ФЕДЕРАЛЬНОЕ АГЕНТСТВО ЖЕЛЕЗНОДОРОЖНОГО ТРАНСПОРТА
Федеральное государственное бюджетное образовательное учреждение высшего образования
Иркутский государственный университет путей сообщения
Сибирский колледж транспорта и строительства

ОГСЭ.03 ИНОСТРАННЫЙ ЯЗЫК

УЧЕБНО-МЕТОДИЧЕСКИЕ УКАЗАНИЯ К ПРАКТИЧЕСКИМ ЗАНЯТИЯМ

для обучающихся 3 курсов
специальности № 21.02.06 «Информационные системы обеспечения градостроительной деятельности»

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РАССМОТРЕНО:
Цикловой методической
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ПОЯСНИТЕЛЬНАЯ ЗАПИСКА

Практические занятия направлены на экспериментальное подтверждение теоретических положений, отнесены наряду с другими к основным видам учебных занятий.

В результате изучения дисциплины «Иностранный язык» обучающийся должен:

знать: лексический (1200-1400 лексических единиц) и грамматический минимум, необходимый для чтения и перевода (со словарём) иностранных текстов профессиональной направленности.

уметь: общаться (устно и письменно) на иностранном языке на профессиональные и повседневные темы;

переводить (со словарём) иностранные тексты профессиональной направленности;

самостоятельно совершенствовать устную и письменную речь, пополнять словарный запас.

Обучающийся должен обладать общими и профессиональными компетенциями:

ОК 1. Понимать сущность и социальную значимость своей будущей профессии, проявлять к ней устойчивый интерес.

ОК 2. Организовывать собственную деятельность, выбирать типовые методы и способы выполнения профессиональных задач, оценивать эффективность и качество.

ОК 3. Принимать решения в стандартных и нестандартных ситуациях и нести за них ответственность.

ОК 4. Осуществлять поиск и использование информации, необходимой для эффективного выполнения профессиональных задач, профессионального и личностного развития.

ОК 5. Использовать информационно-коммуникационные технологии в профессиональной деятельности.

ОК 6. Работать в коллективе и команде, эффективно общаться с коллегами, руководством, потребителями.

ОК 7. Брать на себя ответственность за работу членов команды (подчиненных), результат выполнения заданий.

ОК 8. Самостоятельно определять задачи профессионального и личностного развития, заниматься самообразованием, осознанно планировать повышение квалификации.

ОК 9. Ориентироваться в условиях частой смены технологий в профессиональной деятельности.

Количество часов, отводимое на практические занятия, фиксируется в рабочей программе дисциплины « Иностранный язык» и составляет для специальности 21.02.06 Информационные системы обеспечения градостроительной деятельности 176 часов.

На 3 курсе изучаются следующие темы и усваиваются следующие компетенции:

Тема	Кол-во часов	Усвоенные компетенции
Земельные реформы	26 часов	ОК 1, ОК 6, ОК 7, ОК 4, ОК3, ОК 5, ОК 8
Геодезия	14 часов	ОК 4, ОК 5, ОК 6, ОК 1, ОК 3
Картография	24 часа	ОК 4, ОК 1, ОК 6, ОК 7, ОК 3, ОК 5

Содержание. Content

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Unit1. Land reforms

abolish	отменить, упразднить
acquisition	приобретение, первоначальная (стоимость)
agriculture	сельское хозяйство
allotment	распределение, доля, выделение
comprise	включать, заключать в себе, составлять
consolidate	объединяться, сливаться (об обществах, корпорациях)
convert	конвертировать, обращать
cultivation	обработка
embark	начинать (дело); браться (за что-л.); предпринимать (что-л.)
expansion	рост, развитие, распространение
fortify	укреплять, усиливать
hereditary	наследственный
inheritance	наследство
incentive	стимулирующий
land	земля, земельный участок
landholder	арендатор земельного участка
landlord	землевладелец
lease	сдавать внаем
measure	мера
mortgage	заклад; залог; закладная; закладывать
obligation	обязанность; долг; обязательство
offspring	источник
own	владеть
owner	владелец
ownership	владение
private	частный
property	собственность
purchase	покупка
reallocate	перераспределять

reform	реформа
reminder	напоминание, намек
restriction	ограничение
serfdom	рабство
tenancy	владение на правах аренды; владение на правах имущественного найма; аренда
tenure	владение, собственность, имущество
tithe	десятина (налог)

1.1   Study the models of Possessive Case and translate

the methods of cultivation – the cultivation's methods

that area's population – the population of that area

the relation of agriculture

the rest of the economy

1.2 a) Revise verbs' forms and translate the words

to own, owned, owned, owning

to become, became, become, becoming

b) Make all forms of the given verbs

to comprise, to hold, to proclaim, to mean

1.3 Translate the text

Introduction. What is a reform?

Reform - a purposive change in the way in which agricultural land is held or owned, the methods of cultivation that are employed, or the relation of agriculture to the rest of the economy. Reforms such as these may be proclaimed by a government, by interested groups, or by revolution.

The concept of land reform has varied over time according to the range of functions which land itself has performed: as a factor of production, a store of value and wealth, a status symbol, or a source of social and political influence.

Land value reflects its relative scarcity, which in a market economy usually depends on the ratio between the area of usable land and the size of that area's population.

Historically, land reform meant reform of the tenure system or redistribution of the land ownership rights. Land reform has therefore become synonymous with agrarian reform or a rapid improvement of the agrarian structure, which comprises the land tenure system, the pattern of cultivation and farm organization, the scale of farm operation, the terms of tenancy, and the institutions of rural credit, marketing, and education.

1.4 Find definitions for terms

1.	land	a)	the art of practice of farming
2.	cultivation	b)	the right of holding land
3.	agriculture	c)	the length of time for which rent has been paid
4.	tenancy	d)	ground owned as property
5.	tenure	e)	the art of preparing land for the growing crops

1.5 Answer the questions

1. What is reform?
2. In what spheres of life can reforms be?
3. What does land reform mean?
4. What are reforms you have ever heard?

1.6 Find equivalents

1. перераспределение прав землевладения
2. источник общественного и политического влияния
3. методы обработки
4. заключает в себе условия и сроки землевладения
5. целенаправленное изменение
6. относительная нехватка

1.7 Translate the text

Types of reform

Whether it is called land reform or agrarian reform, the operational concept covers five main types of reform, classified according to whether they deal with land title and terms of holding, land distribution, the scale of operation, the pattern of cultivation, or supplementary measures such as credit, marketing, or extension services. Reforms concerned with the title to land and the terms of holding reflect a transition from tradition-bound to formal and contractual systems of landholding. Their implementation involves property surveys, recording of titles, and provisions to free the landholder from restrictions or obligations imposed by tradition. Property surveys are conducted wherever land is held by a tribe or clan or where reallocation of cultivable land routinely follows tradition. In these situations the landholder may lack the incentive to improve the land because the right of disposal belongs to the tribe, clan, or feudal lord, as in medieval Europe and in parts of present-day Africa and the South Pacific islands. Such reform affects landholding in at least three ways: it may increase security of tenure and hence incentives; it may reorganize the system of inheritance in favour of offspring; and it may bring land onto the market so that land transactions become possible. This reform, however, has little immediate effect on the scale of operation, but it does facilitate future land concentration and fragmentation. In countries where the terms of holding and tenancy are regulated by tradition, reform may seek to convert tenancy into a contractual agreement that offers some protection to the tenant and more security and incentive to improve the land and advance technology, as in Japan, India, and Pakistan.

The most common type of reform involves the redistribution of land titles from one individual to another, from individuals to a group or community at large, or from a group to individuals. The land of one landlord may be redistributed to many individuals, as in Egypt, Iran, or Ireland. Or the land of individuals may be reallocated in favour of the community at large by abolishing private ownership, as

in Cuba and China. Or, again, public land may be distributed to individuals, as in various parts of Latin America.

The impact of redistribution on the scale of operations and on marketability of the land depends on the form it takes and the restrictions attached to it. If the redistributed farm was previously operated as a unit, its division means fragmentation and reduction of scale; however, if it was operated in fragments by tenants, transfer of title to the tenants would not affect the scale. The final results depend on the measures taken to prevent adverse effects.

Land-tenure reform, of course, can improve the scale of operations by enlarging the farm or by reducing it. Enlargement applies when the holding is increased in size, either by adding to it or by consolidating its fragmented parts. Farm consolidation involves reallocation of the total farmland within a region by land exchange, sale, or lease such that no one loses and all gain by increasing efficiency. The scale of operations may be increased by pooling resources, as in farm cooperatives and collectives that offer facilities otherwise inaccessible to a small farm.

1.8 Answer the questions
1.   What reform can improve the scale of operations by enlarging the farm or by reducing it?
2.   When are property surveys conducted?
3.   What does the impact of redistribution on the scale of operations and marketability depend on?
4.   What countries are the terms of holding and tenancy regulated by tradition?

1.9 Find equivalents
1.   договорная система
2.   землемерная съемка
3.   защита арендатора и безопасность
4.   реорганизовать систему наследования

5. может быть перераспределена среди многих физических лиц

1.10 Translate from Russian into English using the verbs in Present Simple Active

1. Собственность за рубежом дает право получить гражданство. (to be admitted to citizenship)

2. Потомки великого ученого хранят (to keep) его рукописи.

3. Землевладельцы часто сдают (to lease out) землю в аренду.

4. Наследство иногда приносит (to give) выгоду.

5. Арендатор обрабатывает (to cultivate) землю.

1.11 Write the sentences from the exercise 1.10 in interrogative form

1.12 Make questions of different types to each sentence as in the model
Any reform involves the modernization of agriculture.

−   Does any reform involve the modernization of agriculture?

−   What involves the modernization of agriculture?

−   Does any reform involve or except the modernization of agriculture?

−   Any reform involves the modernization of agriculture, doesn't it?

