013 және Team Foundation сервері арқылы.
8. «Project Server 2013 тәжірибесі мен нәтижелерін бөлісу менің көптеген әріптестерім арасында Project Server 2013, SharePoint 2013 және Team Foundation Server барлық Xerox қызметтері PMO ұйымдарында стандарттау үшін үлкен қызығушылық тудырды.
9. Project Server соңғы нұсқасын қолдану арқылы Xerox Services Transaction Processing Capability (TPC) тобы жаңа өнімділікті 40 пайызға дейін арттыруға, жобаларды тезірек аяқтауға және жобаны әзірлеуге арналған шығыстарды 30 пайызға дейін төмендетуге мүмкіндік береді.
10. Бұл ұйым ішінде талап етілетін, нақты уақыттағы ақпарат ағынын қамтамасыз етеді.
11. Project Server бағдарламасында сыни жол талдауын және басқа есептермен жоба менеджерлері ең маңызды тапсырмаларға бағытталған әзірлеушілерді ұстап тұрып, оларды сыни жол тапсырмаларын тез арада орындаудың кесте пайдасын көрсетеді.
12. «Біздің 30 пайыздық үнемдеу үнемі қызметкерлердің өнімділігін арттырудан, үшінші тараптан және үйде басқарылатын басқару құралдарын лицензиялауды, оқытуды және техникалық қызмет көрсету шығындарын жоюды, сондай-ақ клиенттің қажеттіліктерін қанағаттандыратын Agile ALM әдістерін қолданып, кодты құрудан тұрады», - дейді Ди Винченцо.
13. Жаңа Project Server 2013 және Project Online жобалар портфелін басқару (PPM) және күнделікті жұмыс үшін икемді шешімдер ұсынады, олар жергілікті немесе онлайндық қызмет.

4. Review the text and answer the questions using the text information.

1. How the Healthcare Payer Group improved development project productivity by up to 40 percent and reduced IT development costs by up to 30 percent?
2. What is the result of a common tool set usage?
3. What was Joe Di Vincenzo’s aim?
4. What does the Healthcare Payer Group within Xerox Services do?
5. What is parent firm Xerox?
6. What were the consequences of using two different applications?
7. For what they need a common toolset?
8. Why the Xerox Healthcare Payer Group decided to upgrade to Microsoft Project 2013?
9. Why do developers use the requirements management capability in Team Foundation Server?
10. What reduces the need to update Project Server 2013 manually?

11. Where are the names of the 860 project managers, resource managers, and project team members contained?
12. How can Project Server users access their project data?
13. What are the benefits of deploying the latest version of Project Server?
14. For what is automatic synchronization between Project Server and Team Foundation Server used?
15. How does the Healthcare Payer Group's 30 percent cost savings come?
16. Why do nearly all newly hired project managers know how to use Microsoft Project?
17. What does greatly reduce training costs and helps new project managers come up to speed more quickly?

MATHEMATICS

Unit 1: WHAT IS MATHEMATICS

1. Read and learn the meaning of the following words:

1. origin – происхождение, шығу тегі
2. acquired knowledge – приобретенные знания, алынған білім
3. contraction – сокращение, қысқарту
4. regular and incidental members – регулярные и случайные участники, тұрақты және кездейсоқ қатысушылар
5. term – термин, срок, семестр, мерзім
6. implications – последствия, салдары
7. connotations – коннотации, сопутствующие значения, подтекст, ілеспелі мағыналар, бүкпе мән
8. collection of branches – объединение разветвлений, тармақтардың бірігуі
9. numbers – числа, сандар
10. fractions – дроби, бөлшектер
11. calculus – вычисления, есептеулер
12. equations – выражение, өрнектер
13. contain – содержать, вмещать, құрамында болу
14. division – деление, разделение, бөлу
15. integers – числа, сандар
16. point – точка, нүкте
17. line – прямая, түзу
18. triangle – треугольник, үшбұрыш
19. concept – понятие, данные, информация, тұжырымдама, мағлұмат, ақпарат
20. deduce – выводить (из), делать вывод, шығару, қорытынды жасау
21. standpoint – точка зрения, позиция, көзқарас

22. compartmentalization – деление, дробление, установление приоритетов, бөлу, бөлшектеу, басымдықтарды белгілеу
23. interrelationship – соотношение, теңдік
24. domain – область, сфера, сала
25. additive – добавочный, қосымша
26. inseparable – неотделимый, ажырамас
27. significance – значение, важность, значительность, маңызы
28. intimate– близкий, приближенный, тщательный, жақын, мұқият
29. field – поле, область, сфера (деятельности), өріс, аймақ, сала
30. abstraction – абстрагирование, отвлеченное понятие, дерексіз тұжырымдама
31. imply – влечь за собой, вытекать, иметь значение, шығуы мүмкін, мағынасын білдіреді
32. obvious – очевидный, явный, заведомый, анық
33. counterparts – заменители, алмастырушылар
34. noteworthy – заслуживающий (достойный) внимания, назар аударуға лайық
35. in essence – по существу, в сущности, іс жүзінде
36. multiplication – умножение, увеличение, көбейту
37. quantitative values – количественные величины, сандық мәндер
38. observation of change – наблюдение за изменениями, өзгерістерді бақылау
39. divorced – не связанный с, байланысы жоқ
40. sets of axioms – множества аксиом, аксиомалар жиынтығы
41. generalization – обобщение, жалпылау
42. view-point– точка зрения, көзқарас, ой
43. claim – претензия, заявка, жалоба, притязания,шағым, талап

2. Read the text and say what the area of study of mathematics is.

Text 1: WHAT IS MATHEMATICS

The students of mathematics may wonder where the word “mathematics” comes from. Mathematics is a Greek word, and, by origin or etymologically, it means “something that must be learnt or understood”, perhaps “acquired knowledge” or “knowledge acquirable by learning” or “general knowledge”. The word “mathematics” is a contraction of all these phrases. The celebrated Pythagorean School in ancient Greece had both regular and incidental members. The incidental members were called “auditors”; the regular members were named “mathematicians” as a general class and not because they specialized in mathematics; for them mathematics was a mental discipline of science learning. What is mathematics in the modern sense of the term, its implications and connotations? There is no neat, general and unique answer to this question.

Mathematics is a science, viewed as a whole, is a collection of branches. The largest branch is that which builds on the ordinary whole numbers, fractions, and irrational numbers, or what, collectively, is called the real number system. Arithmetic, algebra, the study of functions, the calculus, differential equations, and various other subjects which follow the calculus in logical order are all developments

of the real number system. This part of mathematics is termed the mathematics of number. A second branch is geometry consisting of several geometries. Mathematics contains many more divisions. Each branch has the same logical structure: it begins with certain concepts, such as the whole numbers or integers in the mathematics of number, and such as point, line and triangle in geometry. These concepts must verify explicitly stated axioms. Some of the axioms of the mathematics of number are the associative, commutative, and distributive properties and the axioms about equalities. Some of the axioms of geometry are that two points determine a line, all right angles are equal, etc. From the concepts and axioms theorems are deduced. Hence, from the standpoint of structure, the concepts, axioms and theorems are the essential components of any compartment of mathematics. We must break down mathematics into separately taught subjects, but this compartmentalization taken as a necessity, must be compensated for as much as possible. Students must see the interrelationships of the various areas and the importance of mathematics for other domains. Knowledge is not additive but an organic whole and mathematics is an inseparable part of that whole. The full significance of mathematics can be seen and taught only in terms of its intimate relationships to other fields of knowledge. If mathematics is isolated from other provinces, it loses importance.

The basic concepts of the main branches of mathematics are abstractions from experience, implied by their obvious physical counterparts. But it is noteworthy, that many more concepts are introduced which are, in essence, creations of the human mind with or without any help of experience. Irrational numbers, negative numbers and so forth are not wholly abstracted from the physical practice, for the man's mind must create the notion of entirely new types of numbers to which operations such as addition, multiplication, and the like can be applied. The notion of a variable that represents the quantitative values of some changing physical phenomena, such as temperature and time, is also at least one mental step beyond the mere observation of change. The concept of a function, or a relationship between variables, is almost totally a mental creation. The more we study mathematics the more we see that the ideas and conceptions involved become more divorced and remote from experience, and the role played by the mind of the mathematician becomes larger and more depart from forms of experience finds its parallel in geometry and many of the specific geometrical terms are mental creations.

Growth of mathematics is possible in still another way. Mathematicians are sure now that sets of axioms which have no bearing on the physical world should be explored. Accordingly, mathematicians nowadays investigate algebras and geometries with no immediate applications. There is, however, some disagreement among mathematicians as to the way they answer the question: Do the concepts, axioms, and theorems exist in some objective world and are merely detected by man or are they entirely human creations? In ancient times the axioms and theorems were regarded as necessary truths about the universe already incorporated in the design of the world. Hence each new theorem was a discovery, a disclosure of what already existed. The contrary view holds that mathematics, its concepts, and theorems are created by man. Man distinguishes objects in the physical world and invents numbers

and number names to represent one aspect of experience. Axioms are man's generalizations of certain fundamental facts and theorems may very logically follow from the axioms. Mathematics, according to this view-point, is a human creation in every respect. Some mathematicians claim that pure mathematics is the most original creation of the human mind.

3. Review the text and answer the questions using the text information.

1) Is mathematics Greek or Latin word?
2) Who were called "auditors"?
3) Who specialized in mathematics?
4) What is mathematics in the modern sense of the term?
5) What is called the real number system?
6) What is termed the mathematics of number?
7) From what theorems are deduced?
8) What are the basic concepts of the main branches of mathematics?
9) What is a disagreement among mathematicians of nowadays?
10) Is mathematics a human creation in every respect?

4. Guess the meaning of the following international words and phrases:

mathematics; etymologically; auditors; discipline; system; arithmetic; algebra; differential; geometry; structure; axioms; parallel; mental; theorems; aspect; fundamental facts.

5. Find in the text the English equivalents of the following phrases:

приобретенное знание; случайные члены; умственная дисциплина; система действительных чисел; одинаковая логическая структура; две точки определяют линию; творения человеческого разума; связь между переменными; теоремы могут логически вытекать из аксиом.

6. Find in the text the English equivalents of the following phrases:

алынған білім; кездейсоқ мүшелер; ақыл - ой тәртібі; нақты сандар жүйесі; бірдей логикалық құрылым; екі нүкте сызықты анықтайды; адам ақыл-ойының туындысы; айнымалылар арасындағы қатынас; теоремалар аксиомалардан логикалық түрде шығуы мүмкін.

7. Make a plan of the text and give the titles of each part.

8. Give written translation of the last part of the text.

9. Test

1. Give the correct meaning of the word **"contraction":**
   a) Вычисление, есептеу,
   b) Выражение, өрнек,
   c) Деление, бөлу,

d) Сокращение; қысқарту;

2. Give the correct meaning of the word **“triangle”:**
   a) Треугольник, үшбұрыш,
   b) Квадрат,
   c) Круг, шеңбер,
   d) Ромб;

3. Translate the expression **“quantitative values”:**
   a) Отвлеченное понятие, дерексіз ұғым,
   b) Наблюдение за изменениями, өзгерістерді бақылау,
   c) Множества аксиом, аксиомалар жиынтығы,
   d) Количественные величины, сандық мөлшерлер;

4. Translate into English **“вычисления” “есептеу”:**
   a) Implications,
   b) Obvious,
   c) Calculus,
   d) Counterparts;

5. Translate into English **“умножение” “көбейту”:**
   a) Observation,
   b) Multiplication,
   c) Standpoint,
   d) Generalization;

6. Choose the sentence with the **Past Simple**:
   a) The word “mathematics” is a contraction of all these phrases.
   b) Each branch has the same logical structure.
   c) The role played by the mind of the mathematician becomes larger.
   d) Growth of mathematics is possible in still another way.

7. Choose the right **word order**:
   a) We break down mathematics must into separately taught subjects,
   b) We must break mathematics down into separately taught subjects,
   c) We must break down mathematics into separately taught subjects,
   d) We must break down into mathematics separately taught subjects;

8. Find the noun in **plural** form:
   a) Mathematics,
   b) Sense,
   c) Subjects,
   d) Contains;

9. What is the highlighted word in the sentence? - Students **must** see the interrelationships of the various areas and the importance of mathematics for other domains.

a) Infinitive,
b) Gerund,
c) Noun,
d) Modal verb;

10. Man distinguishes objects in the physical world and invents numbers and number names to represent one aspect of experience.

a) It's true.
b) It's false.

Unit 2: MATHEMATICS AND MODERN CIVILIZATION

1. Find the transcription and read the following words:

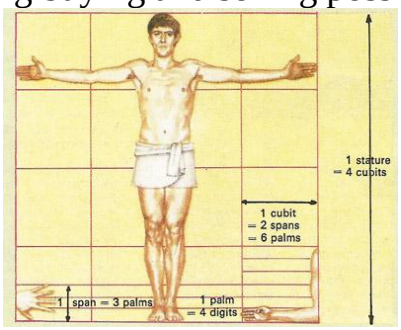
1. need – необходимость, керекті зат
2. farmers – фермеры
3. count – считать, санау
4. size – размер, өлшем
5. units of length – единицы длины, ұзындық бірліктері
6. measuring – измерение, өлшеу
7. height – высота, биіктік
8. inches – дюймы
9. length – длина, ұзындық
10. metric system – метрическая система, метрикалық жүйе
11. significance – значение, важность, значительность, маңызы
12. predict eclipses – предсказывать затмения, тұтылуды болжау
13. generate – создать, жасау
14. shorthand forms – сокращенные формы, қысқартылған формалар
15. link – связь, байланыс
16. units – единицы, бірліктер
17. amounts – количества, сандары
18. square roots – квадратные корни, шаршы түбірлер
19. quantities – величины, шамалар
20. solutions – решения, шешімдер
21. geometrical conventions – геометрические условности, геометриялық шарттылықтар
22. The Golden Ratio – золотое сечение, алтын қатынасы
23. projective geometry – проективная геометрия, проективтік геометрия
24. draftsmanship – черчение, сызу
25. three-dimensional object – трехмерный объект, үш өлшемді объект

26. system of organized thought – система организованной мысли, ұйымдастырылған ойлау жүйесі
27. humankind – человечество, адамзат
28. universe – вселенная, ғалам
29. contribution – вклад, үлес

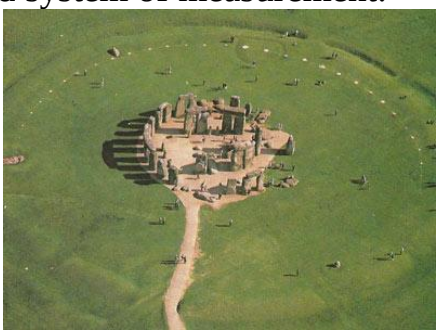
3. Read the text:

TEXT 2: MATHEMATICS AND MODERN CIVILIZATION

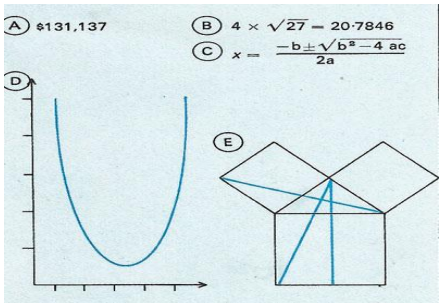
The concept of number is fundamental to mathematics. It probably developed originally out of the need for farmers to count their animals and produce. Numbers also led to money systems, making buying and selling possible.



Man probably first counted on his fingers and sized objects in terms of his own body. This diagram shows some of the ancient units of length. "Body units" are still used in some countries today. A hand, equal to 4 in (about 10cm), is a standard unit for measuring the height of horses and in North America and Britain a foot - 12 inches (30.5 cm) - is still used in measurement as a unit of length. The metric system is now the most widely accepted system of measurement.



Stonehenge was built in the Bronze Age as a sort of calendar, which probably also had a religious significance. The positions of the stone blocks can be used to measure the movements of the Sun and Moon and to predict eclipses.



Mathematics has generated its own language. Numbers are themselves shorthand forms of words and, linked with units, define exact amounts or measurements [A].

Other symbols stand for operations such as multiplication and square roots [B]. In algebra letters often stand for unknown quantities, as in the formula [C] for finding the solutions to a quadratic equation. A graph [D] can 'draw' algebraic functions. Pythagoras created his own geometrical conventions [E].

Greek mathematicians extended their logical thinking into the arts, establishing mathematical relationships in music and art. The Golden Ratio (approximately 1.618) was to the Greeks a pleasing proportion, incorporated here in the Parthenon (built 447-432 BC).

The Grand Canal at Venice was a favorite subject of the Venetian painter Canaletto, whose real name was Giovanni Canal (1697-1768). Renaissance painters studied perspective and so laid the foundations of projective geometry in mathematics, map-making and the draftsmanship used in architecture and engineering, enabling a three-dimensional object to be represented in two dimensions.

Mathematics is a continuously expanding system of organized thought. It is employed in science, technology, art, music, architecture, economics, sociology, sport – in fact, in almost every aspect of human activity – and has influenced, and often determined, the direction of philosophical thought concerned with humankind and its universe. Throughout history, mathematics has not only reflected developments in civilization but also made a major contribution to those developments.

3. Fill in the missing words:

1) Numbers also … to money systems, making buying and selling possible.
2) Man probably first … on his fingers and … objects in terms of his own body.
3) The metric system is now … … … … … of measurement.
4) Mathematics … … its own language.
5) Pythagoras … his own geometrical conventions.
6) Greek mathematicians … their logical thinking into the arts.
7) Renaissance painters … perspective.
8) Mathematics is a … … … of organized thought.

4. Give the translation of the phrases:

ancient units of length; height of horses; unit of length; religious significance; unknown quantities; logical thinking; pleasing proportion; continuously expanding system; the direction of philosophical thought; reflected developments; major contribution.

5. Find in the text the English equivalents of the following sentences:

1) Числа также привели к созданию денежных систем, что сделало возможным покупку и продажу.

2) На этой диаграмме показаны некоторые из древних единиц длины.
3) Позиции каменных блоков можно использовать для измерения движений Солнца и Луны и предсказания затмений.
4) Числа сами являются сокращенными формами слов и связаны с единицами, определяют точные суммы или измерения.
5) В алгебре буквы часто обозначают неизвестные величины, как в формуле для нахождения решений квадратичного уравнения.
6) Золотое Сечение было для греков привлекательной пропорцией.
7) Художники эпохи Возрождения изучали перспективу и заложили основы проективной геометрии в математике, картографировании и рисовании.
8) Математика используется в науке, технике, искусстве, музыке, архитектуре, экономике, социологии, спорте - практически во всех аспектах человеческой деятельности.

