Національний університет біоресурсів і природокористування України
Кафедра англійської мови
для технічних та агробіологічних спеціальностей

К. Г. Якушко

ENGLISH FOR BACHELORS IN LAND MANAGEMENT

навчально-методичний посібник

LM

Київ-2023

УДК 811.111:332.3: 528 (072)

English for bachelors in land management (Англійська мова для землевпорядників ОС «Бакалавр») : навч.-метод. посіб./укл.Якушко К.Г. Київ: Експодрук, 2023.160 с.

Укладач: ЯКУШКО КАТЕРИНА ГРИГОРІВНА

Пропонується опрацювання фахових тем майбутнім землевпорядником із проекцією на закріплення спеціалізованих лексичних, граматичних одиниць та висловів розмовного мовлення у творчих вправах та тестових завданнях з актуалізацією власного досвіду студента та ознайомлення з основами наукової роботи.
(Затверджено Протоколом Вченої ради гуманітарно-педагогічного факультету Національного університету біоресурсів і природокористування України від 17. 11.2023 р.)

Рецензенти:

Шевченко О.В., к. екон. н., доцент, заступник декана факультету землевпорядкування Національного університету біоресурсів і природокористування України

Тхоржевська Т.Д., д. пед.н., професор кафедри психології і педагогічки Київського національного університету

INTRODUCTION

Dear freshmen in land management! Welcome to the professional English course studying. We hope this manual will be in need to develop your everyday and specialized foreign language speech working individually, in pairs as well as in subgroups.

1) Every work must be sent either into e-learn course or to be defended while oral conversation with your scholar.

2) Every semester includes two modules.

3) Every module includes two units.

4) Every module includes one practical work, one main individual task, one additional individual task and one module test to be generally evaluated in 35 points as the highest mark.

5) Every practical work contains five exercises to be evaluated in 1 point as the highest mark for every exercise to get 5 points for all exersises within one work.

6) Every individual task contains five exercises to be evaluated in 1 point as the highest mark for every exercise to get 5 points for all exersises within one work.

7) Every e-learn module and classroom paper test are evaluated together in 5 points as the highest mark.

8) There is also a wide range of correctional exercises in the appendix to improve mark in need.

Please mark your results in the previous self- evaluation table before the conversation with scholar to specify your achievement result.

Module 1 Unit 1 «The Faculty of Land Management. Land»				
The title of work	The date of copy-book notes completeng and e-learn being sent	The favourite exercises	The number of the fulfilled and adopted exercises	My previous self-evaluation mark
1	2	3	4	5
Practical work 1				

1	2	3	4	5
Main individual task 1				
Additional individual task 1				
Module 1 Unit 2 «Math for a Land Manager‟s Work»				
Practical work 2				
Main individual task 2				
Additional individual task 2				
Module 1 e-learn and classroom paper test 1				
Module 2 Unit 3 «Land Law»				
Practical work 3				
Main individual task 3				
Additional individual task 3				
Module 2 Unit 4 «Land Cadaster»				
Practical work 4				
Main individual task 4				
Additional individual task 4				
Module 2 e-learn and classroom paper test 2				
SEMESTER1 result prediction				
Module 3 Unit 5 «Soils»				
Practical work 5				
Main individual task 4				

1	2	3	4	5
Additional individual task 4				
Module 3 Unit 6 «Cartography»				
Practical work 6				
Main Individual task 6				
Additional individual task 6				
Module 3 e-learn and classroom paper test 2				
Module 4 Unit 7 «Geodesy»				
Practical work 7				
Main individual task 7				
Additional individual task 7				
Module 4 Unit 8 «GIS»				
Practical work 8				
Main Individual task 8				
Additional individual task 8				
Module 4 e-learn and classroom paper test 4				
SEMESTER1 result prediction				

MODULE 1

UNIT1

THE FACULTY OF LAND MANAGEMENT. LAND

Keywords1:

A activity – діяльність; area– площа(територія); aerial shooting– аерокосмічна зйомка; Aerospace Research of the Earth– аерокосмічне дослідження Землі, besides – окрім того; boundaries – межі; branch of agriculture – галузь сільського господарства, to carry out – впроваджувати; to cooperate with – співпрацювати з; crop rotation– сівозміна,to deal with – пов‟язуватися з; depth – заглиблення; department – відділення (кафедра); devoted – присвячений; distribution – розподіл; drawing up – розробка у кресленнях (макетах)

E ecological network state – стан екологічної мережі; environmental economics – економіка довкілля; estate– маєток; etc–тощо; evaluation– оцінювання

F freshmen- першокурсники; full-time–стаціонар-денна форма навчання, following – наступний; foreign– іноземний

G GIS – ГІС (геоінформаційна система); governmental – урядовий

I. important – важливий; in general – взагалі (у цілому)

L land administration – землеустрій; land cadastre (cadaster)– земельний кадастр; land estimation– оцінка земельних угідь; land law – земельне право; land manager – землевпорядник; Land Management Faculty – факультет землевпорядкування; land measurements – розрахунки, пов‟язані з земельними питаннями; land natural resources – земельні природні ресурси; landowner – землевласник; land parcel – земельна ділянка; land planner – фахівець з землеустрою; land plots – земельні угіддя; land relations – земельні відносини; land tax – земельний податок ; land use – землекористування; land user – землекористувач; leased – орендований; like – подібно до (на кшталт)

M maps – карти; mapping – укладання карт=картографія

N National University of Life and Environmental Sciences of Ukraine – Національний університет біоресурсів і природокористування України;

number– низка *або* число

P pedology- ґрунтознавство, pleasure – задоволення; protection– захист; provided– забезпечений

S; state– державний; surveyor – геодезист

T taking into account – беручи до уваги; training– підготовка; too– також; treasure – скарб; thus – таким чином

V value – величина (значення)

W width – ширина; while geodetic objects inventory– під час інвентаризації геодезичних об‟єктів;

Text 1:

Best wishes and congratulations to you – our future successful skilled land managers-surveyors-land planners as our dear full-time bachelor‟s degree program freshmen to have entered the Faculty of Land Management within the National University of Life and Environmental Sciences of Ukraine (NULES of Ukraine)!

A land manager deals with land law, land use, geodesy, land cadaster, pedology, topography, mapping. GIS as well as land administration, land measurements like land parcel boundaries, land planning environmental economics for all land parcels and land plots. Landowners and land users need him as land manager, surveyor or land planner for land-use planning or surveying works taking into account ecological network state.

In general, land management is the branch of agriculture dealing with land reforms as well as with cadaster and distribution of land natural resources because land is a treasure of our society. What‟s a pleasure to deal with it. Planning crop rotation is one of the main tasks for both agronomists and land managers.

Land Management is a universal specialty dealing engineering, economy, chemistry, agriculture, geography automation etc. Professional training at our Land Management Faculty being guided by Taras O. Yevsiukov within the National University of Life and Environmental Sciences of Ukraine is provided by 5 following special departments: a) Management of Land Resources; b) Land

Cadaster; c) Land Use Planning; d) Geodesy and Cartography; e) Geoinformatics and Aerospace Research of the Earth. Their activity is devoted to land relations, land management, land planning and development projects and the state of land cadaster, planning environmental protection, monitoring and governmental control of rational land use, protection of land etc. Thus, the future land managers study on 5 following programs: a) land management and cadaster; b) land conservation; c) evaluation of land and real estate; d) geodetic-cartographic technologies in land management; e) GIS in land management.

All subjects studied at the University are very important. Land-survey studies land estimation; land law and geology deal with the structure of the land. The experts in geodesy and cartography will carry out aerial shootings of the earth and make maps. Geoinformation system will help to make the programs for drawing up of maps and estimations.