1. Changes in the pattern of cultivation relate directly to cultivation, land yield, and labour productivity.

2. Mechanization causes displacement of labour.

3. Technological advance usually implies mechanization.

1.13 Translate the nouns formed with suffix –*tion* and transcribe the words redemption, expansion, cultivation, migration, compensation, expropriation, acquisition

1.14 Translate the Passive forms, define Tense and Aspect

had been usurped, was prohibited, had been abolished, was suspended, was dissolved, had been prohibited, was reallocated

1.15 Translate the text

Ancient reforms

a) Land in ancient Athens was held in perpetuity by the tribe or clan, with individual holdings periodically reallocated according to family size and soil fertility. Population increase, expansion of trade, growth of a money economy, and the opening up of business opportunities eventually made financial transactions in land an economic necessity. Land itself continued to be inalienable, but the right to use the land could be mortgaged. Thus, peasants could secure loans by surrendering their rights to the product of the land, as "sale with the option of redemption." Lacking other employment, the debtor continued to cultivate the land as *hektēmor,* or sixth partner, delivering five-sixths of the product to the creditor and retaining the rest for himself. Mortgaged land was marked by *horoi*, or mortgage stones, which served as symbols of land enserfment. When Solon was elected archon, or chief magistrate, c. 594 BC, his main objective was to free the land and destroy the horoi. His reform law, known as the *seisachtheia*, or "shaking-off the burdens," cancelled all debts, freed the *hektēmoroi,* destroyed the *horoi,* and restored land to its constitutional holders. Solon also prohibited the mortgaging of land or of personal freedom on account of debt.

The impact of the reform was extensive but of short duration. Two decades of anarchy were followed by a revolution, c. 561 BC, that brought Peisistratus to power. He enforced the reform and distributed lands of his adversaries (who were killed or exiled) among the small holders. He also extended loans to aid cultivation and prevent migration to the city and expanded silver mining to create employment.

b) The Roman reform by Tiberius and Gaius Gracchus came between 133 and 121 BC. The land reform law, or *lex agraria*, of Tiberius was passed by popular support against serious resistance by the nobility. It applied only to former public

land, *ager publicus*, which had been usurped and concentrated in the hands of large landholders. Land concentration reduced the number of owners and hence the number of citizens and those eligible to serve in the army. In addition, such concentration was accompanied by a shift from cultivation to grazing, which reduced employment and increased the poverty of the peasants, producing a crisis.

The *lex agraria* specified minimum and maximum individual landholdings, with an allowance for male children of the family. Excess land would be expropriated and compensation paid for improvements. A standing collegium, or commission, was to enforce the law, but implementation was delayed because Tiberius was killed in the year of its passage. When Gaius was elected tribune about a decade later, he revived the reform and went even further. He colonized new land and abolished rent on small holdings since rent on large holdings had been suspended as compensation for expropriation. Gaius was killed in 121 BC, however, and within a decade the reform was reversed: private acquisition of public land was legalized, the land commission was dissolved, rent on public land was abolished, all holdings were declared private property, and squatting on public land was prohibited. Even colonization was ended, and colonies established by Gaius were broken up.

1.16 Answer the questions

1. Who prohibited the mortgaging of land or of personal freedom on account of debt?

2. Who was a sixth partner in ancient Athens?

3. What did the land reform law of Tiberius specify?

4. What reform did Gaius Gracchus revive?

1. 17 Find equivalents

1. заложенная земля

2. предотвращать миграцию населения

3. должник продолжал обрабатывать землю

4. привело к власти

5. сократить занятость

6. колонизировать новую землю

7. серьезное сопротивление знати

1.18 Make questions to each sentence as in the model

The history of reforms began with Greeks and Romans of the 6th and 2nd centuries BC.

− Did the history of reforms begin with Greeks and Romans of the 6th and 2nd centuries BC?

− When did the history of reforms begin?

− Did the history of reforms begin with Greeks or Romans of the 6th and 2nd centuries BC?

− The history of reforms began with Greeks and Romans of the 6th and 2nd centuries BC, didn't it?

1. He freed *hektēmoroi*.

2. They killed Gaius in 121 BC.

3. The nobility seriously resisted against the land reform of Tiberius.

1.19 Compare using of Active and Passive forms and translate

− realized − were realized

The reformers realized their objectives.

The objectives of the reformers were realized.

− influenced − were influenced

Most of reforms were influenced by the Egyptian example.

The Egyptian example influenced on most of reforms.

1.20 Translate using the given words

− cultivate, tenant, land

Арендаторы обрабатывали землю.

Земля обрабатывалась арендаторами.

– sugar plantation, convert, cooperative

Правительство преобразовало сахарные плантации в кооперативы.

Сахарные плантации были преобразованы в кооперативы правительством.

1.21 Translate the text

Modern European reforms

a)The French Revolution brought a new era in the history of land reform. On the eve of the Revolution, French society was polarized, with the nobility and clergy on one side and the rising business class on the other. The middle class was relatively small, especially in the rural areas. The majority of the peasants were hereditary tenants, either *censiers*, who paid a fixed money rent, or serfs, who paid rent in the form of labour services, *corvée*, of about three days a week. The peasants paid various other feudal dues and taxes, from which the nobility and clergy were exempted. The Revolution overthrew the ancient régime and the feudal order and introduced land reform.

The reform repealed feudal tenures, freed all persons from serfdom, abolished feudal courts, and cancelled all payments not based on real property, including tithes. Rents based on real property were redeemable. Once the law had been passed, however, the peasants seized the land and refused to pay any rents or redemption fees; in 1792 all payments were finally cancelled. Land of the clergy and political emigrants was confiscated and sold at auction, together with common land.

The social and political objectives of the reformers were fully realized. The *censiers* and serfs became owners. Feudalism was destroyed, and the new regime won peasant support. The economic effects, however, were limited. Incentives could not be increased substantially since the peasants already had full security of tenure prior to the reform. The scale of operations was not changed; and no facilities for credit, marketing, or capital formation were created. The major

achievements were the reinforcement of private, individual ownership and perpetuation of the small family farm as a basis of democracy. The small family farm has characterized French agriculture ever since.

b)There were other reforms in most European countries. England resolved its land problems by the enclosure movement, which drove the small peasants into the towns, consolidated landholdings, and promoted large-scale operation and private ownership. Sweden and Denmark pioneered between 1827 and 1830 by peacefully abolishing village compulsion, or imposed labour service, and the strip system of cultivation, by consolidating the land, and by dividing the commons among the peasants. Though influenced by the French Revolution, only after the 1848 revolutions did Germany, Italy, and Spain free the peasants and redistribute the land. Reform in Ireland took a whole century before substantive results were achieved, in the mid-1930s, after Ireland was divided into Northern Ireland and the Irish Free State. The tenants were converted into owners by subsidized purchase of the land.

1.22 Answer the questions
1. How was on the eve of the Revolution French society polarized?
2. What were social and political objectives of the French reformers?
3. How much time took Irish reforms?
4. What reform was in Sweden and Denmark?

1.23 Find equivalents
1. древний режим и феодальный порядок
2. разделяя общее среди крестьян
3. церковная десятина
4. начинания не могли быть существенными изначально
5. были конфискованы и проданы на аукционах
6. крепостные, платившие ренту

1.24 Translate relative words and define their parts of speech

rest, to rest, restless, restlessness

to own, owner, ownership

to product, product, production, producer, productive, productivity

land, to land, landlord

new, to renew, renewed

1.25 Translate the text

Russian reform

a) The first major Russian reform was the emancipation of the serfs in 1861. At the time of emancipation about 45 percent of the land was private property and the remainder was held as allotment land, cultivated in units averaging 9.5 acres (3.8 hectares) by the peasant serfs against rent in kind and labour, payable to feudal lords. In contrast, fewer than 1,000 noble families owned about 175,000,000 acres (70,000,000 hectares) and received rent there from. Conflict between such extremes of poverty and wealth caused restlessness among the peasants and rendered reform inevitable.

The Emancipation Act of 1861 abolished serfdom and distributed allotment land among the peasants. The homestead became hereditary property of the individual, but the field land was vested in the village *mir* as a whole. The peasant paid redemption through the village authority, while the landlord received state bonds as compensation equal to 75 to 80 percent of the land market value. Though legally freed, the private serf had to ransom his freedom by surrendering a part of the allotment land.

Redemption payments, however, soon proved too burdensome, village restrictions were tight, and the allotment land area declined, all of which led to renewed restlessness and disturbances. Following the revolt of 1905, the government, under Pyotr Stolypin, tried to create middle-class, independent farmers by replacing the village tenure with private ownership, consolidating

holdings, and encouraging land purchase by individuals; but the time was too short for effective implementation.

b) The Soviet Revolution overthrew the tsarist regime and introduced the concepts of public ownership and collectivization. By decree in 1918, the Soviets abolished private ownership of land, made farming the sole basis of landholding, and declared collectivization a major objective of policy. Marketing of agricultural products became a state monopoly. In 1929 Stalin embarked on a full course of collectivization, and by 1938 collective farms occupied 85.6 percent of the land and state farms 9.1 percent. Credit facilities and tractor stations supplemented collectivization, while agricultural production was integrated in the national plan for industrialization and development.

The costs of Soviet reform included the destruction of capital and the death of large numbers of *kulaks*, or rich peasants. Total output and productivity increased, however, and capital formation was made possible through forced saving, taxes, and regulated prices. The peasant received extensive social services such as health care, and education and better working conditions.

1. 26 Answer the questions

1. How much land did collective farms occupy by 1938?
2. When was serfdom abolished?
3. What reformer tried to create middle-class?
4. What conflict caused restlessness among the peasants?