5.1. Find in the text the English equivalents of the following sentences:
1) Сандар ақша жүйелерін құруға әкелді, бұл сатып алу мен сатуға мүмкіндік берді.
2) Бұл диаграммада ұзындықтың кейбір ежелгі бірліктері көрсетілген.
3) Тас блоктардың орналасуы Күн мен Айдың қозғалысын өлшеу және тұтылуды болжау үшін пайдаланылуы мүмкін.
4) Сандар сөздердің қысқартылған формалары болып табылады және бірліктермен байланысты, нақты мөлшер немесе өлшемдерді анықтайды.
5) Алгебрада әріптер квадрат теңдеудің шешімдерін табу үшін формуладағы белгісіз сандарды жиі білдіреді.
6) Алтын қатынасы гректер үшін тартымды пропорция болды.
7) Жаңғыру дәуірінің суретшілері перспективаны зерттеп, математика, картографиялау және сурет салуда проективтік геометрия негізін қалады.
8) Математика ғылым, техника, өнер, музыка, архитектура, экономика, әлеуметтану, спортта - адам әрекетінің барлық дерлік қырларында қолданылады.

6. Find the ending of the sentences:

1. It probably developed originally out of the need for farmers	A. whose real name was Giovanni Canal
2. Numbers are themselves shorthand forms of words and, linked with units,	B. also made a major contribution to those developments.
3. The Grand Canal at Venice was a favorite subject of the Venetian painter Canaletto,	C. to count their animals and produce.
4. Throughout history, mathematics has not only reflected developments in civilization but	D. define exact amounts or measurements

7. Make up questions about the text and ask them to your partner.
8. Give written translation of the 4th part.
9. Test

1. Choose the meaning of the word **“высота” “биіктік ”:**
   a) Length,
   b) Height,
   c) Size,
   d) Link;

1. Choose the meaning of the word **“считать” “санау”:**
   a) Count,
   b) Unit,
   c) Universe,
   d) Generate;

2. Choose the meaning of the word **“черчение” “сызу”:**
   a) Measuring,
   b) Solutions,
   c) Draftsmanship,
   d) Contribution;

3. Translate the verb **“generate”:**
   a) Образовывать, қалыптастыру,
   b) Решать, шешу,
   c) Производить, өндіру,
   d) Порождать, тудыру;

4. Choose the verb **“измерять” “өлшеу”:**
   a) Unit,
   b) Measure,
   c) Count,
   d) Contribute;

5. Find the sentence with the right **word order**:
   a) The metric system is the most widely now accepted system of measurement.
   b) The metric is system now the most widely accepted system of measurement.
   c) The metric system is now the most widely accepted system of measurement.
   d) The metric system is now the most accepted widely system of measurement.

6. Find the sentence with the **Passive Voice**:
   a) Numbers also led to money systems, making buying and selling possible.
   b) This diagram shows some of the ancient units of length.
   c) Pythagoras created his own geometrical conventions.

d) Stonehenge was built in the Bronze Age as a sort of calendar, which probably also had a religious significance.

7. What time of the verb is used in the sentence? - Mathematics **has generated** its own language.
   a) Past Simple,
   b) Present Perfect,
   c) Past Perfect,
   d) Present Simple;

8. Give the right forms of the verb:7
   a) Led, led, led,
   b) Show, showed, showed,
   c) Build, built, built,
   d) Think, thought, thought;

10. Renaissance painters studied perspective but it couldn't lead to the foundations of projective geometry in mathematics, map-making and the draftsmanship used in architecture and engineering, enabling a three-dimensional object to be represented in two dimensions.
   a) It's true.
   b) It's false.

Unit 3: BASIC OPERATIONS IN ARITHMETIC

1. Read these international words and learn their meaning:

1. numeration – исчисление; есептеу
2. combination – комбинация,сочетание;комбинация, үйлесім
3. base – основа; негіз
4. sentence – предложение, изречение; сөйлем
5. plus – плюс; қосу
6. minus – минус; алу
7. sum – сумма; сома
8. result – результат; нәтиже
9. product – продукт, изделие; өнім, бұйым
10. expression – выражение; өрнек
11. check – проверка, проверять; тексеріс, тексеру
12. contain – содержать; құрамында бар
13. digit – цифра; сан
14. value – значение; құндылығы
15. sign – знак; белгі
16. quotient – частное; жеке
17. zero – ноль; нөл

18. symbol – символ, знак, обозначение; символ, белгі, белгіленуі
19. inverse – обратный, противоположный; кері, керісінше
20. factor – фактор;
21. subtract - вычитать; шегеру
22. minuend – уменьшаемое; азайғыш
23. difference – разница, разность; айырмашылық, айырма
24. part – часть; бөлік

2. Read and translate the text.

TEXT 2: BASIC OPERATIONS IN ARITHMETIC

We cannot live a day without numerals. Numbers and numerals are everywhere. On this page you will see number names and numerals. The number names are: zero, one, two, three, four and so on. And here are the corresponding numerals: 0, 1, 2, 3, 4, and so on. In a numeration system numerals are used to represent numbers, and the numerals are grouped in a special way. The numbers used in our numeration system are called digits.

In our Hindu -Arabic system we use only ten digits: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 to represent any number. We use the same ten digits over and over again in a place-value system whose base is ten.

These digits may be used in various combinations. Thus, for example, 1, 2, and 3 are used to write 123, 213, 132 and so on.

One and the same number could be represented in various ways. For example, take 3. It can be represented as the sum of the numbers 2 and 1 or the difference between the numbers 8 and 5 and so on.

A very simple way to say that each of the numerals names the same number is to write an equation — a mathematical sentence that has an equal sign (=) between these numerals. For example, the sum of the numbers 3 and 4 equals the sum of the numbers 5 and 2. In this case we say: three plus four (3+4) is equal to five plus two (54-2). One more example of an equation is as follows: the difference between numbers 3 and 1 equals the difference between numbers 6 and 4. That is three minus one (3—1) equals six minus four (6—4). Another example of an equation is 3+5 = 8. In this case you have three numbers. Here you add 3 and 5 and get 8 as a result. 3 and 5 are addends (or summands) and 8 is the sum. There is also a plus (+) sign and a sign of equality (=). They are mathematical symbols.

Now let us turn to the basic operations of arithmetic. There are four basic operations that you all know of. They are addition, subtraction, multiplication and division. In arithmetic an operation is a way of thinking of two numbers and getting one number. We were just considering an operation of addition. An equation like 7—2 = 5 represents an operation of subtraction. Here seven is the minuend and two is the subtrahend. As a result of the operation you get five.

It is the difference, as you remember from the above. We may say that subtraction is the inverse operation of addition since 5 + 2 = 7 and 7—2 = 5.

The same might be said about division and multiplication, which are also inverse operations.

In multiplication there is a number that must be multiplied. It is the multiplicand. There is also a multiplier. It is the number by which we multiply. When we are multiplying the multiplicand by the multiplier we get the product as a result. When two or more numbers are multiplied, each of them is called a factor. In the expression five multiplied by two (5x2), the 5 and the 2 will be factors. The multiplicand and the multiplier are names for factors.

In the operation of division there is a number that is divided and it is called the dividend; the number by which we divide is called the divisor. When we are dividing the dividend by the divisor we get the quotient. But suppose you are dividing 10 by 3. In this case the divisor will not be contained a whole number of times in the dividend. You will get a part of the dividend left over. This part is called the remainder. In our case the remainder will be 1. Since multiplication and division are inverse operations you may check division by using multiplication.

There are two very important facts that must be remembered about division.

a) The quotient is *0* (zero) whenever the dividend is *0* and the divisor is not *0*. That is, 0 : *n* is equal to *0* for all values of *n* except *n = 0*.

b) Division by *0* is meaningless. If you say that you cannot divide by *0* it really means that division by *0* is meaningless. That is, *n : 0* is meaningless for all values of *n*.

3. Fill in the missing words:

1) In a … … numerals are used to represent numbers, and the numerals are grouped in a special way.
2) These digits may be used in various ….
3) The sum of the … 3 and 4 equals the sum of the … 5 and 2.
4) They are … symbols.
5) We were just considering a … of addition.
6) The same might be said about … and …, which are also inverse operations.
7) When we are dividing the … by the divisor we get the ….

4. Give the translation of the phrases:

corresponding numerals; numeration system; place-value system; the sum of the numbers; a mathematical sentence; the difference between numbers; names for factors; is called the remainder; inverse operations; meaningless for all values.

5. Find in the text the English equivalents of the following sentences:

1) В числовой системе цифры используются для представления чисел, а цифры группируются особым образом.
2) Мы используем те же десять цифр снова и снова в системе стоимости места, основание которой составляет десять.

3) Одно и то же число может быть представлено различными способами.
4) Очень простой способ сказать, что каждая из цифр называет одно и то же число, - это написать уравнение - математическое предложение, имеющее знак равенства (=) между этими цифрами.
5) Здесь вы добавляете 3 и 5 и в результате получаете 8.
6) Существуют четыре основных операции, о которых вы все знаете.
7) Можно сказать, что вычитание является обратной операцией сложения.
8) Когда мы умножаем множимое на множитель, в результате получаем произведение.
9) Когда мы делим делимое на делитель, получаем частное.
10) Так как умножение и деление являются обратными операциями, вы можете проверить деление с помощью умножения.

5.1. Find in the text the English equivalents of the following sentences:
1) Сандық жүйеде цифрлер сандарды көрсету үшін пайдаланылады, ал цифрлер ерекше түрде топталады.
2) Біз сол ондықты жердің құндық жүйесінде қайта-қайта қолданамыз, оның негізі он.
3) Бір сан әр түрлі жолдармен ұсынылуы мүмкін.
4) Цифрлердің әрқайсысы бір санды белгілейтінін көрсетудің қарапайым тәсілі - бұл сандар арасында теңдік белгісі бар (=) математикалық сөйлемді теңдеулер жазу.
5) Мұнда 3 және 5 қоссаңыз, нәтиже 8 болады.
6) Барлығыңыз білетін төрт негізгі операция бар.
7) Алу - қосудың кері операциясы деп айтуға болады.
8) Көбейгішті көбейткішке көбейте отырып, нәтижесінде көбейтіндіні аламыз.
9) Бөлінгішті бөлгішке бөлгенде, бөліндіні аламыз.
10) Көбейту және бөлу - кері операциялар болғандықтан, бөлуді көбейту арқылы тексеруге болады.

6. Find the ending of the sentences:

1. The numbers used in our numeration system	A. equals the sum of the numbers 5 and 2.
2. The sum of the numbers 3 and 4	B. to write an equation
3. A very simple way to say that each of the numerals names the same number is	C. are called digits.
4. When two or more numbers are multiplied,	D. is called the divisor.
5. The number by which we divide	E. each of them is called a factor.

7. Answer the questions:
1) Can people live without numerals?

2) How many digits do we use in our Hindu-Arabic system of numeration?
3) Is a base five system used in modern computers?
4) Is subtraction an inverse operation of division?
5) Is addition an inverse operation of multiplication?
6) Are subtraction and addition inverse operations?
7) Are division and multiplication inverse operations?
8) Is the product the result of subtraction?
9) Is the difference the result of division?
10) Will there be a remainder if you divide 36 by 6?
11) Will there be a remainder if you divide 31 by 7?
12) How many basic operations of arithmetic do you know?

8. Give written translation of the 5th part.

9. Test

1. Give the meaning of the word **"digit":**
   a) Проверка, тексеріс,
   b) Деление, бөлім,
   c) Цифра, сан,
   d) Цепь, тізбек;

2. Give the meaning of the word **"значение" "мағына":**
   a) Value,
   b) Sigh,
   c) Sum,
   d) Factor;

3. Find the translation of the word combination **"place-value system":**
   a) Местное значение системы, жүйенің жергілікті мәні,
   b) Значение места цифры, сан орнының мәні,
   c) Значимое место цифры, санның маңызды орны,
   d) Разрядное значение цифры; санның дәрежелік мәні;

4. Translate into English: Существует четыре основных вычислительных операции. Есептеудің негізгі төрт операциясы бар.
   a) There are four basic operations.
   b) Four basic operations can be found.
   c) We can speak about four basic operations.
   d) People use only four basic operations.

5. Choose the word **"обратный" "кері ":**
   a) quotient,
   b) inverse,
   c) different,

d) grouped;

6. Choose the **Past Simple Passive** form:
   a) is multiplied,
   b) was multiplied,
   c) has been multiplied,
   d) will be multiplied;

7. What is the verb form? : This part **is called** the remainder.
   a) Present Simple Active,
   b) Past Simple Active,
   c) Present Simple Passive,
   d) Past Simple Passive;

8. Apply the rule of **sequence of tenses**: She told him that he ... harder.
   a) should study,
   b) will study,
   c) can study,
   d) study;

9. Apply the rule of **sequence of tenses**: He said that Tom was the best student he ... .
   a) was teaching,
   b) would teach,
   c) had ever taught;

10. In the operation of division there is a number that is divided and it is called the factor.
   a) It's true.
   b) It's false.

Unit 4: INTRODUCTION TO GEOMETRY

1. Read and learn the meaning of the following words:

1. point – точка; нүкте
2. line – линия, прямая; түзу
3. surface – поверхность; беті
4. solid – заполненное пространство, сплошная; толтырылған кеңістік
5. measurement – измерение; өлшеу
6. shape – форма; нысан
7. size – размер; өлшем
8. pattern – образец, шаблон; үлгі
9. space – пространство; кеңістік
10. diagram – диаграмма, схема, график;

11. subject – предмет, объект;
12. dimensions – габариты, габаритные размеры; өлшемдер
13. length – длина; ұзындық
14. width – ширина; ені
15. depth – глубина; тереңдік
16. height – высота; биіктік
17. location – положение, местонахождение; орналасқан жері
18. segment – отрезок; кесінді
19. ray – луч; сәуле
20. endpoint – конечная точка, конечная; соңғы нүкте
21. parallel – параллельно, параллельный; параллель
22. perpendicular – перпендикуляр;
23. intersect – пересекаться; қиылысу
24. side – сторона; жақ
25. plane – плоскость; жазықтық
26. direction – направление; бағыт
27. polygons – многоугольники; көпбұрыш
28. square – площадь, квадрат; аудан, шаршы
29. rectangle – прямоугольник; тікбұрыш
30. triangle – треугольник; үшбұрыш
31. corner – угол; бұрыш

2. Read and translate the text.

INTRODUCTION TO GEOMETRY.

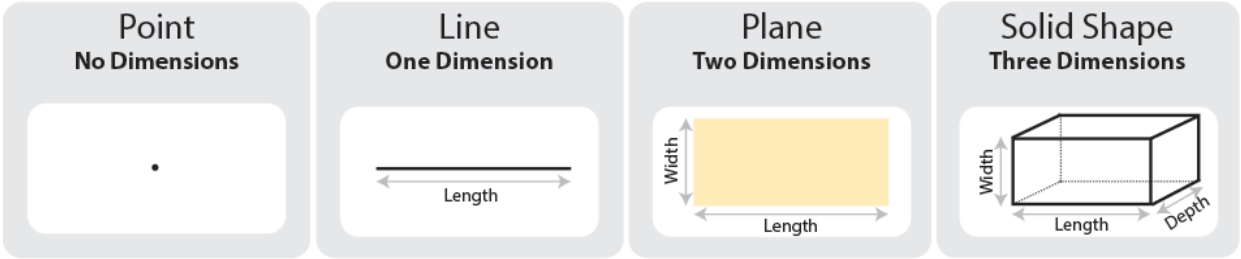
What is Geometry? Geometry, n. - that part of mathematics which treats the properties of points, lines, surfaces and solids…

Geometry comes from the Greek meaning ‘earth measurement’ and is the visual study of shapes, sizes and patterns, and how they fit together in space. You will find that geometry contains lots of diagrams to help you understand the subject.

When you’re faced with a problem involving geometry, it can be very helpful to draw yourself a diagram.

Working in Different Dimensions

No, not the space-time continuum! We’re talking about shapes that are in one, two and three dimensions. That is, objects that have length (one dimension), length and width (two dimensions) and length, width and depth or height (three dimensions).

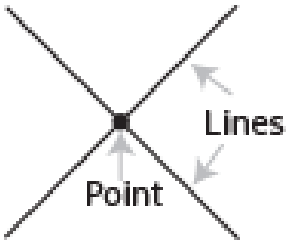


Points: A Special Case: No Dimensions

A *point* is a single location on a flat surface. It is often represented by a dot on the page, but actually has no real size or shape.

You cannot describe a point in terms of length, width or height, so it is therefore ***non-dimensional***.

However, almost everything in geometry starts with the point, whether it's a line, or a complicated three-dimensional shape.



Line segments and rays

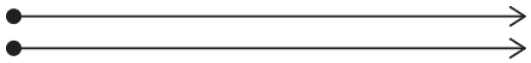
There are two kinds of lines: those that have a defined start- and endpoint and those that go on forever.

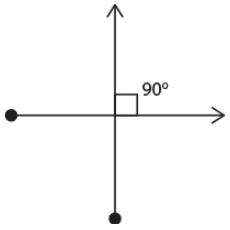
Lines that move between two points are called **line segments**. They start at a specific point, and go to another, the endpoint. They are drawn as a line between two points, as you would probably expect.

The second type of line is called a **ray**, and these go on forever. They are often drawn as a line starting from a point with an arrow on the other end:

Parallel and perpendicular lines

There are two types of lines that are particularly interesting and/or useful in mathematics. **Parallel lines** never meet or intersect. They simply go on forever side by side, a bit like railway lines:





Planes and Two-dimensional Shapes

Now that we have dealt with one dimension, it's time to move into two.

A **plane** is a flat surface, also known as two-dimensional. It is technically unbounded, which means that it goes on forever in any given direction and as such is impossible to draw on a page.

One of the key elements in geometry is how many dimensions you're working in at any given time. If you are working in a single plane, then it's either one (length) or two (length and width). With more than one plane, it must be three-dimensional, because height is also involved.

Two-dimensional shapes include polygons such as squares, rectangles and triangles, which have straight lines and a point at each corner.