Our students have practice in subdivisions of the State Committee for Land Resources of Ukraine, the central and regional research and project institutes of Land Management, State Land Cadastre Centre, Institute of Agricultural Surveys, etc. The faculty cooperates with land management foreign institutions like Italy, USA, Germany etc too.

Questions 1:

1)What university and faculty do you study at?

2) What kind of student are you?

3) What are the spheres of land manager‟s activities?

4) What are the main specialized departments within the Faculty of Land Management?

5) What are the main programs to train land managers?

6) How may the specialized subjects be in need for future land managers?

7) What are the main institution to be the basis of practice?

8) Do our students do abroad for scientific and business trips?

Grammar 1: Pronouns

Conversational phrases 1: Congratulation, wishes

Congratulations and wishes	It‟s your group-mates -freshmen from the Faculty of Land Management It‟s your colleague from Ukraine! Congratulations! Be healthy, wealthy and strong ! What‟s a pleasure to deal with you! Your are unique, you are our treasure. The best wishes of joy, happiness, business success and flourishing

Practical work 1:

Ex.1.1 P. Represent notes and be ready to retell additional grammar material about all kinds pronouns to conclude 10 sentences combining grammar phenomena with this unit words

Ex 1.2. P.

Ex 1.2.1 P. Mark number of correct variant and propose your own ones with this units key words application:

A) I can do …work ….

1 my, myself 2 him, alone 3 other, another 4 my, me

B) Ask… about …problems

1 her, them 2 them, their 3 she, her 4 her, she‟s

D) She can do …work ….»

1 she‟s, sheself 2 her, herselves 3 her , sheself 4 her , herself

E) She has theodolite and level . And what is the title of … device?

1 their 2 her 3 hers 4 she‟s

F) Have you.... details to mount leveler?

1 any 2 some 3 much 4 not

J) The models of geodetic observing are good. What is the name of …owner?

1 your 2 his 3 my 4 their

K) A surveyour‟s wife is crying. She has cut …

1 she 2 her 3 herself 4 she‟s 5 hers

H) Ask...

1 him 2 it's 3 his 4 me

I) Is it your altimeter? – Yes, it is … altimeter

1 your 2 his 3 my 4 her

G) I like … tripod, dear land manager

1 your 2 his 3 my

Ex.1.2.2 P.. Connect the columns and add the missed one or fill the gaps within text abstracts:

A)

1 this scholar	A цей викладач
2 ?	B ці викладачі
3 these scholars	C той викладач
4 those scholars	D ті викладачі

B)

1 I	A ?
2 he	B our
3 we	C her
4 they	D his
5 she	E my

C)

1 хтось	A something
2 щось	B sometimes
3 десь	C ?
4 інколи	D somebody
5 декілька (певні)	E some

D)

A land manager d_____s with land l_____, land use, geodesy, land cadastre, p_____, topography, mapping .GIS as well as land administration, land measurements like land parcel b_____, land planning e_____economics for all land parcels and land p_____. Landowners and

land users need him as land manager, s_____ or land planner for _____ works taking into account ecological network state. In general, land management is the branch of a_____dealing with land reforms as well as cadastre and d_____ of land natural resources. Planning c_____is one of the main tasks for both agronomists and land m_____s.

E)

L_____ Management is a universal specialty dealing engineering, economy, c_____, agriculture, geography, a_____etc. Professional training at our Land Management Faculty being guided by Taras O. Y_____ within the National University of Life and Environmental S_____of Ukraine is provided by 5 f_____special departments: a) Management of Land R_____; b) Land Cadastre; c) Land Use Planning; d) Geodesy and C_____; e) Geoinformatics and A_____ Research of the Earth. Their activity is devoted to land relations, land management, land planning and development p_____ and the state of land cadastre, planning environmental p_____, monitoring and g_____ control of rational land use, protection of land , e_____.