1.27 Find equivalents

1. распределили землю по жребию
2. конфликт между крайностями
3. крепостной должен был выкупить свою свободу
4. отменили частную собственность
5. закон об отмене крепостного права
6. пытался создать средний класс

7. получил широкий набор социальных услуг

1.28 Write numbers and dates from the text above in words

1.29 Make expressions using these words
hereditary, overthrow, embark, reminder, encouraging, serfdom, property.

1.30 Translate the text

World reforms

a) Reform in Eastern Europe was complicated by the fact that most of the eastern European countries remained under foreign rule until the middle of the 19th century or later. The Romanian reform of 1864 freed the serfs and distributed both the land and the redemption payments in proportion to the number of cows or oxen each peasant had. Formal emancipation in Bulgaria was introduced by the Turkish government in the 1850s, but actual reform came in 1880, after independence. Each peasant, including sharecroppers and wage workers, who had worked the land for 10 years without interruption, was entitled to the land he had cultivated. Political instability reached a dangerous point between the two world wars. Following World War II, the eastern European countries established Communist governments with a strong tendency toward collective, cooperative, and mechanized agriculture.

b) The Mexican reform of 1915 followed a revolution and dealt mainly with lands of Indian villages that had been illegally absorbed by neighbouring *haciendas* (plantations). Legally there was no serfdom; but the Indian wage workers, or *peons*, were reduced to virtual serfdom through indebtedness. The immediate aim of reform was to restore the land to its legal owners, settle the title, and use public land to reconstruct Indian villages. The motives were mainly to reduce poverty and inequality and to secure political stability, which was then in the balance. A decree of 1915 voided all land alienations that had taken place illegally since 1856 and provided for extracting land from haciendas to reestablish

the collective Indian villages, or *ejidos*. The 1917 constitution reaffirmed those provisions but also guaranteed protection of private property, including haciendas. Nevertheless, a combination of loopholes, litigation, and reactionary forces slowed implementation, and effective reform came only after passage of the Agrarian Code of 1934 and the sympathetic efforts of President Lázaro Cárdenas.

c) Reforms since World War II

The eastern European countries and China originally followed the Soviet model, with different modifications in the individual countries. A few other countries have continued to follow that model, with major emphasis on "land to the tiller," cooperation, collective ownership, large-scale operation, and mechanization, and with economic development as the common denominator. In capitalist-oriented reforms, private ownership, family farming, and dual tenures have remained basic objectives with the aim of promoting democracy, equality, stability, and development. Under the influence and with the guidance of the United Nations, nonsocialist reforms of the 1950s were equated with community development and emphasized institutional and rural self-help in addition to land redistribution. In the 1960s the emphasis shifted to agricultural productivity and economic development by means of large-scale operation, new technology, and cooperation.

d) Japan

The Japanese reform came immediately after World War II at the insistence of the Allied Occupation Army. The reform was designed to fit the uniquely high literacy rate and advanced industrial level of the country. Although the Meiji government had formally abolished feudalism and declared the land to be the property of the peasants, usurpation of land by the rich and by moneylenders had created classes of perpetual tenants and absentee landlords.

The reform law of 1946 established a ceiling on individual holdings and provided for expropriation and resale of excess land to the tenants against long-term payments. The government compensated the landlords in cash and bonds redeemable in 30 years. Tenants were protected by contract, and rents were

reduced to a maximum of 25 percent of the product. The redistributed land was made inalienable, though this restriction was relaxed four years later. The program also provided for marketing and credit cooperatives. An important supplementary measure was the Local Autonomy Law of 1947, which decentralized the power structure and put village affairs in the hands of the villagers.

1.31 Find equivalents

1. изначально следовали советской модели

2. экономическое развитие посредством крупномасштабной операции, новой технологии и сотрудничества

3. правительство компенсировало землевладельцам наличными

4. формально отменили феодальные порядки и провозгласили землю собственностью крестьян

5. политическая нестабильность достигла опасного уровня

6. включая дольщиков и наемных рабочих

7. возможные уловки обойти закон, судебные тяжбы и реакционные силы

1.32 Answer the questions

1. What was introduced by Turkish government in the 1850s?

2. What strong tendency was in eastern European countries after World War II?

3. What was the aim of the Local Autonomy Law of 1947 in Japan?

4. When did an effective reform come in Mexico?

5. How did the United Nations influence on reforms of the1950s?

6. What had the Meiji government declared?

1.33 Complete the sentences using adjectives in the correct degree of comparison

1. ………reform took place earlier than reform in………….

2. ………reform was more complicated than ………….reform

3. The reform in ………….was as ………….as ……………reform.

4. ……………..reform was the most……………..

1.34 Make expressions using each word once. Find them in the text above and read the sentences with them

wage	payments
mechanized	affairs
supplementary	workers
village	emancipation
long-term	measure
absentee	operation
large-scale	agriculture
formal	landlords

1.35 Translate the text

Other recent reforms

Attempts to reform the agrarian structure have been made in most other countries, with varying degrees of seriousness. India and Pakistan have concentrated on abolishing intermediaries who prevailed as survivals of traditional and feudal tenures. In India the tenants have become hereditary holders, with the title vested in the state. India has left reform to the states and emphasized peaceful and compensatory methods; hence the results have varied from one state to another. Pakistan, following the revolution of 1958, enacted a reform that made most of the tenants owners. In both countries, however, small-scale farming has persisted, while Pakistan has continued to tolerate and protect owners of up to 500 acres (200 hectares). In neither country has fragmentation been effectively reduced or have capital formation and cultivation methods significantly advanced.

In contrast, after the Communists came to power in China, private ownership was eliminated and the peasants were organized in village communes. Extensive supplementary measures have been tried, and the role and organization of the commune have varied according to the pressures on the economy. The most recent

innovation in China's agriculture has been the "production responsibility system," which allows the commune to contract with its members for quotas of output; the members are free to sell the surplus on the open market. The change is seen as an incentive generator, but land cannot be rented, bought, sold, or used except as authorized by the commune. The effects of China's agrarian policy on peasant living conditions and the Chinese economy have been generally accepted as positive, genuine, and impressive.

In 1962 Iran made owners of most of the former sharecroppers, in the classic tradition of Western-type reform, mainly to create political stability. Given Iran's revolution of 1979, however, the reform evidently was not sufficient to sustain the old social order. Reform was also introduced in Syria, Iraq, Algeria, Libya, and other countries of the Middle East and North Africa following independence or revolution. Most of these reforms were influenced by the Egyptian example, with the state playing a major role. In all cases emphasis has been placed on farm cooperatives, although they have been largely ineffective.

In contrast, tropical Africa has witnessed a wave of innovative reform in recent years. Reform has sometimes come in "packages," which combine tenure reform and other measures affecting cultivation and productivity. Among the innovations is the "villagization," or ujamaa, program of Tanzania, according to which a group of families lives, works, and makes decisions together and shares the costs and benefits of farming the land. The program began as a voluntary movement in 1967, but by 1977 it had become almost mandatory. At the same time, "block farming" and individual holdings had become acceptable forms of cooperation. The Ujamaa Villages Act of 1975 made the village the main rural administration and development unit. The most radical reforms in Africa, however, have been those of Ethiopia in 1975 and of Mozambique in 1979. Both vested the land title in the nation and abolished rent, sale, and absentee control of the land. The land was placed in the hands of the tillers, who have guaranteed right of use for themselves and for their descendants. Except in the public sector, farming is a

small, family operation with a high degree of equality of landholding but of uncertain efficiency.

1. 36 Find equivalents

1. условия жизни крестьян
2. земля была передана в руки фермеров
3. продолжал терпеть и защищать собственников
4. обширные дополнительные меры
5. отмена посреднических услуг
6. приемлемые формы сотрудничества
7. мирные и уравновешивающие методы
8. старый общественный порядок

1.37 Answer the questions

1. In what country the effects of agrarian policy have been accepted as positive, genuine and impressive?
2. What is "villagization"?
3. What reform did Pakistan after the revolution of 1958 enact?
4. Why were the reforms in Ethiopia and Mozambique the most radical?

1.38 Complete the sentences

1. …………… were influenced by the Egyptian example, with the state playing a major role.
2. In ………. the tenants have become …….., with the title vested in the state.
3. In contrast, …….. has witnessed a wave of innovative reform in …..
4. The change is seen as ……., but land cannot be rented, bought, sold, or used ……. by the commune.
5. Reform was also introduced in …… following independence or revolution.

1.39 Write nationalities of the listed countries

China, India, Pakistan, Syria, Iraq, Algeria, Libya, Tanzania, Ethiopia, Mozambique

1.40 Translate the text

Conclusions

Land reform and agrarian reforms have become synonymous, indicating that reform programs have become more comprehensive and encompass much more than the reform of land tenure or land distribution. Reform movements have recurred throughout history, as have the crises they are intended to deal with, because reform has rarely dealt with the roots of the crises. Reform has served as a problem-solving mechanism and therefore has only been extensive enough to cope with the immediate crisis. Reformers have often faced hard choices: to promote and sustain private ownership with inequality or to institute public or collective ownership with equality but with restrictions on the individuals private interests; to spread employment by supporting labour-intensive, low-productivity techniques or to promote high productivity through capital-intensive, efficient methods; to pursue gradual "repair and maintenance" reform that is basically ineffective or to promote revolutionary, comprehensive, effective but disruptive reform. In capitalist reforms these contradictions have usually been resolved in favour of the first set of options; in socialist reforms, in favour of the second. Land tenure reform seems to have been of little significance in creating substantive economic change, although it has been important for improving the status of peasants and maintaining social and political stability. Most reforms have narrowed the gap between reform beneficiaries and other farmers through land redistribution and tenancy control, but only the comprehensive socialist reforms have narrowed the gap between agriculture and other sectors of the economy.

Land redistribution programs have had limited success for several reasons. They often have deprived the farm of the former landlord's contributions without providing a substitute. They have inhibited mobility of labour by giving the peasant a stake in the land, though only in the form of an inefficient minifarm.

They frequently have threatened large, efficiently run farms and therefore have had to be compromised. They have provided compensation for the expropriated land and hence left wealth and income distribution largely unaffected. They have been conditional upon peasant participation in social and political activity and cooperative organization, even though the peasant was unprepared for these activities. Moreover, the redistribution of land has rarely been fortified by protective measures that could prevent reconcentration of ownership and the recurrence of crises. Nevertheless, major efforts have been expended by the Food and Agriculture Organization of the United Nations and other international bodies and by governments to devise viable frameworks for solving agricultural and rural problems emanating from defective agrarian structures.

1. 41 Find equivalents

1. часто сталкивались с трудным выбором
2. препятствовали передвижению рабочей силы
3. служила механизмом для решения проблем
4. заполнили пробел между лицами, получающими экономическую выгоду
5. важный для улучшения статуса крестьян
6. трудоемкие низкопродуктивные технологии

1.42 Answer the questions

1. What reforms have become synonymous?
2. What do reform movements deal with?
3. How do land redistribution programs influence on success?
4. What reforms have narrowed the gap between agriculture and other sectors of economy?
5. What is a set of options favorable for capitalist reforms?
6. What is a set of options favorable for socialist reforms?