3. Fill in the missing words:

1) Geometry contains lots of … to help you understand the subject.
2) A *point* is a single … on a flat … .
3) There are two kinds of … : those that have a defined start- and endpoint and those that go on forever.
4) … that move between two points are called line segments**.**
5**)** Parallel lines never … or … .
6) A plane is … … … , also known as two-dimensional.
7) Two-dimensional … include polygons such as squares, rectangles and triangles.

4. Give the translation of the phrases:

a complicated three-dimensional shape; a specific point; particularly interesting; side by side; like railway lines; technically unbounded; key elements; at any given time; straight lines.

5. Find in the text the English equivalents of the following sentences:

1) Когда вы сталкиваетесь с проблемой, связанной с геометрией, может быть очень полезно нарисовать диаграмму.
2) Мы говорим о формах, которые находятся в одном, двух и трех измерениях.
3) Она часто представлена точкой на странице, но на самом деле не имеет реального размера или формы.
4) Линии, которые проводятся между двумя точками, называются отрезками.
5) Есть два типа линий, которые особенно интересны и / или полезны в математике.
6) Двумерные формы включают многоугольники, такие как квадраты, прямоугольники и треугольники, которые имеют прямые линии и точку в каждом углу.

5.1. Find in the text the English equivalents of the following sentences:

1) Геометриямен байланысты мәселе туындаған кезде, диаграмманы салу өте пайдалы болуы мүмкін.
2) Біз бір, екі және үш өлшемдегі нысандар туралыайтып отырмыз.
3) Ол жиі қағаз бетінде нүктемен белгіленеді, бірақ нақты өлшемі немесе пішіні жоқ.
4) Екі нүкте арасындағы сызықтар сегменттер деп аталады.
5) Математикада әсіресе қызықты және / немесе пайдалы болатын сызықтың екі түрі бар.
6) Екі өлшемді пішіндер әр бұрышта жазық түзулері және нүктесі бар шаршы, тік бұрыш және үшбұрыш сияқты көпбұрыштарды қамтиды.

6. Find the ending of the sentences:

1. Geometry comes from the Greek meaning ‘earth measurement’ and	A. then it’s either one (length) or two (length and width).
2. You cannot describe a point in terms of length, width or height,	B. and as such is impossible to draw on a page.
3. They start at a specific point,	C. is the visual study of shapes, sizes and patterns, and how they fit together in space.
4. It is technically unbounded, which means that it goes on forever in any given direction	D. and go to another, the endpoint.
5. If you are working in a single plane,	E. so it is therefore non-dimensional**.**

7. Answer the questions:
1) What does geometry treat?
2) Can it be very helpful to draw a diagram? When?
3) What do we mean talking about three dimensions?
4) What do we call a point?
5) What do we call line segments?
6) Where do they start?
7) What is a ray? Does it have an end?
8) Do Parallel lines meet?
9) Is a plane unbounded? What does it mean?
10) Which is one of the key elements in geometry?
11) What do two-dimensional shapes include?
8. Give written translation of the part “Line segments and rays”.

9. Test
1. Choose the meaning of the word **“surface”:**

a) Поверхность, беті,
b) Длина, ұзындық,
c) Ширина, ені,
d) Высота, биіктік;

2. Choose the meaning of the word **“location”:**
a) Пространство, кеңістік,
b) Расположение, орналасуы,
c) Отражение, кескін,
d) Внедрение, еңгізу;

3. Choose the meaning of the word **“пересекаться” “қиылысу”:**
a) Direct,
b) Form,
c) Intersect,
d) Trace;

4. Select a **superfluous word**:
a) Length,
b) Width,
c) Depth,
d) Beauty;

5. Choose a **complex word**:
a) Perpendicular,
b) Measurement,
c) Endpoint,
d) Rectangle;

6. Choose the sentence with **Participle 1**.
a) Almost **everything** in geometry starts with the point.
b) When you’re faced with a problem involving geometry, it can be very helpful to draw yourself a diagram.
c) There are two types of lines that are particularly interesting.

7. Choose the **Conditional sentence**.
a) You will find that geometry contains lots of diagrams to help you understand the subject.
b) You cannot describe a point in terms of length, width or height, so it is therefore **non-dimensional.**
c) Lines that move between two points are called **line segments.**
d) If you are working in a single plane, then it’s either one (length) or two (length and width).

8. **Working** in Different Dimensions. – What is the highlighted word expressed with?
   a) Participle 1,
   b) Gerund;

9. Translate the sentence into Russian – “One of the key elements in geometry is how many dimensions you’re working in at any given time.”
   a) Одним из ключевых элементов в геометрии является то, сколько измерений вы разрабатываете в любой момент времени. Геометриядағы негізгі элементтердің бірі - кез-келген уақытта неше өлшемді жетілдіретініңіз.
   b) Одним из ключевых элементов в геометрии является то, в скольких измерениях вы работаете в какой-либо момент времени. Геометриядағы негізгі элементтердің бірі - қандай да бір уақытта қанша өлшемде жұмыс істейтініңіз.
   c) Одним из ключевых элементов в геометрии является то, в каких измерениях вы работаете в любой момент времени.
   Геометриядағы негізгі элементтердің бірі - кез-келген уақытта қандай өлшемдерде жұмыс істейтініңіз.
   d) Одним из ключевых элементов в геометрии является то, сколько измерений вы обрабатываете в данный момент времени. Геометриядағы негізгі элементтердің бірі – қазіргі уақытта неше өлшемді жетілдіретініңіз.

10. **Parallel lines** never meet or intersect.
   a) It’s true.
   b) It’s false.

Unit 5: INTRODUCTION TO ALGEBRA

1. Read and learn the meaning of the following words:

11. submit – подвергать; душар ету, ұшырату
12. etymology – этимология, происхождение; шығу тегі
13. derive – получать, производить, извлекать; алу
14. arithmos – число; сан
15. employ – воспользоваться, употреблять, применять; пайдалану
16. treatise – трактат, научный труд; ғылыми еңбек
17. restoration – возобновление, возрождение; қалпына келу, жаңғыру
18. opposition – возражение, противоположение; қарсылық, қарама қарсылық
19. transposition – перенос; көшіру
20. calcellation – отмена; жою
21. approach – подход; тәсіл
22. mention – упоминание, ссылка; атап өту, сілтеме
23. convenient – подходящий; қолайлы
24. appropriate – соответствующий, подходящий; орынды
25. credit – доверие, признательность; доверять, верить; сенім, алғыс; сену

26. tablet – дощечка, табличка; делать надпись на табличке; тақтай, тақтайша; тақтайшаға жазу
27. sophisticated – сложный, опытный; күрделі, тәжірибиелі
28. elimination – устранение, исключение; жою
29. method – метод, прием, система; әдіс, жүйе
30. variety – разнообразие, множество, ряд; әртүрлілік
31. cubics and quartics – кубические и квадратные; текше және шаршы
32. estimate – подсчитать, установить, доказать; санау, белгілеу, дәлелдеу
33. rhetorical – риторический; риторикалық
34. comparison – сравнение, сопоставление; салыстыру
35. extend – распространяться, детализировать, уточнять; тарату, тәптіштеу, нақтылау
36. clumsy – грубый, нескладный, громоздкий; дөрекі, қолайсыз
37. cumbersome –трудоемкий, громоздкий; көп еңбекті қажет ететін, қолайсыз
38. syncopated – сокращенный, синкопированный; қысқартылған
39. invasion – захват, вторжение, внедрение; басып алу, басып кіру, енгізу
40. accomplishment – выполнение, совершение; орындау, жасау
41. root – корень, основание; түбір, негіз
42. solution – решение; шешім
43. suspicion – сомнение, подозрение; күмән, күдік
44. abacus – счеты, счетная доска; есеп, есеп тақтасы
45. breakthrough – новизна, открытие, важное усовершенствование жаңалық, жетістік, маңызды жетілдіру

2. Read and translate the text.

INTRODUCTION TO ALGEBRA.

Exotic and intriguing is the origin of the word "algebra". It does not submit to a neat etymology as does, for example, the word "arithmetic", which is from the Greek arithmos ("number"). Algebra is a Latin variant of the Arabic word al-jabr (sometimes translated al- jebr) as employed in the title of a book, "Hisab al-jabr w'al mugabalah", written in Baghdad about A. D. 825 by the Arab mathematician Mohammed ibn-Musa al-Khowarismi. This treatise on algebra is commonly referred to, in shortened form, as Al-jabr. A literal translation of the book's full title is "science of restoration (or reunion) and opposition", but a more mathematical phrasing is "science of transposition and calcellation". Perhaps the best translation is simply "the science of equations".

Although originally "algebra" referred to equations, the word today has a much broader meaning, and a satisfactory definition requires a two-phase approach: 1. Early (elementary) algebra is the study of equations and methods of solving them. 2. Modern (abstract) algebra is the study of mathematical structures such as groups, rings, and fields — to mention only a few. Indeed, it is convenient to trace the

development of algebra in terms of these two phases, since the division is both chronological and conceptual.

Since algebra might have probably originated in Babylonia, it seems appropriate to credit the country with the origin of the rhetorical style of algebra, illustrated by the problems found in clay tablets dating back to c. 1700 B. C. The problems show the relatively sophisticated level of their algebra. Nowadays such problems are solved by the method of elimination. The Babylonians also knew how to solve systems by elimination but preferred often to use their parametric method. The Babylonians were able to solve a rather surprising variety of equations, including certain special types of cubics and quartics — all with numerical coefficients, of course.

Algebra in Egypt must have appeared almost as soon as in Babylonia; but Egyptian algebra lacked the sophistication in method shown by Babylonian algebra, as well as its variety in types of equations solved. For linear equations the Egyptians used a method of solution consisting of an initial estimate followed by a final correction, a method now known as the "rule of false position". The algebra of Egypt, like that of Babylonia, was rhetorical.

The numeration system of the Egyptians, relatively primitive in comparison with that of the Babylonians, helps to explain the lack of sophistication in Egyptian algebra. European mathematicians of the sixteenth century had to extend the Hindu-Arabic notion of number before they could progress significantly beyond the Babylonian results in solving equations.

The algebra of the early Greeks (of the Pythagoreans and Euclid, Archimedes, and Apollonius, 500—200 B. C.) was geometric because of their logical difficulties with irrational and even fractional numbers and their practical difficulties with Greek numerals, which were somewhat similar to Roman numerals and just as clumsy. It was natural for the Greek mathematicians of this period to use a geometric style for which they had both taste and skill.

The Greeks of Euclid's day thought of the product ab (as we write it nowadays) as a rectangle of base b and height a and they referred to it as "a rectangle contained by CD and DE". Some centuries later, another Greek, Diophantus, made a start toward modern symbolism in his work "Diophantine equations" by introducing abbreviated words and avoiding the rather cumbersome style of geometric algebra. Diophantus introduced the syncopated style of writing equations.

Little is known about Hindu mathematics before the fourth or fifth century A. D. because few records of the ancient period have been found. India was subjected to numerous invasions, which facilitated the exchange of ideas. Babylonian and Greek accomplishments, in particular, were apparently known to Hindu mathematicians. The Hindus solved quadratic equations by "completing the square" and they accepted negative and irrational roots; they also realized that a quadratic equation (with real roots) has two roots. Hindu work on indeterminate equations was superior to that of Diophantus; the Hindus attempted to find all possible integral solutions and were perhaps the first to give general methods of solution. One of their most outstanding achievements was the system of Hindu (often called Arabic) numerals.

In the eleventh century many Greek and Arabic texts on mathematics were translated into Latin and became available in Europe. However, even more important for Europe, especially Italy was the "Liber abaci" (1202) of Fibonacci (Leonardo of Pisa) in which he solved equations in the rhetorical and general style and strongly advocated the use of Hindu-Arabic numerals, which he discovered on his journeys to many lands as a merchant and tradesman. It is not surprising that at first the local chambers of commerce (in Pisa and neighbouring city-states of Italy) resisted the adoption of the "new" Hindu-Arabic numerals and in fact viewed them with suspicion; but they were gradually adopted, and the old abacus was stored in the attic.

The algebra that entered Europe (via Fibonacci's "Liber abaci" and translations) had retrogressed both in style and in content. The semisymbolism of Diophantus and relatively advanced accomplishments of the Hindus were not destined to contribute to the eventual breakthrough in European algebra.

3. Fill in the missing words:

1) A literal translation of the book's full title is "… (or reunion) and …".
2) Although originally "algebra" referred to …, the word today has a much broader meaning.
3) The problems show the relatively … level of their algebra.
4) Nowadays such problems … … by the method of elimination.
5) For linear equations the … used a method of solution.
6) Greek … were somewhat similar to Roman … and just as clumsy.
7) Diophantus made …… toward modern symbolism.
8) Hindu work on indeterminate equations was … to that of Diophantus.
9) It is not surprising that at first the … … of commerce resisted the adoption of the "new" Hindu-Arabic numerals and in fact viewed them with …

4. Give the translation of the phrases:

a neat etymology, a much broader meaning, methods of solving, rhetorical style, relatively sophisticated level, variety of equations, numerical coefficients, the rule of false position, abbreviated words, numerous invasions, relatively advanced accomplishments.

5. Find in the text the English equivalents of the following sentences:

1) Дословный перевод полного названия книги - «Наука о восстановлении (или воссоединении) и оппозиции», но более математическая формулировка - «Наука о транспозиции и исчислении».
2) Действительно, удобно проследить развитие алгебры в терминах этих двух фаз, так как деление является как хронологическим, так и концептуальным.
3) Проблемы показывают относительно сложный уровень их алгебры.
4) Вавилоняне смогли решить довольно удивительное разнообразие уравнений, в том числе некоторые специальные типы кубических и квадратных - все с числовыми коэффициентами, конечно.

5) Для линейных уравнений египтяне использовали метод решения, состоящий из начальной оценки, за которой следует окончательная коррекция, метод, известный теперь как «правило ложного положения».
6) Европейским математикам шестнадцатого века пришлось распространять индусско-арабское понятие числа, поскольку они могли значительно продвинуться за пределы вавилонских результатов в решении уравнений.
7) Греческим математикам этого периода было естественно использовать геометрический стиль, к которому у них было и пристрастие и умение.
8) Диофант представил синкопированный стиль написания уравнений.
9) Индия подвергалась многочисленным вторжениям, что способствовало обмену идеями.
10) Однако, еще важнее для Европы, особенно для Италии, «Liber abaci» Фибоначчи, в которой он решал уравнения в риторическом и общем стиле и решительно выступал за использование индусско-арабских цифр, которые он обнаружил в своих путешествиях во многие земли в качестве купца и торговца.

5.1. Find in the text the English equivalents of the following sentences:

1) Кітаптың толық атауының сөзбе-сөз аудармасы «Қалпына келтіру (немесе біріктіру) және қарсылық жайлы ғылым», алайда « Транспозиция және есептеу туралы ғылым» деген атау математикалық тұжырымдама болып табылады.
2) Шын мәнінде, бұл екі кезең терминдері бойынша алгебраның дамуын қадағалауға ыңғайлы, өйткені бөліну хронологиялық және тұжырымдамалық болып табылады.
3) Мәселелер олардың алгебрасының салыстырмалы түрде күрделі деңгейін көрсетеді.
4) Вавилондықтар әртүрлі теңдеулерді, соның ішінде текше және шаршының ерекше түрлерін шеше алды - барлығы сандық коэффициенттері бар.
5) Сызықтық теңдеулер үшін мысырлықтар алғашқы бағалауды қамтитын шешім әдісін пайдаланып, кейінгі түзету әдісін қолданды, қазіргі уақытта «жалған позициялардың ережесі» деп аталатын әдіс.
6) Он алтыншы ғасырдың еуропалық математиктері үнді-араб сан түсінігін таратуға мәжбүр болды, өйткені олар теңдеулерді шешуде вавилондық нәтижелерден тыс елеулі прогреске қол жеткізе алды.
7) Осы кезеңнің грек математиктеріне геометриялық стильді қолдану тән болды, себебі оларда құмарлық пен қабілет бар еді.
8) Диофант қысқартылған теңдеулер жазу стилін ұсынды.
9) Үндістан идеялармен алмасуға мүмкіндік беретін көптеген шабуылдарға ұшырады.
10). Алайда, Еуропа үшін, әсіресе Италия үшін одан да маңызды, Фибоначчидің «Liber abaci», ол риторикалық және жалпы стильдегі теңдеулерді шешіп, саудагер ретінде көптеген жерлерге саяхаттау кезінде ашқан үнді-араб цифрларын қолдануды жақтады.

6. Find the ending of the sentences:

1. This treatise on algebra is commonly referred to,	A. elimination but preferred often to use their parametric method.
2. Modern (abstract) algebra is the study of	B. were apparently known to Hindu mathematicians.
3. The Babylonians also knew how to solve systems by	C. resisted the adoption of the “new” Hindu-Arabic numerals.
4.Babylonian and Greek accomplishments, in particular,	D. mathematical structures such as groups, rings, and fields.
5. The Hindus attempted to find all possible integral solutions and	E. in style and in content.
6. It is not surprising that at first the local chambers of commerce (in Pisa and neighbouring city-states of Italy)	F. were perhaps the first to give general methods of solution.
7. The algebra that entered Europe had retrogressed both	G. in shortened form, as Al-jabr.

7. Answer the questions:

1. When did algebra originate?
2. What were the first algebraic symbols?
3. What types of equations do you know?
4. How can rhetorical algebra be characterized?
5. Are Diophantine equation a typical example of syncopated algebra?
6. What caused the Greeks to give their algebra geometrical formulation?
7. Are the laws of algebra (associative, distributive, commutative) independent, or can one be derived logically from another?
8. Are they really fundamental or could they be reduced to a more primitive, simpler and more elegant set of laws?
9. How did unsolved problems influence the development of mathematics?
10. What was the most remarkable unsolved problem in algebra?
11. Who managed to solve the problem?
12. What did Galois prove?
13. Are groups the only algebraic structures in modern algebra?
14. Does there General Theory of Equations exist?
15. Does algebra evolve as a unique and integral subject?
16. What does modern algebra deal with?
17. Is modern algebra the most sophisticated subject in mathematics?