F) . Thus, the future land managers study on 5 following programs: a) land management and c_____; b) land c_____; c) evaluation of land and real e_____; d) geodesic-cartographic t_____ in land management; e) G_____in land management.All subjects studied at the University are very important. Land-survey studies land e_____n; land law and geology deal with the s_____ of the land. The experts in geodesy and cartography will carry out aerial s_____of the earth and make maps. Geoinformation s_____will help to make the programs for d_____up of maps and estimations.Our students have practice in subdivisions of the State Committee for Land Resources of Ukraine, the c_____ and regional research and project institutes of Land Management, State Land Cadastre Centre, Institute of A_____

Surveys, etc. The faculty cooperates with land management foreign institutions like I_____, USA, Germany etc too.

Ex.1.2.3 P.. Fill the gaps with pronouns:

A)… geodetic instruments were important for….

B) Measure… ….».

C)…can observe landscape changes with… theodolite**.**

D)…knows about level…..

E) Send…. …. compass**.**

F)…geodetic instruments are the best for….

G) Write the article about ….

H) theodolite is necessary for….

I) can bring the rail….

J)… instruments were brought for….

K) …can do all measurements ….

L)….geodetic instruments are the newest among…

M)… accuracy may be reached by…

N) the pronoun «we» may be transformed into such pronouns as «…..,…,…,».

and the pronoun «he» may be transformed into such pronouns as «…..,…,…,»

O) the pronoun «she» may be transformed into such pronouns as «…..,…,…,».

and the pronoun «you» may be transformed into such pronouns as «…..,…,…,».

P) the pronoun «they» may be transformed into such pronouns as «…..,…,…,».

and the pronoun «I» may be transformed into such pronouns as «…..,…,…,».

Q) Tell… about… survey. can fix the level …».

R) Read… about … theodolite.

S)… are observing landscape changes in three dimensional representations due to … digital map.

T) Read… about… mapping.

U)… can answer the question about…. geodetic instruments».

Ex.1.3. P. Answer all unit 1 questions orally and note two answers in written form mentioning the first and the second questions for the first subgroup, the third and the fourth questions for the second subgroup as well as the fifth and the sixth questions for the third subgroup and the seventh and the eighth ones for the fourth subgroup.

Ex 1.4 P.. Specify the meaning of «land», «ground», «to land», «landed», «landing», «grounding», «earthing», «earth», «soil», «the Earth», «to lend», «lent» in all possible variants as the competition between the subgroups to propose the most of the phrases to express wishes ,congratulations and word combinations or synonyms to «land» to be included into your subgroup's 10 favourite words crossword.

Ex.1.5 P. Read, translate as well as compose and represent your own additional version using this unit conversational phrases, land manager'd term and grammar:

DIALOGUE SAMPLE 1 «LAND MANAGER'S STUDYING»

-Hello, Nazar . Are you future land manager?

- Yes, I am. Can I help you?

- Yes, you can. What are the main subjects to study at Land Management Faculty?

- They are Land Law, Land Cadastre, Physics, Math, Soil studying etc.

-What are your favorite words according to topic« Land Manager»?

- I liked such terms as «aerial shootings», «planning surveying works» and «samples probing».

-What do they mean?

- For example, aerial shooting is…*(your concrete definition).*

- OK. And what is adequate conversational situation applying these terms?

- Once upon a time a first-year student decided to study all special textbooks. He came to the library and tried to get all land law, land use, geodesy, land cadastre, land administration, land measurements books at once. He told librarian that he was very interested in aerial shootings, planning surveying works, planning and

arithmetic actions. But librarian refused to give him over 100 textbooks at once. She said that it would be enough time for step-by-step studying on the other next years courses too.

--Thanks for your answers. Bye.

- Help yourself. See your later.

Main individual task 1:

Ex.1.1 I. Review the sample of land manager's artistic scene and compose your own one about studying with mentioning participants, the problem to be solved and their funcltions.

DIALOGUE SAMPLE 2 «LAND MANAGER'S STUDYING»

Problematic situation to be solved: *a freshman (just enrolled student) can't find the educational block majoring in his specialty training,*

Object for visuality: *the device similar to GPS naviagotor, cardboard.*

the felt-tip pen for mapping, seller's business card.