1.43 Complete the sentences

1. Reform movements have recurred ………….., as have the crises they are intended to deal with, because …………. with the roots of the crises.

2. ……………… the farm of the former landlord's contributions without providing a substitute.

3. They have been conditional upon ………….. in social and political activity and cooperative organization, even though ………...

4. Land reform and ………….. have become synonymous, indicating that reform programs have become ………than the reform of land tenure or land distribution.

5. … have threatened large, efficiently run farms and therefore have had to be …..

1.44 a) Translate pairs of words

inequality - equality

unaffected - affected

unprepared - prepared

inefficient – efficient

b) Translate word combinations

неравенство людей, равенство голосов, находящийся под влиянием зла, безучастный к просьбе, речь без подготовки, хорошо подготовленный материал, целесообразное распределение, недейственные меры

1.45 Translate from Russian into English

Southeast Asia

Модель земельной реформы Японии была заимствована Юго-Восточной Азией, особенно в Тайване, Южной Корее, и Южном Вьетнаме. Целями реформ были: поддержание политического порядка, повышение уровня жизни, а также содействование экономическому развитию. Реформы начались с регулирования аренды, ограничения арендной платы, и введение института письменного договора аренды, после чего жильцы должны были быть преобразованы в собственников. Реформа Тайваня была реализована в период между 1949 и 1953 годов.

Вьетнамские реформы был введены в 1955 году. Арендная плата была уменьшена до максимум 25 процентов от стоимости продукта.

Филиппины представили программу реформ в 1963 году, которые направлены, прежде всего, на замену доли аренды с договоров аренды и в конечном итоге с правом собственности, и на возрождение сельского хозяйства путем расширения услуг. К середине 1980-х годов, благодаря программе, появилось до 400.000 арендаторов, но экономическая жизнеспособность новых единиц была неопределенной из-за отсутствия дополнительных объектов.

1.46 Additional texts

Latin America

a) Except for the early example of Mexico, reform in Latin America has been recent and appears to have come only in response to the threat of social and political instability and mounting international pressures. Reform in Latin America after World War II must be seen against a background of rapidly increasing population and of extreme contrasts between plantation economies and small units; high concentration of land ownership, income, and power and dire poverty; modern farming and relatively backward cultivation methods; and nationalism and extensive foreign ownership of land. In addition, Latin-American society is complicated by its ethnic mixtures and by dependence on staple trade items such as sugar, tobacco, cocoa, coffee, and beef cattle.

Reform in Latin America has reflected the ideologies and objectives of the regime in power. Brazil has had several attempts at reform. The measures have been indirect and relatively mild, the most important being taxation of idle land and large plantations and reclamation and settlement of the Amazon region, with provisions for credit and tenancy protection. The results have been modest, however, largely because of the physical and biological hardships faced by settlers in the tropical Amazon environment. Peru has deviated by creating collective administrations of the nationalized feudal estates. The title resides in the nation,

and the estates are run by the Agricultural Societies of Social Interest (SAIS), a mechanism devised to avoid breaking up economically efficient enterprises rather than to modify the tenure institutions.

b) At the other end of the Latin-American spectrum is the Cuban reform that followed the revolution of 1958. Cuba retained private ownership but reduced it substantially in favour of the public sector. As proclaimed a few months before the overthrow of the old regime, the reform aimed at the elimination of *latifundia* tenure, expropriation of land owned by foreign companies, higher standards of living for the peasantry, and national economic development. It began by setting a ceiling of 30 *caballerías* (one *caballería* = 33 acres, or 13.4 hectares) on individual holdings, with a maximum of 100 *caballerías* if economic operations required such a scale. All foreign-owned land was nationalized. Public land on which rice and cattle were raised was converted into state farms, and the peasants became permanent wage workers on these farms. Sugar plantations were converted into cooperatives to avoid their subdivision into small uneconomic units. Before long the ceiling on individual holdings was lowered to five *caballerías*, and all such holdings became private family farms. The rest were nationalized, and the expropriated owners were compensated with a pension for life. The reform was supplemented by the organization of national farmer associations; people's stores; credit, housing, and educational facilities; and the production of machinery and fertilizers. In 1963 a major reorganization of state farms took place; they were subdivided on the basis of crop specialization into smaller operational units of about 469 *caballerías*.

Effects of the reform were comprehensive and immediate. The tenure institutions were radically changed in favour of public ownership, while *minifundia* and tenancies were abolished. Socially and politically, the reform realized the objectives of the reformers. Economically, the government claimed higher yields of sugarcane, vegetables, and fruit, but this claim has been disputed by foreign observers.

c) Chile undertook various reform programs before achieving concrete results. In 1962 a program was enacted to encourage settlement of new land, but only about 1,000 families were settled. A comprehensive reform was introduced in 1965 with three main objectives: to make the agricultural workers owners of the land they had cultivated previously, to increase agricultural and livestock production, and to facilitate social mobility and peasant participation in political life. The Chilean reform was unique in its method of implementation. Once the plantation had been designated for expropriation and the prospective owners selected, they were organized into *asentamientos*, or settlement groups. The group elected a committee to take charge of settlement. The members cultivated the land as a team for three to five years. Meanwhile they received training and guidance in social participation, decision making, and modern farming. Upon completion of the transition period, the land was divided among those who had shown promise, to be held outright and without restriction. All new owners were obligated to join cooperatives, the form of these being determined by the members. The socialist regime that came into office in 1970 expedited the expropriation process and the creation of settlement groups or cooperative farms under peasant committees. By 1972 all the potential land, which had been in farms larger than 200 acres (80 hectares), had been expropriated and reallocated. The new regime that took over in 1973 decided, however, to privatize the land and reverse much of the reform by returning large areas to the former owners, dissolving the cooperatives, and creating private ownerships in their place. Most of the reverse changes had been completed by 1979. Nevertheless, most of the excess land in farms of more than 200 acres remained in the hands of the reform beneficiaries. Owners of less than 12 acres (five hectares) were hardly affected; those who owned between 12 and 50 acres (five and 20 hectares) benefitted most. In the final analysis, less than 15 percent of the agricultural land was affected by the reform between 1965 and 1979 under three regimes.

Unit 2. Surveying

accurate	точный, правильный
affect	подражать, влиять, принимать форму
affirm	подтверждать
altitude	высота, размер по вертикали
angle	угол
apportionment	соответствующее распределение
boundary	граница, пограничный
crosscurrent	встречное течение, мнение, идущее вразрез с общепринятым
detect	находить, обнаруживать
determination	определение
distortion	искажение, искривление
framework	рамка, каркас, структура
graduation	градуирование, калибровка
hydrographer	гидрограф
indicate	указывать
level	уровень
odometer	одометр
pivoted	направленный, повернутый
reckon	посчитывать, подводить итог
surface	поверхность
survey	съемка, изыскание
surveyor	геодезист
surveying	геодезия
target	цель, визирная марка
theodolite	теодолит
triangulation	тригонометрическая съемка

2.1 Unscramble the words

acefurs _____   orttsidion _____

rydaboun _____   tigrondua _____

litedoothe _____   mirfaf _____

2.2 Translate the words, use them in word combinations

to detect – detector - detecting

to indicate – indicator - indicating

to survey – surveyor - surveying

to measure - measure - measuring

2.3 Translate the text

Introduction

Surveying is a mean of making relatively large-scale, accurate measurements of the Earth's surfaces. It includes the determination of the measurement data, the reduction and interpretation of the data to usable form, and, conversely, the establishment of relative position and size according to given measurement requirements. Thus, has two similar but opposite functions: (1) the determination of existing relative horizontal and vertical position, such as that used for the process of mapping, and (2) the establishment of marks to control construction or to indicate land boundaries.

Surveying has been an essential element in the development of the human environment for so many centuries that its importance is often forgotten. It is an imperative requirement in the planning and execution of nearly every form of construction. Surveying was essential at the dawn of history, and some of the most significant scientific discoveries could never have been implemented were it not

for the contribution of surveying. Its principal modern uses are in the fields of transportation, building, apportionment of land, and communications.

Except for minor details of technique and the use of one or two minor hand-held instruments, surveying is much the same throughout the world. The methods are a reflection of the instruments, manufactured chiefly in Switzerland, Austria, Great Britain, the United States, Japan, and Germany. Instruments made in Japan are similar to those made in the West.

2.4 Find equivalents

1.   подобны тем, что сделаны

2.   относительно крупномасштабные, точные измерения

3.   сферы перевозки, строительства, распределение земли и коммуникационных технологий

4.   было необходимо на заре истории

5.   процесс создания карт

6.   необходимое требование в планировании

2.5 Answer the questions

1. What functions has surveying?

2. What instruments are similar?

3. Why was surveying essential at the dawn of history?

4. What are principal uses of surveying?

2.6 Write in Passive

1.   They implemented scientific discoveries with the help of surveying.
Scientific discoveries were implemented with the help of surveying.

2.   They manufactured instruments chiefly in Switzerland, Japan and Germany.

3.   They gave measurement requirements for establishment of position and size.

4.   They forgot the importance of surveying.

5.   They indicated land boundaries long time ago.

2.7 Translate the text

History

It is quite probable that surveying had its origin in ancient Egypt. The Great Pyramid of Khufu at Giza was built in 2700 BC, 755 feet long and 480 feet high. Its nearly perfect squareness and north–south orientation affirm the ancient Egyptians' command of surveying.

Evidence of some form of boundary surveying as early as 1400 BC has been found in the fertile valleys and plains of the Tigris, Euphrates, and Nile rivers. Clay tablets of the Sumerians show records of land measurement and plans of cities and nearby agricultural areas. Boundary stones marking land plots have been preserved.

There is a representation of land measurement on the wall of a tomb at Thebes (1400 BC) showing head and rear chainmen measuring a grainfield with what appears to be a rope with knots or marks at uniform intervals.