8. Test

1. Choose the meaning of the word **“restoration”:**
   a) Отклонение, ауытку,
   b) Возобновление, қайта бастау,

c) Окончание, аяқталуы,
d) Завершение, аяқтау;

2. Choose the meaning of the word **“подход” “тәсіл” :**
   a) Treatise,
   b) Approach,
   c) Credit,
   d) Method;

3. Translate the verb **“submit”:**
   a) Подвергать, ұшырату,
   b) Употреблять, пайдалану,
   c) Доказывать, дәлелдеу,
   d) Сравнивать, салыстыру;

4. Translate the verb **“применять” “қолдану”:**
   a) Estimate,
   b) Extend,
   c) Employ,
   d) Invade;

5. Translate the expression **“variety of equations”:**
   a) Разные уравнения, түрлі теңдеулер,
   b) Различие уравнений, теңдеулер айырмасы,
   c) Многообразие уравнений, теңдеулердің алуан түрлілігі,
   d) Ассортимент уравнений, теңдеулер ауқымы;

6. This treatise on algebra **is** commonly **referred to**, in shortened form, as Al-jabr. - Define the grammatical phenomenon in the highlighted words.
   a) Present Simple Active,
   b) Past Simple Active,
   c) Present Perfect Passive,
   d) Present Simple Passive;

7. Use the appropriated form of the verbs: The Babylonians also knew how … systems by elimination but preferred often … their parametric method.
   a) Solve, use;
   b) Solving, using;
   c) To solve, to use;
   d) Solved, used;

8. Use the appropriated form of the verbs: European mathematicians of the sixteenth century had … the Hindu-Arabic notion of number before they could … significantly beyond the Babylonian results in solving equations.

a) extend, progress;
b) to extend, to progress;
c) extending, progressing;
d) to extend, progress;

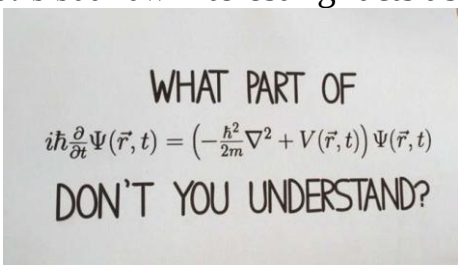
9. Fill in missing words - India was subjected to … …, which facilitated the exchange of ideas.
   a) numerous invasions,
   b) abbreviated words,
   c) local chambers,
   d) relatively advanced;

10. In the eleventh century many Greek and Arabic texts on mathematics were translated into English and became available in Europe.
    a) It's true.
    b) It's false.

TEXTS FOR ADDITIONAL READING

INTERESTING FACTS ABOUT MATHEMATICS

Numbers are one of the significant parts of our lives. From studies, career, daily chores to relationships, everything is related to numbers. Therefore Mathematics proves to be an essential subject for students. Even though numbers can be scary sometimes, but if learned properly and with fun, they can be pretty amazing and cool. To make our point, let's see few interesting facts about mathematics:



1. **Hundred in reality means 120**

Confusing as it may sound after the heading, the weirdly interesting thing is that the word "hundred" is derived from another word "hundrath" which actually means 120. Not very logical thing for this logic subject!

2. The Popular number of all

Well if math would be a high school, number 7 would be the most popular number of all. It is because of many reasons like this is "arithmetically unique". It is the only number you can't really multiply or divide and still keep it in that group.

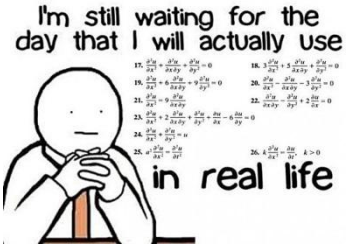
3. GOOGLE is all about Maths

The lifeline of today's time, Google search engine is a term which is derived from word "googol" which is a mathematical term for the number 1 followed by 100 zeros which reflect infinite amount of search on the internet.

4. The Crazy Multiplications in Maths

Few interesting things about math is how crazy it gets with its function. For instance if you multiply 111,111,111 by 111,111,111, this becomes equal to 12,345,678,987,654,321. The numbers seem like going in the same way over and over again.

5. Most Important equation of maths



If you have to come up with the most exquisite piece in Maths, then use this equation which has five most important numbers of Maths in it. The equation is e^i*pi + 1 = 0. Seems like a love to mathematicians.

6. Relationship between Shakespeare and Math

No don't get me wrong, Shakespeare was a literature lover and not math lover but the only time he included the word "Mathematics" was in a play, "The Taming of the Shrew."

7. Is it Math or Mathematics?

This debate is going on for a long time now. Americans called mathematics "math" saying that the function of the same is a singular noun and with that logic, they prefer saying "math" which is singular too. But then there are people who call it Maths but we are not covering that part.

8. The dreadfully long Division

Another crazy application of Math comes in when number 1 is divided by 998001. The answer would give you a complete sequence from 000 to 999 in order. Don't agree with us? Go ahead and try it and be ready to waste a one whole…notebook (!?)

9. Zero is not there in Roman Numerals

Did you know that one of the most important numbers, Zero is not represented in the Roman numerals. Derived from Arabic word, 'sifr', it is known from a variety of other names like naught, zip, nil and zilch.

10. Story of Pi

It was mathematician William Shanks who calculated the value of Pi (π) which was to 707 places but he made a mistake on the 528th digit and henceforth incorrectly

calculating every digit after that. Pi is therefore not a fraction and this makes it irrational number which neither repeats nor does it end when written as a decimal.

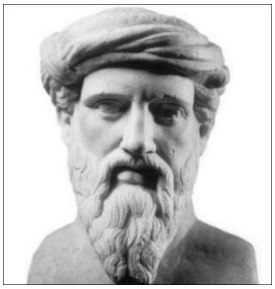
11. The Magic Number

If you believe in magic then mathematics does it too. Number 9 is believed to be a magic number. It is because if you multiply a number with 9, add all digits to resulting number, the sum would always come out to be 9. We dare you try this!!

12. 0 is an Even Number

I am sure many of you didn't realize this and never answered this but 0 is an even number. This is hard for people to mentally categorize and therefore they take longer to decide.

13. Calculus means Pebbles in Greek



The famous Greek mathematician, Pythagoras, used to have small rocks to signify numbers while working on mathematical equations. This led to origin of word Calculus which means pebbles in Greek.

14. Pizza and Pie are related

I may look like someone who is ruining pizza for you but you will be amazed to know that the Pizza has a radius of "z" and height "a", and therefore its volume is Pi x z x z x a which makes up Pizza. Interesting enough to enjoy little math with Pizza!!

GLOSSARY

Absolute value: The magnitude of a number. It is the number with the sign (+ or -) removed and is modulus.

Abstract number: A number with no associated units.

Acute angle: An angle with degree measure less than 90.

Addition: The process of finding the sum of two numbers, which are called addend and the augend symbolized using two vertical straight lines (|5|). Also called (sometimes both are called the addend).

Algorithm: Any mathematical procedure or instructions involving a set of steps to solve a problem.

Arithmetic sequence: A sequence of numbers in which each term (subsequent to the first) is generated by adding a fixed constant to its predecessor.

Axiom: Any assumption on which a mathematical theory is based.

Average: The sum of several quantities divided by the number of quantities (also called mean).

Binary operation: An operation that is performed on just two elements of a set at a time.

Calculus: Branch of mathematics concerned with rates of change, gradients of curves, maximum and minimum values of functions, and the calculation of lengths, areas and volumes. It involves determining areas (integration) and tangents (differentiation), which are mutually inverse. Also called **real analysis.**

Cartesian coordinates: Cartesian coordinates (x, y) specify the position of a point in a plane relative to the horizontal x and the vertical y axes. The x and y axes form the basis of two-dimensional Cartesian coordinate system.

Chord: A straight line joining two points on a curve or a circle. See also secant line.ππ

Circle: A circle is defined as the set of points at a given distance (or radius) from its centre. If the coordinates of the centre of a circle on a plane is (a, b) and the radius is r, then $(x-a)^2 + (y-b)^2 = r^2$. The equation that characterizes a circle has the same coefficients for x^2 and y^2. The area of a circle is $A = \pi r^2$ and circumference is $C = 2\ \pi r$. A circle with centre (a, b) and radius r has parametric equations: $x = a + r.cos\ \pi$ and $y = b + r.sin\ \pi$ $(0 \leq \pi \leq 2\ \pi)$. A 'tangent' is a line, which touches a circle at one point (called the point of tangency) only. A 'normal' is a line, which goes through the centre of a circle and through the point of tangency (the normal is always perpendicular to the tangent). A straight line can be considered a circle; a circle with infinite radius and centre at infinity. **Circumference**: A line or boundary that forms the be located on a plane.

Composite number: Any integer which is not a prime number, i.e., evenly divisible by numbers other than 1 and itself.

Congruent: Alike in all relevant respects.

Constant: A quality of a measurement that never changes in magnitude.

Coordinate perimeter of a circle.

Coefficient: A number or letter before a variable in an algebraic expression that is used as a multiplier.

Complementary angles: Two angles whose sum is 90°.

Complex numbers: A combination of real and imaginary numbers of the form ***a + bi*** where ***a*** and ***b*** are real numbers and ***i*** is the square root of -1. While real numbers can be represented as points on a line, complex numbers can only**:** A set of numbers that locates the position of a point usually represented by *(x, y)* values.

Cosine law: For any triangle, the side lengths a, b, c and corresponding opposite angles A, B. C are related as follows: $a^2 = b^2 + c^2 - 2bc\ cosA$ etc. The law of cosines is useful to determine the unknown data of a triangle if two sides and an angle are known.

Counting number: An element of the set C= {1,2,3,...}.

Cube root: The factor of a number that, when it is cubed (i.e., x^3) gives that number.

Curve: A line that is continuously bent.

Derivative: The derivative at a point on a curve is the gradient of the tangent to the curve at the given point. More technically, a function $(f(x_0))$ of a function $y = f(x)$, representing the rate of change of>- and the gradient of the graph at the point where $x = x_0$, usually shown as *dy/dx*. The notation *dytdx* suggests the ratio of two numbers

dy and *dx* (denoting infinitesimal changes in *y* and x), but it is a single number, the limit of a ratio (k/h) as they both approach zero. Differentiation is the process of calculating derivatives. The derivatives of all commonly occurring functions are known.

Differential Equations: Equations containing one or more derivatives (rate of change). As such these equations represent the relationships between the rates of change of continuously varying quantities. The solution contains constant terms (constant of integration) that are not present in the original differential equation. Two general types of differential equations are ordinary differential equations (ODE) and partial differential equations (PDE). When the function involved in the equation depends upon only a single variable, the differential equation is an ODE. If the function depends on several independent variables (so that its derivatives are partial derivatives) then the differential equation is a PDF.

Diameter: A straight line that passes from side to side thorough the centre of a circle.

Differential equation: Equations involving total or partial differentiation coefficients and the rate of change; the difference between some quantity now and its value an instant into the future.

Digit: In the decimal system, the numbers 0 through 9.

Dimension: Either the length and/or width of a flat surface (two-dimensional); or the length, width, and/or height of a solid (three-dimensional).

Division: The operation of ascertaining how many times one number, the *divisor,* is contained in another, the *dividend.* The result is the *quotient* and any number left over is called the *remainder*. The dividend and divisor are also called the *numerator* and *denominator*, respectively.

Even number: A natural number that is divisible by two.

Fraction (quotient): A portion of a whole amount. The term usually applies only to ratios of integers (like 2/3, 5/7). Fractions less than one are called common, proper or vulgar fractions; and those greater than I are called improper fraction.

Function (/): The mathematical operation that transforms a piece of data into a different one. For example, $f(x) = x^2$ is a function transforming any number to its square.

Imaginary number: The product of a real number *x* and *i*, where$i^2 + 1 = 0$. A complex number in which the real part is zero. In general, imaginary numbers are the square roots of negative numbers.

Integration: The process of finding a function given its derived function.

Intercept: A part of a line/plane cut off by another line/plane.

Irrational number: A real number that cannot be expressed as the ratio of two integers, and therefore that cannot be written as a decimal that either terminates or repeats. The square root of 2 is an example because if it is expressed as a ratio, it never gives 2 when multiplied by itself. The numbers $\pi = 3.141592645...$, and $e = 2.7182818...$ are also irrational numbers.

Linear: A model or function where the input and output are proportional.

Linear expression: A polynomial expression with the degree of polynomial being 1, i.e., that does not include any terms as the power of a variable. It will be something like. $f(x)=2x^1+3$. but not x^2+2x+4 (the latter is a **quadratic expression**). Linear equations arc closely related to a straight line.

Literal numbers: Letters representing numbers (as in algebraic equations).

Logarithm: The logarithm of a number N to a given base b is the power to which the base must be raised to produce the number N. Written as $\log_b N$. Naturally, $\log_b b^x = x$. In any base, the following **rules** apply: log (ab) = log a + log b; log (a/b) = log a - log b; log (1/a) = -log a; log a^b = b log a; log 1 = 0 and log 0 is undefined. S

Mode: The most frequent value.

Multiplication: The process of finding the *product* of two quantities that are called the *multiplicand* and the *multiplier*.

Natural logarithm: Logarithm with a base of *e*, usually abbreviated *ln (ln* $e^x = x$).

Natural number: Any element of the set N = {0,1,2,3,...} (positive integers). The inclusion of zero is a matter of definition.

Numerator: The top number in a fraction.

Ordinate: The vertical coordinate on a plane.

Parallel: Lines or planes that are equidistant from each other and do not intersect.

Perpendicular: At right angles to a line or plane.

Product: The result of a multiplication problem.

Quadratic equation: An algebraic equation of the second degree (having one or more variables raised to the second power). The general quadratic equation is $ax^2 + bx + c = 0$, in which a, b, and c are constants (or parameters) and 'a' is not equal to 0.

Radius: The distance between the centre of a circle and any point on the circle's circumference.

Right angle: An angle with a degree measure 90. An angle which is not a right angle is called oblique angle.

Root: If, when a number is raised to the power of n gives the answer a, then this number is the n^{th} root of a ($a^{1/n}$).

Subtraction: The inverse operation of addition. In the notation a - b = c, the terms a, b, and c are called the *minuend, subtrahend* and *difference*, respectively.

Triangle: A three-sided figure that can take several shapes. The three inside angles add up to 180°. Triangles arc divided into three basic types: obtuse, right and acute; they are also named by the characteristics of their sides: equilateral, isosceles, and scalene. The area of a triangle is 1/2 x perpendicular height x base.

Unit: A standard measurement.

Variable: An amount whose value can change.

Variance: A measure of dispersion obtained by taking the mean of the squared deviations of the observed values from their mean in a frequency distribution.

Whole number: Zero or any positive number with no fractional parts.

GRAMMAR REFERENCES

СТРАДАТЕЛЬНЫЙ ЗАЛОГ

PASSIVE VOICE

Действительный и страдательный залоги в английском языке совпадают со значением соответствующих залогов в русском языке. Глагол в действительном залоге (Active Voice) показывает, что действие совершает лицо или предмет, выраженный подлежащим.

He often *asks* questions. *Он часто задаёт вопросы.*

Глагол в страдательном залоге (Passive Voice) означает, что действие направлено на предмет или лицо, выраженное подлежащим.

He is often *asked* questions. *Ему часто задают вопросы.*

Формы страдательного залога образуются при помощи глагола to be в соответствующей форме и Participle II (Причастие II) смыслового глагола.

	Present		**Past**		**Future**	
Indefinite	I he (she) we (you, they)	am asked is asked are asked	I (he, she) we (you, they)	was asked were asked	I (we) he (she, you, they)	will be asked
Continuous	I he (she) we (you, they)	am being asked is being asked are being asked	I (he, she) we (you, they)	was being asked were being asked		
Perfect	I, we, you, they he (she)	have been asked has been asked	I (he, she, we, you,	had been asked	I, we he, she, you,	will have been asked

			they)		they	

Indefinite Passive (to be + Participle II)

1. **The newspapers *are delivered* every morning.** (Present Indefinite Passive) Газеты доставляются каждое утро.
2. **This book *was bought* a month ago.** (Past Indefinite Passive) Эта книга была куплена месяц назад.
3. **The letter *will be mailed* tomorrow.** (Future Indefinite Passive) Письмо будет оправлено завтра.

Continuous Passive (to be + being + Participle II).

1. **The house *is being repaired*.** (Present Continuous Passive) Дом ремонтируется.
2. **When John was ill he *was being taught* at home.** (Past Continuous Passive) Когда Джон болел, его обучали дома.

Perfect Passive (to have + been + Participle II)

1. **This letter has been brought by the secretary.** (Present Perfect Passive) Секретарь принёс письмо. (Письмо принесено секретарём)
2. **He decided to become a writer only when his first story had been published.**(Past Perfect Passive) Он решил стать писателем, только когда его первый рассказ был напечатан.
3. **By the 1st of July the last exam will have been passed** (Future Perfect Passive) К первому июля последний экзамен будет вами сдан.

Сказуемое в страдательном залоге может переводиться на русский язык: а) кратким страдательным причастием; б) глаголом на -ся; в) неопределённо-личным глаголом.

The house is built. а) Дом построен. б) Дом строится. в) Дом строят.

Следует обратить особое внимание на перевод глаголов с предлогом в страдательном залоге. Наиболее распространённые из этих глаголов:

hear of - слышать о
laugh at - смеяться над
look after - присматривать за (кем-либо)
look at - смотреть на
rely on - полагаться на
send for - посылать за
speak of (about) - говорить о

pay attention to - обращать внимание на
take care of - заботиться о

The book is much spoken *about*. Об этой книге много говорят.
He can't be relied *on*. На него нельзя положиться.

В русском переводе не все глаголы сохраняют предлог:

to listen to - слушать что-либо, кого-либо
to look for - искать что-либо
to provide for - обеспечить кого-либо, чем-либо
to explain to - объяснять кому-либо

He was listened to with great attention. - Его слушали с большим вниманием.

Exercise. ***Put the underlined verbs into the Passive Voice, making the necessary changes in the sentences.***

1. She took a long time to write the composition, but at last she wrote it. 2. Don't put the cup there: somebody will break it. 3. Why weren't you at the birthday party? — They didn't invite me. 4. We met many difficulties, but all the same we finished the work in time. 5. We shall leave you behind if you are not quick. 6. I spent all my money on books last month. 7. I don't think we shall do all this work today: there is too much of it. 8. It's a very funny thing that when I start doing this, somebody always stops me. 9. Don't leave these sweets on the table: somebody will eat them. 10. The elephant broke the branch of the tree.