Acting participants:

1. *a freshman (just enrolled student) thinks that there only two educational blocks where all NULES students study*-thus he is going to enter *the 10th educational block which trains managers in economy or to the 4th educational block dealing with planting and land.*

2. *a skilled second year student from the Faculty of Land Management №1 explains that NULES of Ukraine includes too many similar trends of training and no every educational block is in need to enter by future surveyour and reports about Faculty of Land Management.*

3. *a skilled second year student from the Faculty of Land Management №2 shows a way to the 6th educational block and considers locality between the 4th and the 6th educational blocks to be the good place for mapping.*

4. *a seller of GPS navigator proposes to buy his device for better orientation in space.*

1- Where am I now? Where to go? I'm a freshman (just enrolled student) and I

can‟t find the educational block where future durvryours study.

2- Can I help you? I‟m a skilled second year student from the Faculty of Land Management

1-Yes, you can. I‟ll be grateful. We are near the 10th educational block. May we enter it because it trains managers ?

2- I‟m afraid, we may not. The faculty within this educational block does trains managers but these managers are specialized in economy and book-keeping.

1-Oh, it is one more educational block in the neighborhood. It is the 4th educational block dealing with planting and land. May we as land managers go there?

2- I‟m afraid, we may not. NULES of Ukraine includes too many similar trends of training. Our is special one deals with land law,land use, geodesy, land cadastre, land administration, land measurement as well as with engineering, economy, chemistry, agriculture, geography, automation , Math, Physics etc.

1- Wow, I‟m glad to enter the Faculty of Land Management. But where to go?

2- Oh, I‟m tired. Is there anybody else to consult this freshman?

3- I‟m here, I can. I‟m Danylo Yoha- a skilled second year student from this faculty too. Well, you need go down the hill near the 4th educational block cross the highway go up and turn left to get to Vasylkivka street. Go straight and in 19 minutes you‟ll find our native 6 th educational block. I‟ll draw you (*is mapping* a *scheme on cardboard with felt-tip pen for mapping)*.

1 -What do these marks mean?

3- These topographic sings are called as a legend. Look- …. is a forest, …- is a hill….- is a speedway and …. is a mark for educational block.

1- I see.

4- I've heard somebody is in need to find way. I have very reliable and accurate GPS navigator. It costs not much. Buy it*(is showing GPS navigator).* It‟s for better orientation in space.

1 -Thank you.Unfortunately I‟m short of enough money for it, but I‟ll think about

the future purchase.

4- It‟s my business card. Call any time and you‟ll get very necessary device.

2, 3- Dear freshman. We may see you here. We are going there ourselves.

1- Thank for your help.

4- I‟ll join you too to find buyers.

1,2, 3- As you wish. Bye to everybody.

Thanks for our scene watching.

Ex.1.2. I. Represent all existing word combination, synonyms, homonyms of the word LAND in scheme basing on the appendix with the table of land manager's words as well as additional material.

Ex.1.3 I. Represent resume(CV) and story about yourself (age, the date of birth, family, hobbies, dreams and plans for the future) as well as interesting facts about your native region in general an regarding to the land management branch.

Ex.1.4. I. Print out grammar notes (Part1) to be previously sent, try to retell and to compose your own land manager's sentences without technical help.

Ex.1.5. I. Print out grammar notes (Part2) to be previously sent, try to retell and to compose your own land manager's sentences without technical help.

Additional individual task 1:

Ex.1.1.I AD. Review the table of land management terms in appendices and rewrite those which directly deal with the theme «Land Management» in 10 items crossword with 10 sentences adequate definitions explanation

Ex.1.1.2AD. Analyze existing e-learn presentation «Land Management» and propose additional 10 slides

Ex.1.1.3AD Analyze existing e-learn video«Land Management» and retell its main idea as well as compose adequate vocubulary. What does a land manager do URL: https://www.youtube. com/watch?v=fiZxry2-sTg

Ex.1.1.4AD

A) *Look at four images and decide which one is the most relative to your native region, your dreams and plans for the future. Explain your choice*

	
Image «Land Management» 1	Image «Land Management» 2
	
Image «Land Management» 3	Image «Land Management» 3

B) Read and continue the dialogue. Pay attention on «translator's false friends» with different meanings:

- Does every last period last much time?