There is some evidence that, in addition to a marked cord, wooden rods were used by the Egyptians for distance measurement. They had the groma, which was used to establish right angles. It was made of a horizontal wooden cross pivoted at the middle and supported from above. A plumb bob hung from the end of each of the four arms.

There is no record of any angle-measuring instruments of that time, but there was a level consisting of a vertical wooden A-frame with a plumb bob supported at the peak of the A so that its cord hung past an indicator, or index, on the horizontal bar.

The Greeks used a form of log line for recording the distances run from point to point along the coast while making their slow voyages from the Indus to the Persian Gulf about 325 BC.

The magnetic compass was brought to the West by Arab traders in the 12th century AD.

The astrolabe was introduced by the Greeks in the 2nd century BC. An instrument for measuring the altitudes of stars, or their angle of elevation above the

horizon, took the form of a graduated arc suspended from a hand-held cord. A pivoted pointer that moved over the graduations was pointed at the star. The instrument was not used for nautical surveying for several centuries, remaining a scientific aid only.

During their occupation of Egypt, the Romans acquired Egyptian surveying instruments, which they improved slightly and to which they added the water level and the plane table. About 15 BC the Roman architect and engineer Vitruvius mounted a large wheel of known circumference in a small frame, in much the same fashion as the wheel is mounted on a wheelbarrow; when it was pushed along the ground by hand it automatically dropped a pebble into a container at each revolution, giving a measure of the distance traveled. It was, in effect, the first odometer.

In laying out their great road system, the Romans are said to have used the plane table. It consists of a drawing board mounted on a tripod or other stable support and of a straightedge —usually with sights for accurate aim to the objects to be mapped — along which lines are drawn. It was the first device capable of recording or establishing angles. Later adaptations of the plane table had magnetic compasses attached.

Plane tables were in use in Europe in the 16th century, and the principle of graphic triangulation and intersection was practiced by surveyors. In 1615 Willebrord Snell, a Dutch mathematician, measured an arc of meridian by instrumental triangulation.

In 1620 the English mathematician Edmund Gunter developed a surveying chain, which was superseded only by the steel tape in the beginning of the 20th century.

2.8 Find equivalents

1. весьма вероятно, что геологические изыскания
2. планы городов и близлежащих сельскохозяйственных районов
3. доказательство ведения землемерных работ на стене гробницы

4. нет записей о существовании инструментов для измерения углов того времени

5. был привезен на запад арабскими торговцами

6. оставался только для научных целей

7. большое колесо определенной окружности

2.9 Complete the table

Device	Inventors	Using
boundary stones		
a rope with knots		
groma		
level		
log line		
magnetic compass		
astrolabe		
water level		
plane table		
the first odometer		
surveying chain		

2.10 Translate the text

The theodolite

Though for sketch maps the compass or graphic techniques are acceptable for measuring angles, only the theodolite can assure the accuracy required in the framework needed for precise mapping. The theodolite consists of a telescope pivoted around horizontal and vertical axes so that it can measure both horizontal and vertical angles. These angles are read from circles graduated in degrees and smaller intervals of 10 or 20 minutes. The exact position of the index mark (showing the direction of the line of sight) between two of these graduations is measured on both sides of the circle with the aid of a vernier or a micrometer. The

accuracy in modern first-order or geodetic instruments, with five-inch glass circles, is approximately one second of arc, or $^1/_3,600$ of a degree. With such an instrument a sideways movement of the target of one centimeter can be detected at a distance of two kilometres. By repeating the measurement as many as 16 times and averaging the results, horizontal angles can be measured more closely; in geodetic surveying, measurements of all three angles of a triangle are expected to give a sum of 180 degrees within one second of arc.

In the most precise long-distance work, signaling lamps or heliographs reflecting the Sun are used as targets for the theodolite. For less demanding work and work over shorter distances, smaller theodolites with simpler reading systems can be used; targets are commonly striped poles or ranging rods held vertical by an assistant.

An extensive set of these measurements establishes a network of points both on the map, where their positions are plotted by their coordinates, and on the ground, where they are marked by pillars, concrete ground marks, bolts let into the pavement, or wooden pegs of varying degrees of cost and permanence, depending on the importance and accuracy of the framework and the maps to be based on it. Once this framework has been established, the surveyor proceeds to the detail mapping, starting from these ground marks and knowing that their accuracy ensures that the data obtained will fit precisely with similar details obtained elsewhere in the framework.

2.11 Find equivalents

1. может измерять как горизонтальные, так и вертикальные углы

2. усредняя результаты

3. при работе на дальних расстояниях

4. устанавливает сеть точек на карте

5. геодезист приступает к детальному

6. может быть обнаружено на расстоянии

7. их точность обеспечивает, что полученные данные

2.12 Answer the questions

1. What do a telescope consist of?
2. What does an extensive set of measurements establish?
3. What is the accuracy in modern first-order or geodetic instruments?
4. What is used in the most precise long-distance work?

2.13 Translate from Russian into English

a) теодолит состоит из телескопа

   теодолит состоял из телескопа

   теодолит будет состоять из телескопа

b) сигнальные лампы используются как мишени

   сигнальные лампы использовались как мишени

   сигнальные лампы будут использоваться как мишени

2.14 Translate the text and write the verbs in brackets in the correct forms

Aerial surveying

Aviation and photography have (to revolutionize) detailed mapping of features visible from the air. An aerial photograph (to be) not a map. An important property of vertical aerial photographs (to be) that angles are correctly represented at their centres. Similar distortions (to be) present in photographs of hilly ground. This problem may be (to deal) with in two principal ways.

They are (to depend) on the relative scales of the map and the photographs and on whether contours (to be) required on the map. The old method, adequate for planimetric maps, shows that scales (to be) smaller than the photographs. It was (to use) extensively during and after World War II to map large areas of desert and thinly populated country. Mountainous areas could be (to sketch) in, but the relief was not accurately (to show).

2.15 Translate the expressions

продолжать съемку, измерять угол, указывать границу, осуществлять измерение, обеспечить объяснение, научное определение, похожие треугольники, необходимое распределение, значительное требование

2.16 Translate from Russian into English

Определение высот (Height determination)

Высоты особенностей поверхности над уровнем моря определяются по четырем направлениям: по принципу выравнивания, путем измерения вертикальных углов и расстояний, путем измерения различий в атмосферном давлении, и, начиная с конца 20-го века, с помощью трехмерного спутника или инерциальных систем. Из них первое является наиболее точным направлением. Второе направление является следующим в точности, но быстрее; третье наименее точное, но может быть быстрым, если высоты измеряются с точно установленных точек. Последние два метода требуют сложного оборудования, что по-прежнему очень дорого.

2.17 Translate the thinkways

1. Геодезическая съемка	2. Карта
Точная, крупномасштабная	Топографическая, географическая
Измеряет, определяет, отмечает	Поясняет, указывает, направляет
Знаю, как измерить поверхность Земли	Я представляю поверхность Земли
Сложно!	Важно!

2.18 Translate the text

Hydrography

Surveying of underwater features or hydrographic surveying formerly required techniques very different from ground surveying for two reasons. The surveyor ordinarily was moving instead of stationary, and the surface being mapped could not be seen. The first problem, making it difficult to establish a

framework, except near land or in shoal areas, was dealt with by dead reckoning between points, established by astronomical fixes. In effect a traverse would be run with the ship's bearing measured by compass and distances obtained either by measuring speed and time or by a modern log that directly records distances. These have to be checked frequently, because however accurate the log or airspeed indicator and compass, the track of a ship or aircraft is not the same as its course. Crosscurrents or winds continually drive the craft off course, and those along the course affect the speed and the distance run over the ground beneath.

The only way a hydrographer could chart the seabed before underwater echo sounding and television became available was to cast overboard at intervals a sounding line with a lead weight at the end and measure the length of the line paid out when the weight hit the bottom. The line was marked in fathoms, that is, units of one one-thousandth of a nautical mile, or approximately six feet (1.8 metres).

Sounding by lead line is obviously very slow, especially in deep waters, and the introduction of echo sounding in the early 20th century marked a great improvement. It was made possible by the invention of electronic devices for the measurement of short intervals of time.

2.19 Answer the questions
1.   What required techniques different from ground surveying?
2.   How could a hydrographer chart the seabed before underwater echo sounding and television became available?
3.   What marked a great improvement in the early 20th century?

2.20 Agree or disagree
1. Surveying of underwater features requires techniques very similar to ground surveying.
2. Sounding by lead line is obviously very fast, especially in deep waters.
3. A hydrographer could chart the seabed before underwater echo sounding and television became available using different methods.

Unit 3. Maps

accumulate	накапливать
cartography	картография
diffusion	распространение
depict	изображать
descend	происходить, спускаться
inconsistency	несовместимость
induce	побуждать, склонять
latitude	широта
locality	местоположение
location	расположение
longitude	долгота
map	карта
mapmaking	изготовление карт
margin	граница, поле
negligible	мелкий, незначительный
relief	рельеф
reluctance	нерасположение, магнитное сопротивление
rudimentary	элементарный, недоразвитый
scale	шкала
specification	детализация, подробности
stimulate	поощрять, стимулировать
tend	стремиться, направляться
underestimation	переоценка

3.1 Translate and find the definitions

1. Map	a. the art and science of making maps and charts.
2. Globe	b. provide essential data for the pilot and air navigator.
3. Cartography	c. graphic representation, drawn to scale and usually on a flat surface, of features—for example, geographical, geological, or geopolitical—of an area of the Earth or of any other celestial body.
4. Topographic map	d. graphic representation of natural and man-made features of parts of the Earth's surface plotted to scale.
5. Nautical chart	e. map represented on the surface of a sphere.
6. Aeronautical chart	f. map of coastal and marine areas, providing information for navigation.

3.2 Translate the text

History of cartography

Centuries before the Christian Era, Babylonians drew maps on clay tablets, of which the oldest specimens found so far have been dated about 2300 BC. This is the earliest positive evidence of graphic representations of parts of the Earth; it may be assumed that mapmaking goes back much further and that it began among nonliterate peoples.