SEQUENCE OF TENSES
СОГЛАСОВАНИЕ ВРЕМЕН

Согласование времен в английском языке (Sequence of Tenses) очень тесно связано с косвенной речью в английском языке (Reported Speech). И приступая к изучению одной, обязательно понадобится знание второй. Ведь согласование времен необходимо, когда мы передаем слова собеседника, то есть, трансформируем прямую речь в косвенную.

Когда соблюдать правила согласования времен в английском языке? Допустим, нам необходимо передать прямую речь в виде косвенной***, и глагол в главном предложении выражен прошедшим временем.*** Соблюдать согласование времен нужно в том случае, если ***действие придаточного предложения рассматривается с позиции прошлого времени***.

1. Если ***действия в главном и придаточном предложениях происходят одновременно***, то для сказуемого **в придаточном предложении необходимы формы прошедшего простого** (Past Simple) или прошедшего длительного (Past Continuous) времен. Тип прошедшего времени в главном предложении в данном случае неважен.

We saw that he was dancing with this girl. – Мы видели, что он танцует с этой девушкой.

I knew that he worked in a foreign company. – Я знал, что он работает в иностранной компании.

2. Если действие ***в придаточном*** предложении ***предшествует*** действию ***в главном*** предложении, то ***в придаточном*** предложении мы используем ***прошедшее совершенное*** (Past Perfect) или ***прошедшее совершенно-длительное*** время (Past Perfect Continuous).

Mother said that uncle Tom had come to visit us several days before. – Мама сказала, что дядя Том приходил повидать нас несколько дней назад. Том

He asked me if I had been winning more games lately. – Он спросил меня, не выигрывал ли я в других играх в последнее время.

3. Если действие ***в придаточном*** предложении имеет ***отношение к будущему времени***, то мы употребляем сказуемое в этом же предложении в форме ***простого или продолженного будущего в прошедшем***, так называемое Future in the Past, или в другой форме выражения будущего времени.

He knew that she would marry this man undoubtedly. – Он знал, что она без сомнения выйдет замуж за этого мужчину.

She said she was going to do some shopping. – Она сказала, что собирается пройтись по магазинам.

В каких случаях не соблюдают правила согласования времен в английском языке?

1. В придаточном предложении говорится **о всемирно известной истине или факте:**

The pupils were told that the Earht moves around the Sun. — Ученикам сказали, что Земля вращается вокруг Солнца.

2. В придаточном предложении есть **модальный глагол must, should, ought to:**

I said that I must meet her. – Я сказал, что мне надо встретить ее.

3. Если **говорящий ссылается на слова, которые только что были сказаны:**

Kate: Stay with me, Mark. I will cook something delicious. – Кейт: Останься со мной, Марк. Я приготовлю что-нибудь вкусное.

Mark to Elza: Kate said she will cook something delicious. – Марк Эльзе: Кейт сказала, что приготовит что-то вкусное.

4. В придаточном предложении, вводимом союзами **when / since, простое прошедшее время (Past Simple) не изменяет своей формы:**

I answered that I hadn't met her since we moved. – Я ответил, что не видел ее после того, как мы переехали.

5. Если в **придаточном** предложении прошедшее **длительное время (Past Continuous), то оно тоже не меняется:** Steve said that when he came home his father was watching TV. – Стив сказал, что, когда он пришел домой, его отец смотрел телевизор.

ИНФИНИТИВНЫЕКОНСТРУКЦИИ
THE INFINITIVE CONSTRUCTIONS
САМОСТОЯТЕЛЬНЫЙ ИНФИНИТИВНЫЙ ОБОРОТ

В английском языке встречается оборот, состоящий из **существительного в общем падеже** и **инфинитива**. В таком обороте существительное обозначает лицо или предмет, совершающий действие, выраженное инфинитивом, или подвергающийся этому действию. Оборот называют**самостоятельным инфинитивным оборотом (Absolute Infinitive Construction)**. Он стоит в конце предложения и отделен запятой, на русский язык переводится предложением с союзом "**причем**", в котором глагол выражает *долженствование*. Самостоятельный инфинитивный оборот чаще встречается в юридических текстах и в коммерческих документах (контрактах и т. д.):

The sellers offered the buyers 5,000 tons of oil, **delivery to be made** in October.	*Продавцы предложили покупателям 5000 тонн нефти,* ***причем поставка должна была быть произведена*** *в октябре.*
The buyers requested the sellers to keep them informed of the position of the vessel, **the communications to be addressed** to their agents.	*Покупатели просили продавцов держать их в курсе местонахождения судна,* ***причем сообщения должны были направляться*** *их агентам.*

СЛОЖНОЕ ДОПОЛНЕНИЕ.
THE COMPLEX OBJECT

(OBJECTIVE - WITH - THE - INFINITIVE CONSTRUCTION).

Эта конструкция состоит из существительного в общем падеже или местоимения в объектном падеже и инфинитива.Обычно переводится на русский язык придаточным дополнительным предложением.

He wants *the book to be returned* tomorrow. Он хочет, *чтобы книгу вернули* завтра. Ол **кітапты** ертең **қайтаруын қалайды**.

СЛОЖНОЕ ПОДЛЕЖАЩЕЕ.
THE COMPLEX SUBJECT

(THE NOMINATIVE - WITH - THE - INFINITIVE CONSTRUCTION)

Эта конструкция состоит из существительного или местоимения в именительном падеже и инфинитива. Переводится на русский язык придаточным предложением.

She is expected to come any minute. – Ожидается, что она приедет с минуты на минуту.
The water seems to be boiling. – Кажется, вода кипит.
TheDelegation is reported to have left London. - Сообщается, что делегация покинула Лондон.
He is likely to know her address. - Он, вероятно, знает её адрес.
He is sure to be asked about it. - Его, наверняка, об этом спросят.
She is said to be very beautiful. - Говорят. что она очень красива.
The car was seen to disappear. - Видели, как машина скрылась.

Эта конструкция употребляется:

- С глаголами, обозначающими чувственное восприятие: **to see**, **to hear**, **to notice** и др. и с глаголами, обозначающими умственную деятельность: **to think**, **to consider**, **to expect** и др. (в страдательном залоге), а также с глаголами **to say**, **to report**, to ask, to order, to announce (в страдательном залоге).
- Со словосочетаниями **to be likely** (вероятно), **to be unlikely** (маловероятно), **to be certain** / **to be sure** (несомненно / обязательно).
- С глаголами в действительном залоге **to seem** / **to appear** (казаться / по-видимому), **to prove** / **to turn out** (оказываться), **to happen** (случаться).

ИНФИНИТИВНАЯ КОНСТРУКЦИЯ С ПРЕДЛОГОМ *FOR*.
THE FOR - TO - INFINITIVE CONSTRUCTION.

В этой конструкции перед существительным или местоимением находится предлог **for**. При переводе на русский язык используется или придаточное предложение или инфинитив.

- It's easy *for me to answer* this question. - Мне легко ответить на этот вопрос.
- It will be very pleasant *for us to spend* a week in England. –Нам будет очень приятно провести неделю в Англии.
- There was nothing else *for me to say*. – Мне больше нечего было сказать.

- It is *for you to decide*. – Вам решать.
- Here are some books *for you to read*. – Вот несколько книг для вашего чтения (вам почитать).

GERUND CONSTRUCTION
ГЕРУНДИАЛЬНЫЙ ОБОРОТ

Сочетание герундия с дополнением и примыкающими к нему словами образует герундиальный оборот. Например:
- Most people like **reading books**, герундиальный оборот (герундий + дополнение)
- Most people like **reading books written by modern authors**. Герундиальный оборот (герундий + дополнение + определениекдополнению).

Так как всякий оборот представляет собой особую синтаксическую группу, то тем или иным членом предложения является весь герундиальный оборот в целом, а синтаксическая роль слов или словарных групп, входящих в его состав, рассматривается только по отношению к какому-либо члену оборота.

Так, в данном предложении весь герундиальный оборот reading books written by modern authors является дополнением к глаголу like. Внутри же оборота дополнением к герундию reading является слово books.

Герундиальный оборот может употребляться в любой функции (кроме определения). Например:
- **Прямое дополнение**: We effect **heating** apartments by several means. Мы производим **отопление** (квартир) разными способами.
- **Именная часть сказуемого**: The subject of this book is **heating** apartments. Содержание этой книги - **отопление** (квартир).
- **Подлежащее**: **Heating** apartments is absolutely necessary in winter. **Отопление** (квартир) совершенно необходимо зимой.
- **Предложное дополнение**: There are different methods of **heatihg** apartments.

Имеются разные способы **отопления** (квартир).
- **Обстоятельство**: We often use electricity for **heating** apartments. Мы часто используем электричество для **отопления** (квартир).

Вследствие совпадения по форме герундия с первым причастием (Participle I), их обороты в ряде случаев трудно отличить друг от друга. Сравните:

1. A tool **cutting** metal must be sharp.
2. **Cutting** metal the tool gets hot.
3. **Cutting** metal is a simple operation.

Словосочетание cutting metal было бы неразличимо, если бы стояло вне контекста, так как оно может быть:
а) причастным определением с определяемым словом (режущий металл);
б) причастным обстоятельством с дополнением (разрезая металл);

в) герундием с дополнением (резание металла).

Различению функций этого словосочетания, а, следовательно, и его переводу, в значительной степени помогает структура всего предложения в целом.

Рассмотрим каждое предложение в отдельности:

1. A tool **cutting metal** must be sharp.
В этом предложении **cutting metal** стоит перед сказуемым, следовательно, входит в группу подлежащего и поэтому представляет собой причастный оборот, определяющий подлежащее tool: Инструмент, **режущий металл,** должен быть острым.

2. **Cutting metal** the tool gets hot.
Cutting metal не входит в группу подлежащего, которое выражено словом the tool. Этот оборот предшествует подлежащему и может быть только обстоятельством, а не определением, так как стоит перед артиклем (а не после него): **Разрезая металл,** инструмент нагревается.

3. **Cutting metal** is a simple operation.
Словосочетание **cutting metal** занимает место непосредственно перед сказуемым и выполняет функцию подлежащего. Является ли это словосочетание причастием с определяемым словом (режущий металл) илигерундием с дополнением (резание металла) определяется лексическим содержанием предложения. В данном предложении cutting - герундий: **Резание металла** является несложной операцией.

ПРИЧАСТНЫЙ ОБОРОТ

Participle I в обеих функциях может иметь при себе обстоятельство или дополнение, которые составляют вместе с причастием особое словосочетание, называемое причастным оборотом. Например:
- a **moving** disk - **движущийся** диск
определение выражено одиночным причастием
- a disk **moving at high velocity** - диск, **движущийся с большой скоростью**
определение выражено группой слов - причастным оборотом
- Better die **standing** than live **kneeling**. - Лучше умереть **стоя**, чем жить **на коленях**.
обстоятельство выражено одиночными причастиями
- He liked to work **standing at his desk**. - Он любил работать, **стоя у своего письменного стола**.
обстоятельство выражено группой слов - причастным оборотом

Причастный оборот представляет собой единое синтаксическое целое. Подобно одиночному причастию он выполняет в предложении роль либо обстоятельства, либо определения. Синтаксическая функция слов, входящих в состав оборота, рассматривается только по отношению к причастию, которое дает ему начало.

CONDITIONAL SENTENCES
УСЛОВНЫЕ ПРЕДЛЖЕНИЯ

Придаточные обстоятельственные предложения делятся на предложения места, времени, образа действия, сравнения, причины, цели, следствия, уступки и условия.

Из них нужно особо выделить **условные предложения**, потому что они тесно связаны с использованием сослагательного наклонения глагола и часто вызывают трудности.

Типы условных предложений в английском языке

Первый тип обозначает реальные, осуществимые условия, которые могут относиться к настоящему или будущему.

В таком случае в главном предложении (следствия) глагол используется в будущем времени, а в придаточном (условия) – в настоящем. Оба используются в изъявительном наклонении:

If you **are late** again, I **will have to fire** you. -

Если ты опоздаешь еще раз, мне придется тебя уволить.

We **will have** a hike if the weather **is fine**. -

Если погода будет хорошей, мы сходим в поход.

Второй тип охватывает малореальные, неосуществимые условия, относящиеся к настоящему или будущему.

В главном предложении (следствия) тогда используется вспомогательный глагол **should / would** и инфинитив глагола без частицы **to**, а в придаточном (условия) – прошедшая форма глагола **to be** в сослагательном наклонении (**were** во всех лицах) или форма Past Simple всех других глаголов:

If I **were** you I **wouldn't poke** my nose everywhere. –

Я бы на Вашем месте не совал всюду нос.

If Australia **did not happen to be isolated** from the rest of the world, it **wouldn't possess** such a unique fauna. -

Если бы Австралия не оказалась изолирована от остального мира, на ней не было бы такой уникальной фауны.

Третий тип описывает невыполненные условия в прошлом.

В главном предложении (следствия) используется вспомогательный глагол **should / would** и глагол во времени Present Perfect, а в придаточном (условия) – глагол в форме Past Perfect:

If you **had gone** to bed in time you **wouldn't have overslept** your interview. -
Если бы ты вовремя пошла спать, то не проспала бы собеседование.

I	If the weather is fine, we shall play outside. If you ring me up, I shall tell you something.	Если погода **будет** хорошая, мы **будем играть** на открытом воздухе. Если ты мне **позвонишь**, я тебе кое-что **расскажу**.
II	If the weather were fine, we should play outside. If you rang me up, I should tell you something.	Если **бы** погода **была** хорошая (сегодня, завтра), мы **бы играли** на открытом воздухе. Если **бы** ты мне **позвонил** (сегодня, завтра), я бы тебе кое-что **рассказал**.
III	If the weather had been fine, we should have playedoutside. If you had rung me up, I should have told you something.	Если **бы** погода **была** хорошая (вчера), мы **бы играли** на открытом воздухе. Если **бы** ты мне **позвонил** (вчера), я **бы** тебе кое-что **рассказал**.

Exercise 1. ***Open the brackets of the conditional sentences 1, and put the verbs in correct form.***

MODEL: If it ... (rain), we ... (stay) at home. (Если пойдет дождь, мы останемся дома.) – If it rains, we shall stay at home.

1) If he … (practice) every day, he … (become) a champion. (Если он будет тренироваться каждый день, он станет чемпионом.)
2) She … (help) us if we … (ask). (Она поможет нам, если мы попросим.)
3) If they … (have) enough money, they … (open) a restaurant next year. (Если у них будет достаточно денег, они откроют ресторан в следующем году.)
4) I … (not talk) to you anymore if you … (insult) me. (Я не буду с тобой больше разговаривать, если ты обидишь меня.)
5) If Bob … (not keep) his word, Anna … (be angry) with him. (Если Боб не сдержит слово, Анна разозлится на него.)

Exercise 2. ***Open the brackets of the conditional sentences 2, and put the verbs in correct form.***

MODEL: If Susan ... (move) to Tokyo, she ... (live) near her sister. - (Если бы Сюзан переехала в Токио, она бы жила рядом со своей сестрой.) – If Susan moved to Tokyo, she would live near her sister.

1) If you … (have) a driving license, you … (get) this job. (Если бы у тебя были водительские права, ты бы получил эту работу.)

2) My dog … (be) 20 years old today if it … (be) alive. (Моей собаке исполнилось бы 20 лет сегодня, если бы она была жива.)
3) I … (go) to the police if I … (be) you. (Я бы обратился в полицию на твоем месте.)
4) If people … (not buy) guns, the world … (become) safer. (Если бы люди не покупали оружие, мир стал бы безопаснее.)
5) Tom ... (not eat) much "fast food" if his wife … (cook) at home. (Том не ел бы много «фастфуда», если бы его жена готовила дома.)

Exercise 3. ***Open the brackets in the Conditional Sentences 3, and put the verbs in correct form.***

MODEL: John ... (not have) a car accident if he ... (choose) another road. (Джон не попал бы в автомобильную аварию, если бы выбрал другую дорогу.) – John wouldn't have had a car accident if he had chosen another road.

1) I … (visit) Sarah yesterday if I … (know) that she was ill. (Я бы навестил Сару вчера, если бы знал, что она больна.)
2) If you … (go) with me to Paris last month, you … (see) the Eifel Tower too. (Если бы ты поехал со мной в Париж в прошлом месяце, ты бы тоже увидел Эйфелеву башню.)
3) We … (not get wet) if you … (take) an umbrella. (Мы бы не промокли, если бы ты взяла зонт.)
4) If Mum … (not open) the windows, our room … (not be) full of mosquitoes. (Если бы мама не открыла окна, наша комната не была бы полна комаров.)
5) Nick … (not be) so tired this morning if he … (go to bed) early last night. (Ник не был бы таким уставшим этим утром, если бы рано лег спать прошлой ночью.)

МОДАЛЬНЫЕ ГЛАГОЛЫ
MODAL VERBS

Глаголы **can (could), may (might), must, ought, need** относятся к группе так называемых модальных глаголов (Modal Verbs). Модальные глаголы не употребляются самостоятельно, а только в сочетании с инфинитивом смыслового глагола. Они обозначают возможность, способность, вероятность, необходимость совершения действия, выраженного смысловым глаголом. Модальные глаголы в сочетании с инфинитивом смыслового глагола употребляются в предложении в роли составного глагольного сказуемого:

He can do it himself. *Он может это сделать сам.*

They may come tonight. *Они, может быть, придут сегодня вечером*.

Модальные глаголы не выражают конкретных процессов (действий), а показывают лишь отношение говорящего к действию, оценку действия, т. е. возможность, необходимость, предположитель-ность, долженствование,

разрешение и т. д.

Модальные глаголы являются **недостаточными глаголами** (**Defective Verbs**), так как они не имеют всех форм, какие есть у других глаголов. Глаголы **can** и **may** имеют формы настоящего и прошедшего времени: **can — could, may — might**, глаголы **must, ought** и **need —** только форму настоящего времени.