The earliest maps must have been based on personal experience and familiarity with local features. They doubtless showed routes to neighbouring tribes, where water and other necessities might be found, and the locations of enemies and other dangers. Nomadic life stimulated such efforts by recording ways to cross deserts and mountains, the relative locations of summer and winter pastures, and dependable springs, wells, and other information.

Markings on cave walls that are associated with paintings by primitive man have been identified by some archaeologists as attempts to show the game trails of

the animals depicted, though there is no general agreement on this. Similarly, networks of lines scratched on certain bone tablets could possibly represent hunting trails, but there is definitely no conclusive evidence that the tablets are indeed maps.

Many nonliterate peoples, however, are skilled in depicting essential features of their localities and travels. During Captain Charles Wilkes's exploration of the South Seas in the 1840s, a friendly islander drew a good sketch of the whole Tuamotu Archipelago on the deck of the captain's bridge. In North America the Pawnee Indians were reputed to have used star charts painted on elk skin to guide them on night marches across the plains. Montezuma is said to have given Cortés a map of the whole Mexican Gulf area painted on cloth, while Pedro de Gamboa reported that the Incas used sketch maps and cut some in stone to show relief features. Many specimens of early Eskimo sketch maps on skin, wood, and bone have been found.

3.3 Find equivalents
1. графические представления частей земли
2. местонахождение врагов и другие опасности
3. знаки на стенах пещеры
4. таблички являются настоящими картами
5. изображение целого архипелага Тиамоту на палубе корабля

3.4 Answer the questions
1. How old have the oldest specimens of maps on clay tablets been dated?
2. What have the earliest maps been based on?
3. What was a map of the whole Mexican Gulf area painted on?
3.5 Translate the text

The Roman period

Although Ptolemy lived and worked at the time of Rome's greatest influence, he was a Greek and essentially a product of that civilization, as was the great

library at Alexandria. His works greatly influenced the development of geography, which he defined in mapmaking terms: "representation in picture of the whole known world, together with the phenomena contained therein." This had considerable influence in directing scholars toward the specifics of map construction and away from the more abstract and philosophical aspects of geography.

One fundamental error that had far-reaching effects was attributed to Ptolemy—an underestimation of the size of the Earth. He showed Europe and Asia as extending over half the globe, instead of the 130 degrees of their true extent. Similarly, the span of the Mediterranean ultimately was proved to be 20 degrees less than Ptolemy's estimate. So lasting was Ptolemy's influence that 13 centuries later Christopher Columbus underestimated the distances to Cathay and India partly from a recapitulation of this basic error.

A fundamental difference between the Greek and Roman philosophies was indicated by their maps. The Romans were less interested in mathematical geography and tended toward more practical needs for military campaigns and provincial administration. They reverted to the older concepts of a disk-shaped world for maps of great areas because they met their needs and were easier to read and understand.

The Roman general Marcus Vipsanius Agrippa, prior to Ptolemy's time, constructed a map of the world based on surveys of the then-extensive system of Roman military roads. References to many other Roman maps have been found, but very few actual specimens survived the Dark Ages. It is quite probable that the Peutinger Table, a parchment scroll showing the roads of the Roman world, was originally based on Agrippa's map and subjected to several revisions through medieval times.

The tragic turn of world events during the first few centuries of the Christian Era wrought havoc to the accumulated knowledge and progress of mankind. As with other fields of science and technology, progress in geography and cartography was abruptly curtailed. After Ptolemy's day there even appears to have been a

retrogression, as exemplified by the Roman trend away from the mathematical approach to mapping.

Great accumulations of documents and maps were destroyed or lost, and the survival of a large part of Ptolemy's work was probably due to its great prestige and popularity. The only other major work on mapping to survive was Strabo's earlier treatise, albeit with some changes from recopying. Few of the maps and related works of the ancient world have come down to us in their original forms. The tendencies to revise and even recapitulate, when copying manuscripts, are readily understood. Doubtless, the factual content was improved more often than not, but a residual confusion remains when the specimen at hand may be either a true copy of an ancient document or a medieval scholar's version of the subject matter.

3.6 Find equivalents

значительно повлияли на развитие географии, недооценка размера Земли, римляне были менее заинтересованы, отвечали требованиям и были легче для чтения и понимания, трагический поворот мировых событий, тенденции сверить и обобщить, версия средневековых ученых

3.7 Answer the questions

1. What did Ptolemy's works influence in?
2. What was difference between the Greek and Roman philosophies?
3. Who constructed a map based on the system of Roman military roads?
4. Why were many documents and maps destroyed or lost?

3.8 Make questions

1. One fundamental error that had far-reaching effects was attributed to Ptolemy. (Whom was…….?)
2. The Peutinger Table, a parchment scroll showing the roads of the Roman world, was originally based on Agrippa's map. (Which…..?)

3.   Few of the maps and related works of the ancient world have come down to us in their original forms. (How many………?)

3.9 Fill in the blanks with necessary prepositions

Revival of Ptolemy

The fall …. Byzantium sent many refugees … Italy, among them scholars who had preserved some … the old Greek manuscripts, including Ptolemy's Geography, …… destruction. The rediscovery …… this great work came …… a fortunate time because the recent development …… a printing industry capable …… handling map reproduction made possible its circulation far beyond the few scholars who otherwise would have enjoyed access …… it. This, together ……. a general reawakening …. scholarship and interest …… exploration, created a golden era …. cartography.

The Geography was translated ……. Latin about 1405. Although it had not been completely lost (the Arabs had preserved portions ….. it), recovery …… the complete work, with maps, greatly stimulated general interest …… cartography. About 500 copies …… the Geography were printed …. Bologna …… 1477, followed ….. other editions printed …… Germany and Italy. The printing process, ….. addition to permitting the wide diffusion ……… geographic knowledge, retained the fidelity ……. the original works. By 1600, 31 Latin or Italian editions had been printed.

3.10 Translate the text

Реформирование картографии, которая развилась в течение 18-го века, характеризовалось научными направлениями и более точными деталями. Монстры, львы и наклонные линии исчезли и были заменены фактическим содержанием. Вскоре декоративные функции были только в орнаменте и в окрестностях границы. Карта содержит всё увеличивающуюся информацию, имеющуюся в наличии, часто с пояснительными примечаниями. Выводы

были основаны на информации, полученной от других карт и отчетов путешественников и исследователей.

Новые картографы были ученые, часто люди высокого ранга и богатые. Для дорогих предприятий, таких как тригонометрическая съемка, для точного определения размеров Земли они субсидируются королем или Французской академией. Аналогичные тенденции развиваются по всей Европе.

Новая картография также основывается на лучших инструментах. Телескоп играет важную роль в повышении качества астрономических наблюдений. Изобретение хронометра сделали вычисления долготы гораздо менее трудоемким, чем прежде. Гораздо больше информации появилось на картах и схемах об островах и прибрежных особенностях.

3.11 Translate the text and make questions to each sentence

International Map of the World (IMW)

1. The International Geographical Congress in 1891 proposed that the participating countries collaborate in the production of a 1:1,000,000-scale map of the world.	Did………? What did………?
2. Specifications and format were soon established, but production was slow in the earlier years since it was first necessary to complete basic surveys for the required data, and during and after World War II there was little interest in pursuing the project.	Why was………? When was…….?
3. The intention to complete the series was reestablished, however, and many countries have returned to the task.	What have……to? Was………….?
4. By the mid-1980s the project was nearing completion.	When was……..?

3.12 Translate the text

Mapmaking elements

Map design is a twofold process: (1) the determination of user requirements, with attendant decisions as to map content and detail, and (2) the arrangement of content, involving publication scale, standards of treatment, symbolizations, colours, style, and other factors. To some extent user requirements obviously affect standards of treatment, such as publication scale. Otherwise, the latter elements are largely determined on the basis of efficiency, legibility, aesthetic considerations, and traditional practices.

In earlier productions by individual cartographers or small groups, personal judgments determined the nature of the end product, usually with due respect for conventional standards. Map design for large programs, such as the various national map series of today, is quite formal by comparison. In most countries, the requirements of official as well as private users are carefully studied, in conjunction with costs and related factors, when considering possible changes or additions to the current standards.

Requirements of military agencies often have a decisive influence on map design, since it is desirable to avoid the expense of maintaining both civil and military editions of maps. International organizations and committees are additional factors in determining map design. The fact that development of changes in design and content of national map series may become rather involved induces some reluctance to change, as does the fact that map stocks are usually printed in quantities intended to last for 10 or more years. Also, frequent changes in treatments result in extensive overhauls at reprint time, with consequent inconsistencies among the standing editions.

3.13 Find equivalents

традиционный стандарт, последующие несовместимости, дополнительные просмотры, требования пользователя, рассматривая возможные изменения, вызывает нежелание к изменению

3. 14 Match terms with definitions

1. symbolization	a. is used to mark names and culture, or works of man;
2. contour	b. the graphic language of maps and charts;
3. legend	c. explain the less obvious symbols;
4. blue symbols	d. is used to mark vegetation classifications;
5. green symbols	e. is used to mark water features, or hydrography;
6. brown symbols	f. the most common and satisfactory means of showing relief, are lines that connect points of equal elevation;
7. red symbols	g. is used to mark road classes and special information;
8. black symbols	h. is used to mark relief.

Additional Texts

Maps and geography in the ancient world

The earliest specimens thus far discovered that are indisputably portrayals of land features are the Babylonian tablets previously mentioned; certain land drawings found in Egypt and paintings discovered in early tombs are nearly as old. It is quite probable that these two civilizations developed their mapping skills more or less concurrently and in similar directions. Both were vitally concerned with the fertile areas of their river valleys and therefore doubtless made surveys and plats soon after settled communities were established. Later they made plats for the construction of canals, roads, and temples—the equivalent of today's engineering plans.

A tablet unearthed in Iraq shows the Earth as a disk surrounded by water with Babylon as its centre. Aside from this specimen, dating from about 1000 BC, there appear to have been rather few attempts by Babylonians and Egyptians to show the form and extent of the Earth as a whole. Their mapmaking was preoccupied with more practical needs, such as the establishment of boundaries. Not until the time of the Greek philosopher-geographers did speculations and conclusions as to the nature of the Earth begin to take form.