ОТЛИЧИТЕЛЬНЫЕ СВОЙСТВА МОДАЛЬНЫХ ГЛАГОЛОВ
Не имеют окончания **—s** в 3-м лице единственного числа настоящего времени. **He can** do it. He **may** take it. **He must** go there. **He ought** to help him. **Need he** do it?
Не имеют неличных форм (инфинитива, герундия и причастия)
Не употребляются как отдельный член предложения - простое глагольное сказуемое, но только в сочетании с еще одним, не модальным, глаголом в форме инфинитива без частицы **to** (кроме **ought** и иногда **need**), образуя составное глагольное сказуемое. I **must go** there. *Я должен пойти туда.* You **needn't do** it. *Вам не нужно делать этого.* Но: You **ought to help** him. *Вам следовало бы помочь ему.*
Вопросительная и отрицательная формы модальных глаголов образуются без вспомогательного глагола: в вопросительных предложениях модальный глагол ставится перед подлежащим, в отрицательных — после него ставится отрицание **not**. **Can you** do it? **May I** take it? **Must he** go there? **Ought he** to help him? **Need he** do it? He **ought not** to help him. He **need not** do it.
Не имеют формы прошедшего времени (кроме **can — could, may — might**) и аналитических форм (будущего времени, продолженного вида, перфектных форм и форм страдательного залога). В случае необходимости вместо отсутствующих форм используются **эквиваленты** модальных глаголов.

Сочетание модального глагола с неперфектным инфинитивом относит действие к настоящему или будущему времени либо свидетельствует о его одновременности с моментом речи, и, напротив, сочетание с перфектным инфинитивом либо относит действие к прошлому, либо выражает предшествование действия относительно момента речи:

I **could do** it. *Я мог бы сделать это* (в настоящем или будущем).

I **could have done** it. *Я мог бы сделать это* (но уже не сделал).

Отрицательная форма образуется при помощи частицы **not,** которая ставится непосредственно после модального глагола, в результате чего значение меняется на противоположное:

must *должен* - must **not** *не должен*.

В настоящем времени **can** пишется слитно с **not**:

He **cannot do** it. You **may not** take it. He **must not** go there.

В разговорной речи в отрицательной форме обычно употребляются следующие сокращения:

cannot **= can't** [ka:nt], could not = **couldn't** [kudnt], may not **= mayn't** [meint], might not = **mightn't** [maitnt], must not **= mustn't** [masnt], ought not **= oughtn't** [o:tnt], need not = **needn't** [ni:dnt].

В вопросительных предложениях модальный глагол стоит на первом месте либо сразу после вспомогательного слова:

Who **can** do it? *Кто может сделать это?*

Основные значения модальных глаголов - необходимость (долженствование), возможность и предположение. Некоторые глаголы имеют формы прошедшего времени: **can - could, may - might** (иногда называют и **will - would, shall - should**), тем не менее, все эти формы могут иметь самостоятельные, присущие только им оттенки значения.

Вместо недостающих неличных и аналитических форм модальных глаголов используют их эквиваленты: **to have, to be (=must), to be able (=can), to be allowed, to be permitted (=may)**.

Exercise 1. ***Transform sentences with modal verbs in the past tense, starting from given words. Use could, had to, was to, was allowed to.***

MODEL: Bob can't dive. (Боб не умеет нырять.) –
Last year Bob couldn't dive. (В прошлом году Боб не умел нырять.)

1. You must show your identity card here. (Ты должен показать удостоверение личности здесь.) – Last night …
2. We can't buy a new car. (Мы не можем купить новую машину.) – Last summer …
3. Mike may take my laptop computer for a couple of hours. (Майк может взять мой ноутбук на пару часов.) – This morning …
4. Victor has to call his mother. (Виктору нужно позвонить своей маме.) – Yesterday …
5. You don't need to paper the walls. (Вам не нужно оклеивать стены обоями.) – Yesterday …
6. She is to be at the office at 9 a.m. (Ей нужно быть в офисе в 9 утра.) – Last Friday …
7. You must not tell lies. (Ты не должен лгать.) – Last night …

Exercise 2. ***Transform sentences with modal verbs in the past tense, starting from given words. Use will be able to, will be allowed to, will have to.***

MODEL: The baby can talk. (Малыш умеет разговаривать.) –
Soon the baby will be able to talk. (Скоро малыш сможет разговаривать.)

1. He can't get the tickets. (Он не может достать билеты.) – I'm afraid …
2. You may use my camera. (Ты можешь пользоваться моей камерой.) – Tomorrow …

3. I am to wait for him at the airport. (Мне нужно подождать его в аэропорту.) – Next Sunday …
4. You must tell me the truth. (Ты обязан рассказать мне правду.) – Very soon …
5. I have to take these pills 3 times a day. (Мне нужно пить эти таблетки 3 раза в день.) – Tomorrow …
6. I can read this book in Italian. (Я могу прочитать эту книгу на итальянском языке.) – In two years …

Exercise 3. Translate English proverbs, paying attention to the Modal Verbs. Try to remember Russian equivalents of the proverbs, paying attention to the Modal Verbs wherever it is possible.

1) A man can do no more than he can.
2) Anyone who has to ask the price cannot afford it.
3) People who live in glass houses should not throw stones at their neighbours.
4) You must learn to walk before you can run.
5) He who falls today may rise tomorrow.
6) A bird may be known by its song.
7) He who laughs at crooked men should need to walk very straight.
8) Talk of the devil and he is to appear.
9) A tree must be bent while young.
10) The wind can't be caught in a net.

НЕЛИЧНЫЕ ФОРМЫ ГЛАГОЛА
NON-FINITE FORMS OF THE VERB

Неличные формы глагола не изменяются по лицам и числам. Их нельзя использовать самостоятельно в качестве сказуемого, только в его составе. К неличным формам относятся ***инфинитив, причастие и герундий.***

We must ask you **to leave**.
Мы должны попросить вас удалиться.

There are several ways of **cooking** fish.
Существует несколько способов готовить рыбу.

ПРИЧАСТИЕ
PARTICIPLE

Причастие – это неличная форма английского глагола, которая обладает свойствами глагола, наречия и прилагательного.
Английские причастия делятся на причастие настоящего времени (**Participle I**) и причастие прошедшего времени (**Participle II**).

Причастие настоящего времени обозначает действие, проистекающее одновременно с действием, выраженным сказуемым:
Look at the man **crossing** the street.
Взгляни на человека, переходящего улицу.

Причастие настоящего времени образуется при помощи окончания **-ing**:
to learn – learn**ing**
to speak – speak**ing**
Причастие настоящего времени употребляется для образования продолженных времён:
They are **watching** a new film now. - Сейчас они смотрят новый фильм.

They were **watching** a new film at that time last night. -
Они смотрели новый фильм в это время вчера вечером.

They will be **watching** a new film at this time tomorrow. -
Они будут смотреть новый фильм в это время завтра.
Несмотря на то, что и **герундий**, и **причастие настоящего времени** имеют окончание **-ing** и совпадают по форме, их можно различить по оттенку в значении. Причастие по своему смыслу ближе к прилагательному, а герундий – к существительному:
That man **shouting** at the policeman seems familiar. – обозначение признака – причастие - Тот орущий на полицейского человек кажется мне знакомым.
Shouting will not do any good. – обозначение некоего действующего лица или предмета – герундий - Крики делу не помогут.

Причастие прошедшего времени – это тоже неличная форма глагола, также имеющая свойства глагола, прилагательного и наречия. Но в отличие от причастия настоящего времени, причастие прошедшего времени имеет лишь одну неизменяемую форму, по сути, это третья форма глагола. Причастие прошедшего времени в английском языке соответствует русскому страдательному причастию:
to give (давать) - given (данный)
to teach (обучать) - taught (обученный)
to break (ломать) - broken (сломанный)
Delivered goods will be stored in our warehouse. -
Доставленные товары будут храниться на нашем складе.

Причастие прошедшего времени образуется так же, как и временная форма Past Simple, то есть при помощи окончания **-ed**. Для неправильных английских глаголов в таком случае нужно использовать их «третью» форму:
look – looked – look**ed**
do – did – **done**

Причастие прошедшего времени (Participle II) **употребляется** для образования совершённых (перфектных) времён. Эти времена образуются при помощи вспомогательного глагола **have, has, had, will have** и третьей формы глагола, т.е. причастия прошедшего времени.
Recently they **have watched** a new film. (Present Perfect) -
Они недавно посмотрели новый фильм.
They **had watched** a new film before I came. (Past Perfect) -
Они посмотрели новый фильм до того, как я пришёл.

They **will have finished** watching a new film by the time I come. (Future Perfect) -
Они закончат смотреть новый фильм к тому времени, как я приду.
Причастие прошедшего времени также употребляется для образования страдательного залога:
The museum **was opened** only last year. -
Музей был открыт только в прошлом году.
Flowers **are grown** almost in any part of the world. -
Цветы выращивают почти в любой части света.
Причастие прошедшего времени употребляется в функциях:

- **именной части составного сказуемого** после глаголов: to be (быть), to feel (чувствовать), to look(выглядеть), to get (становиться), to become (становиться), и др.

  В этом случае Participle II переводится на русский язык страдательным причастием,
  прилагательным или наречием:

My pencil **is broken**. - Мой карандаш сломан.

She **looked scared**. - Она выглядела испуганной.

Joe **felt depressed**. - Джо чувствовал себя угнетённо.

- **определения** - причастие может находиться как перед существительным, так и после него:

Clara looked at **the broken vase**. - Клара посмотрела на разбитую вазу.
Clara looked at **the vase broken** by someone. -
Клара посмотрела на вазу, разбитую кем-то.

- **обстоятельства времени** - причастие отвечает на вопрос: *когда?*
- А в функции **обстоятельства причины** на вопросы: *почему? по какой причине?*

When asked what he intended to do, he said he didn't know.
Когда его спросили, что он намеривается делать, он сказал, что не знает.
Squeezed by the ice, the steamer couldn't continue his way.
Так как пароход был сжат льдом, он не мог продолжать путь.

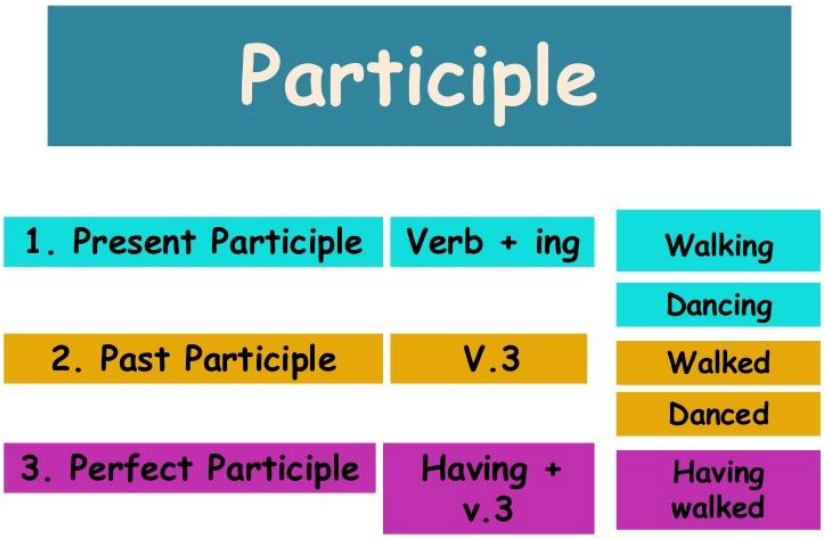
- **сложного дополнения** с существительным в общем падеже или местоимением в объектном падеже:

She heard **her name mentioned**.
Она услышала, что упомянули её имя.
I want **the work done** immediately.
Я хочу, чтобы работа была сделана немедленно.
Примечание:

Русские причастия прошедшего времени действительного залога переводятся на английский язык придаточными предложениями:
Делегация, **прибывшая** вчера, остановилась в гостинице "Москва".
The delegation **that arrived** yesterday is staying at the hotel "Moskva".

Полицейский, **подошедший** к нему, попросил показать водительские права.
The policeman **who came up** to him asked him to show his driver's license.
Глагол **to have** + причастие прошедшего времени в функции сложного дополнения означает, что действие совершается не самим подлежащим, а кем-то другим для него, за него:
He **had his shoes mended.** - Он отдал в починку свои туфли.
I want **to have my ceiling whitewashed**. - Я хочу, чтобы мне побелили потолок.

Самостоятельный причастный оборот, в котором причастие имеет своё собственное подлежащее, может содержать причастие прошедшего времени. Предложения с самостоятельным причастным оборотом переводятся на русский язык придаточными предложениями:
All things considered, the offer seems reasonable. -
Если учесть все стороны дела, предложение представляется вполне приемлемым.
With so little time left, there was no time for delay. -
Так как времени осталось мало, медлить больше было нельзя.



ГЕРУНДИЙ
GERUND

Герундий — это неличная форма английского глагола с суффиксом **-ing**, соединяющая в себе черты существительного и глагола и несущая в себе оттенок значения некого процесса:
playing - игра
reading - чтение
walking - прогулка
Our management encourages **working** overtime. -
Наше руководство поощряет сверхурочную работу.

В русском языке формы, аналогичной герундию, нет. Ближе всего к герундию по смыслу в русском языке отглагольные существительные с

суффиксами -(е) ние, -тие, -ка, -ство и др., а также глаголы в неопределенной форме:
singing - пение, петь
rubbing - трение, тереть
waiting - ожидание, ожидать

Образование герундия

Герундий, как и Причастие I, образуется с помощью окончания **-ing**, прибавляемого с соответствующими орфографическими изменениями к инфинитиву любого глагола:
to run - runn**ing**
to live - liv**ing**

Отрицательная форма герундия образуется при помощи отрицательной частицы **not**, которая ставится перед формой герундия:
for coming in time - за то, что пришел вовремя
for **not** coming in time - за то, что не пришел вовремя

Герундий в отличие от Причастия I, которое имеет только признаки глагола, имеет признаки двух частей речи: глагола и существительного.

Герундий никогда не имеет артикля и формы множественного числа и этим он отличается от существительного. Различие между существительным с окончанием **-ing** и герундием заключается в том, что существительное с **-ing** обозначает предмет, а герундий передает процесс (-ание, -ение):
Finding a new method is the only way out. (герундий)
Нахождение (чего?) нового метода — единственный выход.
The **findings** were of great importance. (существительное)
Эти находки имели огромное значение.

Перевод герундия на русский язык

Поскольку формы герундия в русском языке нет, его значение может передаваться существительным, инфинитивом, деепричастием, глаголом в личной форме и придаточным предложением:
Reading English books every day will improve your knowledge of the language. - Ежедневное чтение английских книг улучшит ваше знание языка.
Does your son like **skating**? - Ваш сын любит кататься на коньках?
He left the room without **saying** good-bye or **looking** at us. - Он вышел из комнаты, не простившись и не взглянув на нас.
I remember **hearing** this song in my childhood. - Я помню, что слышал эту песню в детстве.
The patient's quick recovery depends on his **following** the doctor's advice. - Быстрое выздоровление больного зависит от того, будет ли он следовать советам врача.

Exercise 1. ***Choose the infinitive with the particle "to" or without it.***

1. We can … (speak/to speak) Spanish. (Мы умеем говорить по-испански.)
2. He often makes me … (feel/to feel) guilty. (Он часто заставляет меня чувствовать виноватой.)

3. You have … (be/to be) friendly and polite. (Ты должен быть дружелюбным и вежливым.)
4. She must … (stay/to stay). (Она обязана остаться.)
5. The lawyer will … (call/to call) you later. (Юрист позвонит вам позже.)
6. I'd like … (send/to send) him a present. (Я бы хотела послать ему подарок.)
7. You'd better … (move/to move) faster. (Тебе лучше двигаться быстрее.)
8. We heard somebody … (enter/to enter) the apartment. (Мы слышали, как кто-то вошел в квартиру.)
9. Mother wants … (paint/to paint) the walls in the kitchen. (Мама хочет покрасить стены на кухне.)
10. We decided … (sell/to sell) the car. (Мы решили продать машину.)
11. He always fails … (keep/to keep) his word. (Он всегда не сдерживает слово.)
12. I am trying … (lift/to lift) this heavy stone. (Я пытаюсь поднять этот тяжелый камень.)
13. Let me … (give/to give) you some advice. (Позволь мне дать тебе совет.)
14. It may … (cost/to cost) too much. (Это может стоить слишком много.)
15. She saw him … (cross/to cross) the street. (Она видела, как он переходит улицу.)

Exercise 2. ***Make the sentences by choosing the beginning of the first column and the ending - in the second.***

1. She is interested	a) drinking alcohol.
2. I would like	b) to seeing my daughter.
3. You should give up	c) being ill.
4. We really enjoy	d) laughing at her.
5. I'm looking forward	e) to living in a dirty house.
6. He is used	f) talking to drunk people.
7. She pretended	g) swimming in the sea.
8. Pamela is good	h) to have a cup of coffee.
9. I couldn't help	i) in surfing the Internet.
10. She avoids	j) at riding a horse.

PASSIVE VOICE
ЫРЫҚСЫЗ ЕТІС

Ағылшын тілінде негізгі (Active Voice) және ырықсыз етістердің мағына-лары сәйкес келеді. Негізгі етістегі субъект іс-әрекетті өзі орындайды.
He often *asks* questions. *Он часто задаёт вопросы.Ол жие сұрақтар қояды.*
Ырықсыз етісте (Passive Voice) іс-әрекеттің атқарушысы, қимыл иесі арнайы айтылмайды.Іс-әрекеттің өзі маңызды болып келеді.
He is often *asked* questions. *Оған жие сұрақтар қойылады.*
Ырықсыз етіс формасы ***to be*** сәйкес келетін етістігімен және мағыналы етістіктің ***Есімше II*** (Participle II) мен жасалады.

	Present	Past	Future

Indefinite	I he (she) we (you, they)	am asked is asked are asked	I (he, she) we (you, they)	was asked were asked	I (we) he (she, you, they)	will be asked
Continuous	I he (she) we (you, they)	am being asked is being asked are being asked	I (he, she) we (you, they)	was being asked were being asked		
Perfect	I, we, you, they he (she)	have been asked has been asked	I (he, she, we, you, they)	had been asked	I, we he, she, you, they	will have been asked

Indefinite Passive (to be + Participle II)

The newspapers *are delivered* every morning. (Present Indefinite Passive) Газеттер күнде таңертен жеткізіледі.

This book *was bought* a month ago. (Past Indefinite Passive) Бұл кітап бір ай бұрын сатып алынған.

The letter *will be mailed* tomorrow. (Future Indefinite Passive) Хат ертең жіберіледі.

Continuous Passive (to be + being + Participle II).

The house *is being repaired*. (Present Continuous Passive) Үй жөнделіп жатыр.

When John was ill he *was being taught* at home. (Past Continuous Passive) Джон ауырғанда, оны үйде оқытты.