Greek maps and geography

The Greeks were outstanding among peoples of the ancient world for their pursuit and development of geographic knowledge. The shortage of arable land in their own region led to maritime exploration and the development of commerce and colonies. By 600 BC Miletus, on the Aegean, had become a centre of geographic knowledge, as well as of cosmographic speculation.

Hecataeus, a scholar of Miletus, probably produced the first book on geography in about 500 BC. A generation later Herodotus, from more extensive studies and wider travels, expanded upon it. A historian with geographic leanings, Herodotus recorded, among other things, an early circumnavigation of the African continent by Phoenicians. He also improved on the delineation of the shape and extent of the then-known regions of the world, and he declared the Caspian to be an inland sea, opposing the prevailing view that it was part of the "northern oceans".

Although Hecataeus regarded the Earth as a flat disk surrounded by ocean, Herodotus and his followers questioned the concept and proposed a number of other possible forms. Indeed, the philosophers and scholars of the time appear to have been preoccupied for a number of years with discussions on the nature and extent of the world. Some modern scholars attribute the first hypothesis of a spherical Earth to Pythagoras (6th century BC) or Parmenides (5th century). The idea gradually developed into a consensus over many years. In any case by the mid-4th century the theory of a spherical Earth was well accepted among Greek scholars, and about 350 BC Aristotle formulated six arguments to prove that the Earth was, in truth, a sphere. From that time forward, the idea of a spherical Earth was generally accepted among geographers and other men of science.

About 300 BC Dicaearchus, a disciple of Aristotle, placed an orientation line on the world map, running east and west through Gibraltar and Rhodes. Eratosthenes, Marinus of Tyre, and Ptolemy successively developed the reference-line principle until a reasonably comprehensive system of parallels and meridians, as well as methods of projecting them, had been achieved.

The greatest figure of the ancient world in the advancement of geography and cartography was Claudius Ptolemaeus (Ptolemy; AD 90–168). An astronomer and mathematician, he spent many years studying at the library in Alexandria, the greatest repository of scientific knowledge at that time. His monumental work, the Guide to Geography (Geōgraphikē hyphēgēsis), was produced in eight volumes. The first volume discussed basic principles and dealt with map projection and globe construction. The next six volumes carried a list of the names of some 8,000 places and their approximate latitudes and longitudes. Except for a few that were made by observations, the greater number of these locations were determined from older maps, with approximations of distances and directions taken from travelers. They were accurate enough to show relative locations on the very small-scale, rudimentary maps that existed.

The eighth volume was a most important contribution, containing instructions for preparing maps of the world and discussions on mathematical geography and other fundamental principles of cartography. Ptolemy's map of the world as it was then known marked the culmination of Greek cartography as well as a compendium of accumulated knowledge of the Earth's features at that time.

<center>The Middle Ages</center>

Progress in cartography during the early Middle Ages was slight. The medieval mapmaker seems to have been dominated by the church, reflecting in his work the ecclesiastical dogmas and interpretations of Scripture. In fact, during the 6th century Constantine of Antioch created a "Christian topography" depicting the Earth as a flat disk. Thus the Roman map of the world, along with other concepts, continued as authoritative for many centuries. A contemporary Chinese map shows that country occupying most of the world, while the Roman Empire dominates most other maps produced during early Christian times.

Later medieval mapmakers were clearly aware of the Earth's sphericity, but for the most part, maps remained small and schematic, as exemplified by the T and O renderings, so named from the stylized T-form of the major water bodies

separating the continents and the O as the circumfluent ocean surrounding the world. The orientation with east at the top of the map was often used, as the word (orientation) suggests.

The earliest navigators coasted from headland to headland; they did not require charts until adoption of the magnetic compass made it possible to proceed directly from one port to another. The earliest record of the magnetic compass in Europe (1187) is followed within a century by the earliest record of a sea chart. This was shown to Louis IX, king of France, on the occasion of his participation in the Eighth Crusade in 1270. The earliest surviving chart dates from within a few years of this event. Found in Pisa and known as the Carta Pisana, it is now in the Bibliothèque Nationale, Paris. Thought to have been made about 1275, it is hand drawn on a sheepskin and depicts the entire Mediterranean Sea. Such charts, often known as portolans named for the portolano or pilot book, listing sailing courses, ports, and anchorages, were much in demand for the increasing trade and shipping. Genoa, Pisa, Venice, Majorca, and Barcelona, among others, cooperated in providing information garnered from their pilots and captains. From repeated revisions, and new surveys by compass, the portolan charts eventually surpassed all preceding maps in accuracy and reliability. The first portolans were hand drawn and very expensive. They were based entirely on magnetic directions and map projections that assumed a degree of longitude equal to a degree of latitude. The assumption did little harm in the Mediterranean but caused serious distortions in maps of higher latitudes. Development of line engraving and the availability, in the 16th century, of large sheets of smooth-surfaced paper facilitated mass production of charts, which soon replaced the manuscript portolans.

Many specimens of portolan charts have survived. Though primarily of areas of the Mediterranean and Black Sea, some covered the Atlantic as far as Ireland, and others the western coast of Africa. Their most striking feature is the system of compass roses, showing directions from various points, and lines showing shortest navigational routes.

Another phenomenon of the late Middle Ages was the great enthusiasm generated by the travels of Marco Polo in the 1270s and 1280s. New information about faraway places and the stimulation of interest in world maps promoted their sale and circulation. Marco Polo's experiences also kindled the desire for travel and exploration in others and were, perhaps, a harbinger of the great age of discovery and exploration.

During Europe's Dark Ages Islamic and Chinese cartography made progress. The Arabs translated Ptolemy's treatises and carried on his tradition. Two Islāmic scholars deserve special note. Ibn Haukal wrote a Book of Ways and Provinces illustrated with maps, and al-Idrīsī constructed a world map in 1154 for the Christian king Roger of Sicily, showing better information on Asian areas than had been available theretofore. In Baghdad astronomers used the compass long before Europeans, studied the obliquity of the ecliptic, and measured a part of the Earth's meridian. Their sexagesimal (based on 60) system has dominated cartography since, in the concept of a 360-degree circle.

Mapmaking, like so many other aspects of art and science, developed independently in China. The oldest known Chinese map is dated about 1137. Most of the area that is now included in China had been mapped in crude form before the arrival of the Europeans. The Jesuit missionaries of the 16th century found enough information to prepare an atlas, and Chinese maps thereafter were influenced by the West.

Maps of the discoveries

Progress in other technologies such as navigation, ship design and construction, instruments for observation and astronomy, and general use of the compass tended continuously to improve existing map information, as well as to encourage further exploration and discovery. Accordingly, geographic knowledge was profoundly increased during the 15th and 16th centuries. The great discoveries of Columbus, da Gama, Vespucci, Cabot, Magellan, and others gradually transformed the world maps of those days. "Modern" maps were added to later

editions of Ptolemy. The earliest was a map of northern Europe drawn at Rome in 1427 by Claudius Claussön Swart, a Danish geographer. Cardinal Nicholas Krebs drew the first modern map of Germany, engraved in 1491. Martin Waldseemüller of St. Dié prepared an edition with more than 20 modern maps in 1513. Maps showing new discoveries and information were at last transcending the classical treatises of Ptolemy.

The most important aspect of postmedieval maps was their increasing accuracy, made possible by continuing exploration. Another significant characteristic was a trend toward artistic and colourful rendition, for the maps still had many open areas in which the artist could indulge his imagination. The cartouche, or title block, became more and more elaborate, amounting to a small work of art. Many of the map editions of this age have become collector's items. The first map printings were made from woodcuts. Later they were engraved on copper, a process that made it possible to reproduce much finer lines. The finished plates were inked and wiped, leaving ink in the cut lines. Dampened paper was then pressed on the plate and into the engraved line work, resulting in very fine impressions. The process remained the basis of fine map reproduction until the comparatively recent advent of photolithography.

The Cosmographiae, textbooks of geography, astronomy, history, and natural sciences, all illustrated with maps and figures, first appeared in the 16th century. One of the earliest and best known was that of Petrus Apianus in 1524, the popularity of which extended to 15 more editions. That of Sebastian Münster, published in 1544, was larger and remained authoritative and in demand until the end of the century, reflecting the general eagerness of the times for learning, especially geography.

The foremost cartographer of the age of discovery was Gerhard Kremer, known as Gerardus Mercator, of Flanders. Well educated and a student of Gemma Frisius of Louvain, a noted cosmographer, he became a maker of globes and maps. His map of Europe, published in 1554, and his development of the projection that

bears his name made him famous. The Mercator projection solved an age-old problem of navigators, enabling them to plot bearings as straight lines.

Other well-known and productive cartographers of the Dutch-Flemish school are Abraham Ortelius of Antwerp, who prepared the first modern world atlas in 1570, and Jadocus Hondius. Early Dutch maps were among the best for artistic expression, composition, and rendering. Juan de la Cosa, the owner of Columbus' flagship, Santa María, in 1500 produced a map recording Columbus' discoveries, the landfall of Cabral in Brazil, Cabot's voyage to Canada, and da Gama's route to India. The first map showing North and South America clearly separated from Asia was produced in 1507 by Martin Waldseemüller. An immense map, 4 $\frac{1}{2}$ by 8 feet (1.4 by 2.4 metres), printed in 12 sheets, it is probably the first map on which the name America appeared, indicating that Waldseemüller was impressed by the account written by the Florentine navigator Amerigo Vespucci.

In 1529 Diego Ribero, cosmographer to the king of Spain, made a new chart of the world on which the vast extent of the Pacific was first shown. Survivors of Magellan's circumnavigation of the world had arrived in Sevilla (Seville) in 1522, giving Ribero much new information.

The first known terrestrial globe that has survived was made by Martin Behaim at Nürnberg in 1492. Many others were made throughout the 16th century. The principal centres of cartographic activity were Spain, Portugal, Italy, the Rhineland, the Netherlands, and Switzerland. England and France, with their growing maritime and colonial power, were soon to become primary map and chart centres. Capt. John Smith's maps of Virginia and New England, the first to come from the English colonies, were published in London in 1612.