Perfect Passive (to have + been + Participle II)

This letter has been brought by the secretary. (Present Perfect Passive)(Хат хатшымен әкелінді).

He decided to become a writer only when his first story had been published.(Past Perfect Passive) Ол жазушы болуды тек,оның 1-ші әңгімесі басылып шыққанда ғана шешті.

By the 1st of July the last exam will have been passed (Future Perfect Passive) 1-ші шілдеге қарай соңғы емтихан тапсырылады.

Ырықсыз етістегі баяндауыш қазақ тіліне аударылады: **The house is built.** а) Үй салынды. б) Үй салынып жатыр. в) Үйді салып жатыр

Ырықсыз етісте қосыша сөзбен етістіктердің аудармасына көңіл аудару қажет. Етістіктердің ішіндегі ең көп таралғаны:

hear of - біреу жайлы есту

laugh at - біреуге күлу

look after – бақылау, қарауп
look at - оған қарау
rely on - біреуге сенім арту
send for - бір нәрсеге жіберу
speak of (about) - біреу жайлы айту
pay attention to - біреуге көңіл болу
take care of - біреуге қамқор болу
The book is much spoken *about.* Бұл кітап тұралы көп айтылады.
He can't be relied *on*. Оған сенім артуға болмайды.
В русском переводе не все глаголы сохраняют предлог:
to listen to - біреуді, бірнәрсені тыңдау
to look for - бір нәрсені іздеу
to provide for - біреуді, бірнәрсемен қамтамасыз ету
to explain to - біреуге түсіндіру
He was listened to with great attention. - Оны зер салып тыңдады.

Exercise. ***Put the underlined verbs into the Passive Voice, making the necessary changes in the sentences.***
1. She took a long time to write the composition, but at last she wrote it. 2. Don't put the cup there: somebody will break it. 3. Why weren't you at the birthday party? — They didn't invite me. 4. We met many difficulties, but all the same we finished the work in time. 5. We shall leave you behind if you are not quick. 6. I spent all my money on books last month. 7. I don't think we shall do all this work today: there is too much of it. 8. It's a very funny thing that when I start doing this, somebody always stops me. 9. Don't leave these sweets on the table: somebody will eat them. 10. The elephant broke the branch of the tree.

CONDITIONAL SENTENCES
ШАРТТЫ СӨЙЛЕМДЕР

Придаточные обстоятельственные предложения делятся на предложения места, времени, образа действия, сравнения, причины, цели, следствия, уступки и условия. Пысықтауыштық бағыныңқылы сөйлемдер (**Adverbial Clauses**) сөйлемде әртүрлі пысықтауыштар қызметін атқарады. Олардың түрлері: а) мезгіл, б) мекен, в) себеп, г) себеп-салдар, д) амал, е) қарсылықты,ж) мақсат, з) шарт.

Солардың ішінде **шартты сөйлемдерді** ерекше атап етуге болады, өйткені олардың қоданылуы шартты раймен тығыз байланысты жие қиындықтар туғызады.

Ағылшын тіліндегі шартты сөйлемдердің түрлері

1-ші тип осы және келер шаққа жататын, жүзеге асатын, нақты шарттарды білдіреді.Сондай жағдайда басыңқы сөйлемде етістік келер шақта тұрады, ал басыңқылы бөлігінде осы шақ қолданылады.Екеуде ашық райда қолданылады.
If you **are late** again, I **will have to fire** you. – Егер сіз тағыда **кешіксеңіз**, маған

сізді жұмыстан **шығаруға тұра келеді**.
We **will have** a hike if the weather **is fine**. – Егер ауа райы жақсы болса, біз туристік сапарға шығамыз.

2-ші тип осы және өткен шаққа жататын, жүзеге аспайтын, нақты емес шарттарды білдіреді.Сондай жағдайда басыңқы сөйлемде **should / would** көмектес етістіктері және инфинитив **to** сыз жасалады, ал басыңқылы бөлігінде өткен шақтағы **to be** қолданылады(**were** формасы барлық жақтарда) немесе басқа етістіктердің Past Simple формасы.
If I **were** you I **wouldn't poke** my nose everywhere. Мен сіздің орныңызда болсам, өзгенің шаруасына араласпас едім.
If Australia **did not happen to be isolated** from the rest of the world, it **wouldn't possess** such a unique fauna. – Егер Аустралия бүкіл әлемнен оқшауланбаса, бірегей хайуанаттар әлемі болмас еді.,

3-ші тип өткен шақта орындалмаған іс-әрекетті білдіреді.Сондай жағдайда басыңқы сөйлемде **should / would** көмекші етістіктері және Present Perfect формасындағы етістік, ал басыңқылы бөлігінде Past Perfect формасындағы етістік:
If you **had gone** to bed in time you **wouldn't have overslept** your interview. - Егер сен уақытында ұйқтасаң, сұхбаттасудан қалмас едің.

I	If the weather is fine, we shall play outside. If you ring me up, I shall tell you something.	Если погода **будет** хорошая, мы **будем играть** на открытом воздухе.Егер ауа райы жақсы болса, біз далада ойнамыз. Если ты мне **позвонишь**, я тебе кое-что **расскажу**. Егер сіз маған телефон шалсаңыз, мен сізге бір нәрсе айтып беремін.
II	If the weather were fine, we should play outside. If you rang me up, I should tell you something.	Если **бы** погода **была** хорошая (сегодня, завтра), мы **бы играли** на открытом воздухе. Егер ауа райы жақсы болғанда, біз далада ойнар едік. Если **бы** ты мне **позвонил** (сегодня, завтра), я бы тебе кое-что **рассказал**. Егер сен маған телефон шалған болсаң , мен саған бір нәрсе айтар едім.
III	If the weather had been fine, we should have played outside. If you had rung me up, I should have told you something.	Если **бы** погода **была** хорошая (вчера), мы **бы играли** на открытом воздухе. Егер ауа райы жақсы болғанда, біз далада ойнар едік. Если **бы** ты мне **позвонил** (вчера), я **бы** тебе кое-что **рассказал**. Егер сен маған телефон шалған болсаң , мен саған бір нәрсе айтар едім.

Exercise 1. ***Open the brackets of the conditional sentences 1, and put the verbs in correct form.***

MODEL: If it ... (rain), we ... (stay) at home. (Егер жамбыр жауса, біз үйде қаламыз.) – If it rains, we shall stay at home.

1) If he … (practice) every day, he … (become) a champion. (Егер ол күн сайын жаттықса, ол жеңімпаз болады.)
2) She … (help) us if we … (ask). (Ол оларға көмектеседі, егер біз сұрасақ.)
3) If they … (have) enough money, they … (open) a restaurant next year. (Егер оларда ақша мол болса, олар келесі жылы мейрамхана ашады.
4) I … (not talk) to you anymore if you … (insult) me. (Мен сенімен енді сөйлеспеймін, егер сен мені ренжітсең.)
5) If Bob … (not keep) his word, Anna … (be angry) with him. (Егер Боб сөзінде тұрмаса, Анна оған ашуланады.)

Exercise 2. ***Open the brackets of the conditional sentences 2, and put the verbs in correct form.***

MODEL: If Susan ... (move) to Tokyo, she ... (live) near her sister. - (Егер Сюзан Токиоға көшіп барса,ол әпкесімен тұратын еді.) – If Susan moved to Tokyo, she would live near her sister.

1) If you … (have) a driving license, you … (get) this job. (Егер сенде жүргізуші куәлігі болса, сен осы жұмысқа орналасар едің.)
2) My dog … (be) 20 years old today if it … (be) alive. (Менің итім бүгін 20 жасқа келетін еді, егер тірі болғанда.)
3) I … (go) to the police if I … (be) you. (Сенің орнында болсам полицияға шағым айтар едім.)
4) If people … (not buy) guns, the world … (become) safer. (Егер адамдар қару – жарақты сатып алмаса, әлем қауіпсіз болар еді.)
5) Tom ... (not eat) much “fast food” if his wife … (cook) at home. (Томның әйелі тамақ істесе ол көп «фастфуд» жемес еді.)

Exercise 3. ***Open the brackets in the Conditional Sentences 3, and put the verbs in correct form.***

MODEL: John ... (not have) a car accident if he ... (choose) another road.
(Джон көлік апатына түспес еді, егер ол басқа жолды таңдағанда.) – John wouldn’t have had a car accident if he had chosen another road.

1) I … (visit) Sarah yesterday if I … (know) that she was ill. (Мен Сараны кеше кіріп шығар едім, егер оның ауырып жатқанын білсем.)
2) If you … (go) with me to Paris last month, you … (see) the Eifel Tower too. (Егер сен өткен айда Парижге менімен барғанда, сенде Эйфел мұнарасын көрер едің.)

3) We … (not get wet) if you … (take) an umbrella. (Біз жамбыр астында қалмас едік, сен қолжатыр алсаң.)
4) If Mum … (not open) the windows, our room … (not be) full of mosquitoes. (Егер анам терезені ашпаса, біздің бөлмеміз масаға толып кетпес еді)
5) Nick … (not be) so tired this morning if he … (go to bed) early last night. (Ник осы таңда шаршамас еді, егер өткен түнде ертерек демалғанда.)

SEQUENCE OF TENSES
ШАҚТАРДЫҢ ҚИЛЫСУЫ

Ағылшын тілінде **шақтардың қиылысуы** (Sequence of Tenses) төлеу сөзбен (Reported Speech) тығыз байланысты. Сондықтан шақтардың қиылысуын зерттегенде, төлеу сөзді де қарастыру керек. Төл сөзді төлеу сөзге аударғанда бізге шақтардың қиылысу ережесін білу қажет.

Қашан ағылшын тілінде шақтардың қиылысу ережесін сақтаймыз?

1. Мысалы: Басыңқы сөйлемдегі ***етістік өткен шақта*** *болса, бағынынқылы сөйлемдегі* ***етістік өткен шақта тұруы тиіс****.*

2. ***Басыңқы*** *және* ***бағынынқылы сөйлемдердегі іс-әрекеттер*** *өткен шақта тұрса, бағынынқылы сөйлемдердегі баяндауыш Жай өткен шақ* (Past Simple) және Жай созылынқылы шақ (Past Continuous) *формаларында болуы керек.****Басыңқы сөйлемдегі****өткен шақтың түрі маңызды емес.*

We saw that he was dancing with this girl. – Біз оның қызбен билеп жатқанын көрдік.

I knew that he worked in a foreign company. – Мен оның шетелдік компаниясында жұмыс істейтінін білдім.

3. Егер ***бағынынқылы*** *сөйлемдерде іс-әрекеттер* ***басыңқы*** *сөйлемдердегі іс-әрекеттерден* ***ертерек*** *болса****, бағынынқылы*** *сөйлемдерде* ***өткен аяқталған*** (Past Perfect) немесе ***өткен созылынқы- аяқталған*** (Past Perfect Continuous) шақтарын қолданамыз.

Mother said that uncle Tom had come to visit us several days before. – Том аға бірнеше күн бұрын келгенін анам айтты.

He asked me if I had been winning more games lately. –Ол менен соңғы кезде басқа ойындарда жеңгенімді сұрады.

4. Егер ***бағынынқылы*** *сөйлемдерде іс-әрекеттер* ***келер шаққа байланысы болса****, біз осы сөйлемдегі баяндауышты* ***өткен шақтағы жай немесе созылынқы келер шақ*** *формасында* **Future in the Past** қолданамыз**.**

He knew that she would marry this man undoubtedly. – Ол сол әйелдің осы кісіге күйге шығатанына сенімді болған.

She said she was going to do some shopping. – Ол дүкенге баратынын айтты.

Қандай жағдайларда ағылшын тілінде шақтардың қиылысу ережесі сақталмайды?

1. *Егер бағынынқылы сөйлемде* ***жалпыға мәлім фактілер*** *жайлы айтылса:*

The pupils were told that the Earht moves around the Sun. — Оқушыларға Жердің

Күнді айналатынын айтты.
2. *Егер бағынынқылы сөйлемде* **must, should, ought to** деген модалді етістіктер болса:
I said that I must meet her. – Мен оны қарсалытынымды оған айттым.
Егер **сөйлеп тұрған адам жаңа ғана айтылған сөздерді қайталаса** (желеуретсе):
Kate: Stay with me, Mark. I will cook something delicious. – Кейт: Менімен қал, Марк.
Mark to Elza: Kate said she will cook something delicious. — Марк Эльзе: Кейт дәмді ас әзірлейтінін айтты.
3. *Егер бағынынқылы сөйлемдер* **when / since** жалғаулықтарымен басталса, **жай өткен шақ (Past Simple) формасы өзгермейді.**
I answered that I hadn't met her since we moved. – Мен оны көшіп келгеннен сон көрмегенімді айттым.
4 *Егер бағынынқылы сөйлемде* ***Өткен созылынқылы шақ*** **(Past Continuous)** ***болса, ол*** **өзгермейді:**
Steve said that when he came home his father was watching TV. – Стив үйге келгенде әкесінің теледидар қарап жатқанын айтты.

THE COMPLEX SUBJECT
КҮРДЕЛІ БАСТАУЫШ

Бұл конструкция зат есімнен немесе есімдіктіктеен және инфинитивтен тұрады. Қазақ тіліне әдетте бағынынқылы сөйлем деп аударылады.
She is expected to come any minute. – Ол дәл қазір келеді деп күтілуде.
The water seems to be boiling. – Су қайнап жатқан сияқты.
The Delegation is reported to have left London. - Делегация Лондоннан қайтып келе жатыр деп хабарланды.
He is likely to know her address. - Ол оның мекен-жайын білетін сияқты.
He is sure to be asked about it. - Оны осы жайлы міндетті түрде сұрайды.
She is said to be very beautiful. - Оны өте сұлу деп айтады.
The car was seen to disappear. - Автокөліктің көзден ғайып болуын көрді.

Бұл конструкция:

1. Сезімдік қабылдайтын етістіктермен – **to see**, **to hear**, **to notice** және т.б. ой әрекеті - етістіктермен **to think**, **to consider**, **to expect** және т.б. (ырықсыз етістегі); **to say**, **to report**, **to ask, to order, to announce** ырықсыз етістіктегі етістіктермен.
2. **To be likely** (балкім, мүмкін, ықтимал), **to be unlikely** (екі талай), **to be certain** / **to be sure** (әрине) деген сөз тіркестерімен.
3. Ырықсыз етістіктегі етістіктермен **to seem** / **to appear** (болса керек, мүмкін), **to prove** / **to turn out** (болып шығу), **to happen** (болу).

THE FOR - TO - INFINITIVE CONSTRUCTION.
THE FOR – КӨМЕКШІ СӨЗБЕН ТҰРАТЫН ИНФИНИТИВ КОНСТРУКЦИЯСЫ

Осы конструкцияда **for** көмекші сөзі зат есімнің немесе есімдіктің алдында тұрады. Қазақ тіліне аударғанда бағынынқылы сөйлем немесе инфинитив қолданылады.

It's easy *for me to answer* this question. - Маған бұл сұраққа жауап беру оңай.

It will be very pleasant *for us to spend* a week in England. – Бізге Англияда аптаны өткізу жанға жайлы.

There was nothing else *for me to say*. - Маған айтарым жоқ болды.

Itis *foryoutodecide*. –Сізге шешу керек.

Here are some books *for you to read*. –Осы бірнеше кітап сізге оқуға арналған.

GERUND CONSTRUCTION
ГЕРУНДИЙ ҚҰРЫЛЫМЫ

Толықтауышпен герундий және соған жататын сөздер герундий құрылымын құрайды.

Мысалы:

Most people like **reading books.** (герундий + толықтауыш) герундий құрылымы

Most people like **reading books written by modern authors**. Герундий құрылымы(герундий + толықтауыш + толықтауышқа жататын анықтауыш). Бұл құрылым бір тұтас синтаксистік топ болып саналады сондықтан осы герундий құрылымы бір сөйлем мүшесі қызметін атқарады.

Мысалы: осы reading books written by modern authors құрылымы **like** етістігіне толықтауыш болып келеді. Осы құрылым ішіндегі **books** сөзі **reading** герундийна толықтауыш болып келеді.

Герундий құрылымы анықтауыштан өзге барлық сөйлем мүшелері бола алады. Мысалы:

- Тура толықтауыш: We effect **heating** apartments by several means.

- Баяндауыштың есім бөлігі: The subject of this book is **heating** apartments. Бұл кітаптың мазмұны үйді жылыту.

- Бастауыш: **Heating** apartments is absolutely necessary in winter. Үйді **жылыту** қыста өте маңызды.

Қосымша сөздермен келетін толықтауыш:
There are differentmethodsof **heating** apartments. Үйді **жылытудың** әртүрлі жолдары бар.

- Пысықтауыш: We often use electricity for **heating** apartments. Үйді **жылыту үшін** жиеэлектр қуатын біз көлданамыз.

Герундийдің Есімше 1 (Participle I) формасымен сәйкестігінен оларды бір-бірінен ажырату қиын. Салыстырыңыз:

1. A tool **cutting** metal must be sharp.
2. Cutting metal the tool gets hot.
3. Cutting metal is a simple operation.

Cutting metal сөз тіркесі контексттен бөлек тұрғанда, қай сөйлем мүшесі екенін ажырата алмайтын едік.

а) Есімшелі анықтауыш анықтайтын сөзімен біре (кесетін металл)

б) Есімшелі пысықтауыш толықтауышпен бірге (кесе металл)

в) герундий толықтауышпен бірге (металлды кесу).

Бұл сөз тіркесін функциясын ажыратуға және аударуға сөйлем құрылымы көмектеседі.

1.A tool **cutting metal** must be sharp.

Бұл сөйлемде **cutting metal** баяндауыштың алдында тұр, сондықтан, бастауыш тобына кіреді және Есімшелі тіркес қызметін атқарады, бастауышты анықтайтын tool сөз: Металлды кесетін құрал өткір болуы тиіс.

2. Cutting metal the tool gets hot.

Cutting metal сөз тіркесі бастауыш тобына кірмейді, the tool сөзімен көрсетілген. Бұлтіркес бастауыштың алдында тұрып, тек пысықтауыш қана болады.

Металды кескенде құрал қызады.

3. **Cutting metal** is a simple operation.