Map scales and classifications

Map scale refers to the size of the representation on the map as compared to the size of the object on the ground. The scale generally used in architectural drawings, for example, is $\frac{1}{4}$ inch to one foot, which means that $\frac{1}{4}$ of an inch on the drawing equals one foot on the building being drawn. The scales of models of

buildings, railroads, and other objects may be one inch to several feet. Maps cover more extensive areas, and it is usually convenient to express the scale by a representative fraction or proportion, as 1/63,360, 1:63,360, or "one-inch-to-one-mile." The scale of a map is smaller than that of another map when its scale denominator is larger: thus, 1:1,000,000 is a smaller scale than 1:100,000. Most maps carry linear, or bar, scales in one or more margins or in the title blocks.

Nautical charts are constructed on widely different scales and can be generally classified as follows: ocean sailing charts are small-scale charts, 1:5,000,000 or smaller, used for planning long voyages or marking the daily progress of a ship. Sailing charts, used for offshore navigation, show a generalized shoreline, only offshore soundings, and are at a scale between 1:600,000 and 1:5,000,000. As an illustration of chart use, a 10-knot ship covers about 29 inches (74 centimetres) at 1:600,000 scale in a day.

General charts are used for coastwise navigation outside outlying reefs and shoals and are at a scale between 1:100,000 and 1:600,000. Coast charts are intended for use in leaving and entering port or navigating inside outlying reefs or shoals and are at a scale between 1:50,000 and 1:100,000. Harbour charts are for use in harbours and small waterways, with a scale usually larger than 1:50,000.

In rare instances reference may be made to the areal scale of a map, as opposed to the more common linear scale. In such cases the denominator of the fractional reference would be the square of the denominator of the linear scale.

The linear scale may vary within a single map, particularly if the scale is small. Variations in the scale of a map because of the sphericity of the surface it represents may, for practical purposes, be considered as nil. On maps of very large scale, such as 1:24,000, such distortions are negligible (considerably less than variations in the paper from fluctuations of humidity). Precise measurements for engineering purposes are usually restricted to maps of that scale or larger. As maps descend in scale, and distortions inherent to their projection of the spherical surface increase, less accurate measurements of distances may be expected.

Types of maps and charts available

Although the range of maps and charts now is available in many countries it is so extensive that a complete listing is impractical. Any list of the principal types would have to include aeronautical (worldwide and national), congressional or political districts, population distribution, geologic (various scales), highways (national and secondary political units), historical, hydrographic (coastal areas, inland waters, foreign waters), national forests, forest types, public land survey plats, soil, and topographic (national and foreign).

The situation is less complex in other countries where mapping activities are concentrated in one or two organizations—e.g., Ordnance Survey in Great Britain and Institut Géographique National in France. The main agencies can advise where maps produced by others may be obtained. Technical societies maintain large map reference libraries and are prime sources of information, as are the map sections of national libraries and museums.

GRAMMAR REFERENCE

Степени сравнения прилагательных

	Положительная	Сравнительная	Превосходная
I	long easy	longer easier	(the) longest (the) easiest
п	interesting	more interesting	(the) most interesting
ш	good bad much, many little	better worse more less	(the) best (the) worst (the) most (the) least

Сводная таблица модальных глаголов и их эквивалентов

	Present	Past	Future
Долженствование	I must meet him. I have to meet him. I am to meet him. I **should** meet him.	I **had** to meet him. I **was** to meet him.	I **shall have to** meet him. I'll be to meet him.
Способность или возможность совершения действия	He **can** help you. He is able to help you.	He **could** help you. He was able to help you.	He **will be able to** help you.
Разрешение или возможность (вероятность)	I may use this device. I am allowed to use the device.	I might use this device I was allowed to use the device.	I **shall be allowed to** use the device.

Таблица времен группы Simple Active

Форма	Present Simple	Past Simple	Future Simple
Утвердительная	My friends study French. He speak**s** English.	My friends studi**ed** French at school. He **spoke** English at the conference.	My friends **will study** French at the Institute. The teacher **will speak** about our English exam.

Вопросител ьная	**Do** your friends study French? **Does** he speak English?	**Did** your friends study French at school? **Did** he speak English at the conference?	**Will** your friends study French at the Institute? **Will** the teacher speak about our English exam?
Отрицатель ная	My friends **don't** study French. He **doesn't** speak English.	My friends **did not** study French. He **didn't** speak English at the conference.	My friends **won't study** French at the Institute. The teacher **won't speak** about our English exam.

Таблица времен группы Progressive Active

Форма	Present Progressive	Past Progressive	Future Progressive
Утвердит ельная	They **are having** an English class. He **is** still **writing** an exercise.	They **were having** an English class when I came to see them. He **was writing** an exercise from 6 till 8 o'clock.	They **will be having** an English class tomorrow at 9 o'clock. He **will be writing** an exercise from 6 till 8 o'clock tomorrow.
Вопросит ельная	**Are** they **having** an English class? **Is** he still **writing** an exercise?	**Were** they **having** an English class when I came to see them? **Was he writing** an exercise from 6 till 8 o'clock.	**Will** they **be having** an English class tomorrow at 9 o'clock? **Will he be writing** an exercise from 6 till 8 o'clock tomorrow?

Отрицательная	They **aren't having** an English class, they are having a Russian class. He **isn't writing** an exercise, he is reading a book.	They **weren't having** an English class when 1 came to see them, they were having a Russian **class.** **He wasn't writing** an exercise from 6 till 8 o'clock, he was reading a book.	They **will not be having** an English class tomorrow at 9 o'clock, they will be having a Russian class. He **won't be writing** an exercise from 6 till 8 o'clock tomorrow, he'll be reading a book.

Таблица времен Simple, Progressive, Perfect in Passive Voice

	Simple to be + Participle II	Progressive to be + being + Participle II	Perfect to have + been + Participle II
Present	The letter is translated Is the letter translated? The letter isn't translated	The letter is being translated Is the letter being translated? The letter isn't being translated	The letter has been translated Has the letter been translated? The letter hasn't been translated.
Past	The letter was translated Was the letter translated? The letter wasn't translated.	The letter was being translated Was the letter being translated? The letter wasn't being translated	The letter had been translated Had the letter been translated? The letter hadn't been translated?
Future	The letter will be translated Will the letter be translated? The letter won't be translated	Не употребляются.	The letter will have been Will the letter have been translated? The letter won't have been translated.

Таблица времен группы Perfect Active

Форма	Present Perfect	Past Perfect	Future Perfect
Утвердительная	I **have sent** the letter.	I **had** already **sent** the letter by 6 o'clock yesterday.	I **shall have sent** the letter by tomorrow evening.
Вопросительная	**Have** you **sent** the letter?	**Had** you **sent** the letter by 6 o'clock yesterday?	**Will** you **have sent** the letter by tomorrow evening?
Отрицательная	I **have not sent** the letter yet.	I **had not sent** the letter by 6 o'clock yesterday.	I **shall not have sent** the letter by tomorrow evening.

Infinitive	*Past*	*Participle II*	*Translation*
arise	arose	arisen	возникать
awake	awoke	awaked	будить, проснуться
be	was, were	been	быть
bear	bore	born	родить
beat	beat	beaten	бить
become	became	become	стать
begin	began	begun	начать
bend	bent	bent	согнуться
bind	bound	bound	связать
bite	bit	bitten	кусать
blow	blew	blown	дуть
break	broke	broken	ломать
bring	brought	brought	приносить
build	built	built	строить
burst	burst	burst	разразиться, взорваться
buy	bought	bought	покупать
catch	caught	caught	ловить
choose	chose	chosen	выбирать
cut	cut	cut	резать
deal	dealt	dealt	иметь дело
dream	dreamt	dreamt	мечтать
do	did	done	делать
draw	drew	drawn	рисовать
drink	drank	drunk	пить
drive	drove	driven	ехать
eat	ate	eaten	есть, кушать
fall	fell	fallen	падать
feed	fed	fed	кормить
fight	fought	fought	сражаться
find	found	found	находить
fly	flew	flown	летать
forbid	forbade	- forbidden	запретить
forget	forgot	forgotten	забыть
forgive	forgave	forgiven	прощать
freeze	froze	frozen	замёрзнуть
get	got	got	получить
give	gave	given	дать
go	went	gone	идти
grow	grew	grown	расти
hang	hung	hung	висеть, повесить
have	had	had	иметь
hear	heard	heard	слушать
hit	hit	hit	ударить
hold[1]	held	held	держать
hurt	hurt	hurt	причинять боль
know	knew	known	знать
keep	kept	kept	держать
lay	laid	laid	положить
lead	laid	laid	вести
leap	leapt/leaped	leapt/leaped	прыгать

leave	left	left	оставлять
lend	lent	lent	одолжить
let	let	let	пустить, дать
lie	lay	lain	лежать
lose	lost	lost	терять
make	made	made	делать
meet	met	met	встречать
pay	paid	paid	платить
put	put	put	класть
read	read	read	читать
ride	rode	ridden	ездить верхом
ring	rang	rung	звонить
rise	rose	risen	поднимать
run	ran	run	бежать
say	said	said	сказать
see	saw	seen	видеть
sell	sold	sold	продавать
send	sent	sent	послать
set	set	set	устанавливать
shake	shook	shaken	трясти
shine	shone	shone	светить, сиять
shoot	shot	shot	стрелять, давать побеги
show	showed	shown/showed	показывать
sing	sang	sung	петь
sink	sank	sunk	опускаться
sit	sat	sat	сидеть
sleep	slept	slept	спать
slide	slid	slid	скользить
speak	spoke	spoken	говорить
spend	spent	spent	тратить
steal	stole	stolen	украсть
stick	stuck	stuck	втолкнуть, приклеить
strike	struck	struck/stricken	ударять, бастовать
swear	swore	sworn	клясться
swim	swam	swum	плавать
take	took	taken	брать
teach	taught	taught	учить
tell	told	told	говорить
think	thought	thought	думать
throw	threw	thrown	бросить
wake	woke	woken	просыпаться, будить
wear	wore	worn	носить
weep	wept	wept	плакать
win	won	won	выигрывать
wind	wound	wound	заводить
write	wrote	written	писать

Литература

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