Cutting metal сөз тіркесі баяндауыштың алдында тұрып бастауыш қызметін атқарады.Бұл сөз тіркесі Есімше (кесетін металл) немесе герундий толық-тауышпен (металлды кесу) сөйлемнің лексикалық мағынасынан анықталады.Берілген сөйлемде cutting герундий болып табылады: **Металды кесу күрделі емес шаруа.**

ПРИЧАСТНЫЙ ОБОРОТ
ЕСІМШЕЛІ ТІРКЕС

Participle I осы функцияларда пысықтауыш пен толықтауыш есімшемен бірге есімшелі тіркесті құрайды. Мысалы:

- a **moving** disk - қозғалып жатқан диск - анықтауыш дара есімшемен көрсетілген

-a disk **moving at high velocity - үлкен жылдамдықпен қозғалып жатқан диск -** анықтауыш есімшелі тіркеспен көрсетілген

-Better die **standing** than live **kneeling**. - Тізерлеп өмір сүргеннен тұрып өлген артық. - пысықтауыш дара есімшелерімен көрсетілген

-He liked to work **standing at his desk**. - Ол өзінің жазу үстелінің касында тұрып жұмыс істеуді ұнатады. - пысықтауыш есімшелі тіркеспен көрсетілген

Есімшелі тіркес бір тұтас синтаксистік құрылым. Сөйлемде дара есімше сияқты пысықтауыш не анықтауыш болады. Құрылымға кіретін сөздердің синтаксистік функциясы тек есімшеге байланысты болады

EQUIVALENTS OF MODAL VERBS
МОДАЛ ЕТІСТІГІ БАЛАМАСЫ

Ол еретең саған **көмектесе алады. => Future —** Ағылшын формасы жоқ.

Ол кеше келуі тиіс еді. => **Past** —Ағылшын формасы жоқ.

Ағылшын тілінде модальді етістіктердің толық лексикалық мағынасы жоқ. Егер басқа етістіктермен салыстырса, олар тек қосымша мағынаны (мүмкіндік, рұқсат, міндет және т.б.) білдіреді. Ағылшын тілінде модальді етістіктердің баламалары бар.

Мысалы: could, have to, should, ought to, to be to.

Ал модальді етістіктер деген түсінік қазақ тілінде мүлдем жоқ.

Барлық баламалардың құрамында **to be** және **to have** етістіктері қолданылады. Олар барлық шақтарда тұрып (Past / Present / Future), кез-келген форманы қабылдай алады.Баламалар модальді етістіктердің орнына қолданыла алады.

Баламалардан кейін тек Infinitive формасы міндетті түрде to қосымшасымен бірге қолданылады.

1-ші топ:

can ~~~~~ = to be able to ~~~~~ (где**able=>способный):**

He **can** help you. = He **is able to** help you. Ол сізге көмектесе алады.

They **could** be seen here yesterday. = They **were able to** be seen here yesterday. Оларды кеше көруі мүмкін еді.

You **can't** help him. = You **are not able to** helphim. Сен оған көмектесе алмайсын.

He **will be able to** help you tomorrow. =>Ол саған ертең көмектесе алады.

Ескерту:

Осы шақтағы Present модальді етістігі келер шақта Futureқолданыла алады.

I **shall be able to** help you tomorrow.

I **can** help yo**u** tomorrow. Мен саған ертең көмектесе аламын (көмектесемін).

to be allowed to(где **to allow =>рұқсат ету)**

may **to be permitted to (**где**to permit =>рұқсат ету)**

Практически получается, что в качестве эквивалентов использованы формулы **Passive Indefinite;** учитываем это при переводе:

You **may** help him. = You **are allowed / permitted to** help him. Сен оған көмектесуін болады.

They **might** do it. = They **were permitted / allowed to** do it. Оларға мұны істеу рұқсат берілді.

She **might not** come here. = She **was not allowed / permitted to** come here.Оған мұнда келуге рұқсат етілмеді.

Ескерту: баламалар *ықтималдық* мағынасын білдіре алмайды.

2-ші топ:

must **to be to(**жоспарланған міндет немесе келісім мағынасын білдіреді және**Future**формасында қолданылмайды**)**

should

ought to **to have to**(міндет амалсыздық мағынасын білдіреді ; **must орнына** қолданыла алады)

Примеры: Мысалы:

You **must** help her. => Сен оған көмектесуін керек (міндетті түрде).

You **are to** help her. => Сен оған көмектесуін керек.

You **must** help her. = You **have to help her.**
He **had** to go out.=> Оған шығуға тура келді.
You **will have to** come tomorrow. => Сен ертең келуін тиіс. Саған ертең келуге тура келеді.
Ескерту: *сұраулы және болымсыз сөйлемдерде to have модальді етістіктің баламасы ретінде to do қосымша етістігімен бірге қолданылады.*
Do I **have to** help them? => Мен оларға көмектесуге міндеттімін бе?
You **don't have to** help them. => Сен оларға көмектесуге міндетті емессін.
Does she **have to** stay here? => Ол осында қалуға міндетті ме?
She **does not have to** stay here. => Ол осында қалуға міндетті емес.
ауызекі тілде to havemодальді етістіктің баламасы ретінде to have gotформасына ауыстыруға болады.
You'**ve got to** be there by ten. => Сен сол жерде сағат онда болуын тиіс.
Назар аударыңыз: Егер to be немесе to have / to have got етістіктерінен кейін to қосымшасымен бірге Infinitive тұрса, бұл етістіктер модальдік мағынада қолданылады. Олардың аудармасы соған сәйкес болуы тиіс.
Ескерту: *қазақ тілінде модальдік мағынадағы жақсыз сөйлемдер көп:*
Мұнда шылым шегуге болмайды. Біздің дүкендерде әртүрлі тауарларды көруге болады.
осындай сөйлемдерді аударғанда бастауыш ретінде one (=> біреу) сөзі қолданылады:
One **must not smoke** here. => Мұнда шылым **шегуге болмайды**.
One **can see** a lot of different goods in our shops. => Біздің дүкендерде әртүрлі тауарларды **көруге болады**.
One **must pay** one's debts. => Қарызды **қайтару керек**.

NON-FINITE FORMS OF THE VERB

ЕТІСТІКТІҢ ЖАҚСЫЗ ФОРМАЛАРЫ

Етістіктің жақсыз формаларына ***Инфинитив, Есімше және Герундий*** жатады.
We must ask you **to leave**. Біз сізден шығуыңызды өтінеміз.
Мы должны попросить вас удалиться.
There are several ways of **cooking** fish. Балықтың даярлауының бірнеше тәсілдері бар. Существует несколько способов готовить рыбу.

PARTICIPLE

ЕСІМШЕ

Есімше – етістік, үстеу және сын есімнің қасиеттері бар,ағылшын етістіктігінің жақсыз формасының бірі. Ағылшын Есімшелері осы шақта (**Participle I**) және өткен шақта (**Participle II**) тұрады.

Look at the man **crossing** the street. Көшеден ***өтіп бара жатқан*** адамға қараңыз.
Осы шақтағы Есімше (**Participle I**) **–ing** жалғау арқылы құрылады:
to learn – learn**ing**
to speak – speak**ing**

Осы шақтағы Есімше (**Participle I**) сөзылыңқы шақтар үшін қолданылады:
They are **watching** a new film now. – Олар қәзір жаңа фильм қарап отыр
They were **watching** a new film at that time last night. – Өткен түнде олар жаңа фильм қарап отырды.
They will be **watching** a new film at this time tomorrow. – Ертең осы кезде жаңа фильмді қарап отырады.
Герундий және Есімше **-ing** жалғау болғанымен формасы біргелкі, бірақ мағыналары өзгеше: Есімше 1сын есіміне, ал герундий зат есіміне жақын.
That man **shouting** at the policeman seems familiar. – обозначение признака – причастие - Ана кісі полицияға ***дауыс көтеріп жатырған*** маған таныс сияқты.
Shouting will not do any good. – обозначение некоего действующего лица или предмета – герундий - Дауыс көтеруы іске көмектес-пейді.
өткен шақтағы Есімше **II**((**Participle II**) **–** етістік, үстеу және сын есімнің қасиеттері бар,ағылшын етістіктігінің жақсыз формасының біріне жатады, бірақ Есімше **I** ден айырмашылығы бар: етістіктің 3-ші формасынан жасалады . Ағылшын тіліндегі Өткен шақтағы Есімше **II** қазақ тіліндегі ырықсыз етіске сәйкес :
to give (давать) - given (данный)берілген
to teach (обучать) - taught (обученный) оқылған
to break (ломать) - broken (сломанный)сынылған

Delivered goods will be stored in our warehouse. – Әкелінген тауарлар біздің қоймада сақталады.

Ағылшын тіліндегі Есімше **II** Өткен шақтағы Past Simple**-ed** жалғау арқылы жасалады: look – looked – look**ed.** Ал бұрыс етістіктерді алсақ, олар етістіктің 3-ші формасынан жасалады: do – did – **done**

Өткен шақтағы Есімше **II**((**Participle II**) аяқталған шақтарда қолданылады.
Бұл шақтар **have, has, had, will have** көмекші етістіктер арқылы және етістіктің 3-ші формасынан жасалады .
Recently they **have watched** a new film. (Present Perfect) –Олар жуырда жаңа фильм көрді.
They **had watched** a new film before I came. (Past Perfect) - Олар жаңа фильмді мен келмей тұрып көрді.
They **will have finished** watching a new film by the time I come. (Future Perfect) - Олар жаңа фильмді мен келгенге дейін көріп аяқтайды.
Сонымен қатар, өткен шақтағы Есімше **II** ((**Participle II**) ырықсыз етісті құру ұшін қолданылады:

The museum **was opened** only last year. – Мұражай тек өткен жылығана ашылды.
Музей был открыт только в прошлом году.
Flowers **are grown** almost in any part of the world. – Гүлдер әлемнің әр түкпірінде өсіріледі.

Есімше **II** ((**Participle II**) функцияларда қолданылады:

- to be (быть), to feel (чувствовать), to look(выглядеть), to get (становиться), to become (становиться), и др.етістіктерден кейін

күрделі баяндауыштың атаулы бөлігінде функцияларын атқарады:

- **именной части составного сказуемого** после глаголов: to be (быть, болу), to feel (чувствовать, сезіну), to look(выглядеть,көріну), to get (становиться), to become (становиться), және т.б.

  В этом случае Participle II переводится на русский язык страдательным причастием, прилагательным или наречием:
- Осы жағайда Participle II қазақ тіліне ырықсыз етістегі Есімше, сын есім немесе үстеу болып аударылады:

My pencil **is broken**. - Менің қарындашым сынған.
She **looked scared**. - Ол қорқып қалған болып көрінді.
Joe **felt depressed**. - Джо өзін жабырқаулы сезінді.

- **анықтауыш** – етіс зат есімнің алдында да одан кейін де тұра алады.

Clara looked at **the broken vase**. - Clara looked at **the vase broken** by someone. - Клара сынған вазаға қарады.

- Мезгіл **пысықтауышы –** етіс қашан? деген сұраққа жауап береді.
  - Ал себеп пысықтауышы қызметінде неге? не себепті? сұрақтарына жауап береді.

When asked what he intended to do, he said he didn't know.
Одан не істейтінін сұрағанда ол білмейтінін айтты.
Squeezed by the ice, the steamer couldn't continue his way.
Кеме мұзбен қысылып қалғандықтан сапарын жалғастыра алмады.

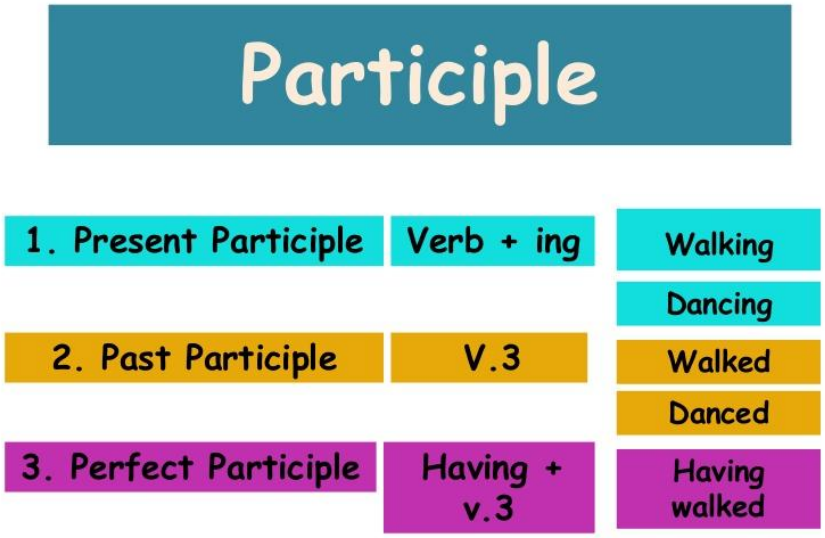
- **зат есіммен күрделі толықтауыш немесе есімдік**

She heard **her name mentioned**. Мен оның есімі аталғанын естідім.
I want **the work done** immediately.Мен жұмыстың дереу істелгенін қалаймын.

Ескерту:
Қазақ тілінің негізгі етістегі өткен шақтағы Есімше ағылшын тіліне басыңқылы сөйлемдерімен аударылады:
The delegation **that arrived** yesterday is staying at the hotel "Moskva". Кеше келген делегация «Мәскеу» қонақ үйінде орналасты.
The policeman **who came up** to him asked him to show his driver's license. Оның жанына келген полиция қызметкері одан жүргізуші күәлігін көрсетуді сұрады.
He **had his shoes mended.** - Ол туфлиін жөңдеуге берді.
I want **to have my ceiling whitewashed**. - Я хочу, чтобы мне побелили потолок.

Самостоятельный причастный оборот, в котором причастие имеет своё собственное подлежащее, может содержать причастие прошедшего времени.

Предложения с самостоятельным причастным оборотом переводятся на русский язык придаточными предложениями:
All things considered, the offer seems reasonable. -
Если учесть все стороны дела, предложение представляется вполне приемлемым.
With so little time left, there was no time for delay. – Уақыт аз қалғандықтан, аялдауға болмайды.



GERUND

ГЕРУНДИЙ

Герундий – зат есімнің және етістіктің қасиеттері бар, бір уақытта орындалатын іс-қимылды білдіретін,ағылшын етістіктігінің жақсыз формасы.

playing – игра, ойын
reading – чтение, оқу
walking – прогулка, серуен

Our management encourages **working** overtime. –
Біздің басшылық мерзімнен тыс уақыттағы жұмысқа сыйлық береді.

Қазақ тілінде герундийға сәйкес форма жоқ. Ол қазақ тіліне зат есім және етістік арқылы аударылады:
singing - өлең айту
rubbing - ысу
waiting - құту
Герундийдің құрылуы:

Герундий Есімше сияқты **-ing** жалғау арқылы жасалады:
to run - runn**ing**
to live - liv**ing**

Герундийдің болымсыз түрі оның **not** тың алдына қойылуы арқылы жасалады.

for coming in time - уақытында келген үшін

for **not** coming in time - уақытында кел**ме**ген үшін

Герундий және **Есімше** формаларын салыстырсақ , **Есімшеде** етістіктің ғана қасиеттері болса, ал **Герундий ерекшелігі ол** етістіктің де зат есімнің де қасиеттеріне ие болады.

Герундий зат есім сияқты артикль қойылмайды және көпше түрінде тұрмайда. Олардың **ерекшелігі герундий** үрдісті білдірсе, ал зат есім затты атайды.

Finding a new method is the only way out. (герундий) Жаңа тәсілді табу- жалғыз мәселені шешу.

The **findings** were of great importance. (зат есім) Табылған заттар маңызды болып шықты.

Герундияның қазақ тіліне аударылуы

Герундий формасы қазақ тілінде жоқ болғандықтан,оның мағынасы зат есіммен, инфинитивпен, көсемшемен, жіктік етістігімен және бағынынқылы сөйлеммен беріледі:

Reading English books every day will improve your knowledge of the language.

Күн сайын ағылшын тілінде кітап оқығаның тілді меңгеруге көмектеседі.

Does your son like **skating**? - Сіздің ұлыңыз коньки тебуді ұнатама?

He left the room without **saying** good-bye or **looking** at us. – Ол бізге қарамастан қоштаспай шығып кетті.

I remember **hearing** this song in my childhood. –Мен бұл әнді бала кезімде естігенмін.

The patient's quick recovery depends on his **following** the doctor's advice. - Аурудың тез жазылуы дәрігердің кенесін бұлжытпай сақтағана байланысты.

Exercise 1. ***Choose the infinitive with the particle "to" or without it.***

1. We can … (speak/to speak) Spanish. (Біз испанша сөйлей аламыз.)
2. He often makes me … (feel/to feel) guilty. (Ол жие кінәлі болуымды сезінуге мәжбүрлейді).
3. You have … (be/to be) friendly and polite. (Сен сыпайлы және мейрімді болуға тиіссін).
4. She must … (stay/to stay). (Ол қалуға тиісті.)
5. The lawyer will … (call/to call) you later.Заңгер сізге кейін телефонмен хабарласады).
6. I'd like … (send/to send) him a present. (Мен оған сыйлық жібергім келеді.)
7. You'd better … (move/to move) faster. (Саған тез жүру дұрыс.)
8. We heard somebody … (enter/to enter) the apartment. (Біз біреудің кіргенін естідік.)
9. Mother wants … (paint/to paint) the walls in the kitchen. (Анам ас бөлменің төбесін сырлағысы

келеді)

10. We decided … (sell/to sell) the car. (Біз көлікті сатуға шештік.)
11. He always fails … (keep/to keep) his word. (Ол уәдесінде тұрмайды.)
12. I am trying … (lift/to lift) this heavy stone. (Мен осы ауыр тасты көтеруге тырысып жатырмын).
13. Let me … (give/to give) you some advice. (Кеңес беруге рұқсат ет.)
14. It may … (cost/to cost) too much. (Бұл өте қымбат түсетін сияқты).
15. She saw him … (cross/to cross) the street. (Ол көшеден оның өтіп бара жатқанын көрді).

Exercise 2. ***Make the sentences by choosing the beginning of the first column and the ending - in the second.***

1. She is interested	a) drinking alcohol.
2. I would like	b) to seeing my daughter.
3. You should give up	c) being ill.
4. We really enjoy	d) laughing at her.
5. I'm looking forward	e) to living in a dirty house.
6. He is used	f) talking to drunk people.
7. She pretended	g) swimming in the sea.
8. Pamela is good	h) to have a cup of coffee.
9. I couldn't help	i) in surfing the Internet.
10. She avoids	j) at riding a horse.

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