- It'll depend upon our interest and activity . Many times I was short of time to do …. properly . on the last period. And I may be tired at last.

- Why did you need to leave native town to live in Kyiv?

- I want to become a proper land manager to be able to… It'll last upon my graduation from Land Management Faculty.

-Please, come here and become good engineer!

Ex.1.1.5AD Watch two videos, choose the most interesting variant for you and explain your choice: A) Land Manager. URL: https://www.youtube.com/watch?v=AHcnglMwQg0$ B) Land Manager Getting Started. URL: https://www.youtube.com/watch?v=268RZh8WOXY

UNIT 2

MATH FOR A LAND MANAGER'S WORK

Keywords2:

A to add– додати; accuracy – точність; angle –кут; arithmetic action – математичні дії ;at the same(similar) distance from each other –на однаковій відстані один від одного; arithmetic mean–середнє арифметичне

B between– між; besides–окрім

C calibrated tube – рулетка; calculations– підрахунки ;to calculate – робити розрахунки; can not do without– не можуть обійтися без; circle–коло

D to deal with – займатися. бути пов'язаним з, to depict – зобразити(нанести позначки) ; to divide – поділити **;** to decrease– спадати; dotted line– пунктирна лінія; to draw– накреслити

E equal– рівний, дорівнювати, equation– рівняння

F to find adequate solutions **–** знайти правильні (відповідні) рішення; further from– далі від

H height **–** висота; homogeneous points measurements **–** рівноточні вимірювання

I to image – зобразити; in front of–попереду; to increase –зростати ; inside – в середині; in use- використовується/корисний

L length – довжина; less –менше; location=placement – розташування; leveling – робота з нівеліром

M Math = Mathematics**–** математика; more– більший ; to multiply – помножити

N nearer to – ближче до; numerator – чисельник

O to observe– спостерегти; over– над; out of use– не використовується/без користі

P proper scale– відповідний масштаб

R rectangle– прямокутник

S -square – квадрат; square area – квадратна площа; solid line- суцільна лінія; to solve tasks– вирішувати завдання, to subtract– відняти

T the same– такий самий; to the left to–ліворуч від; to the right to–праворуч

від; triangle – трикутник

W while measuring – під час вимірів; width –without measurement error – без похибки у вимірах

U under – під; upper –верхній; uneven points measurements – нерівноточні вимірювання

Text 2:

A land manager can not do without Math calculations. As every engineer he must be able to solve Higher Math task equations and to find adequate solutions. He deals with arithmetic operations for some uneven or homogeneous points measurements while leveling or topographic angles calculating as well as while measuring the distance between different localities.

A land manager may use calibrated tube or ruler to multiply length and width while measuring square area of land parcel with accuracy. Besides, he can divide, subtract or add the value of height, depth or length numbers while geodetic objects inventory. Moreover, every land manager must be able to calculate increasing ratio values of land taxes for every leased land parcel area without any measurement error as well as to depict different geometric figures exampling circle, square, rectangle, triangle in a proper scale with dotted or solid lines in mapping.

Questions 2:

1) Is Math in use for land manager?

2) While what professional activity does land manager deal with Math?

3)What cases does land manager use calibrated tube or ruler?

4) What are the main arithmetic actions while geodetic objects inventory?

5) How does land law deal with Math?

6) How does mapping deal with Math?

Grammar2: Prepositions

Conversational phrases 2: Invitation and business contacts

Invitation and business contacts	We‟d like to invite you to.. Join…

	Let you attend Let you visit We‟d like to invite you to conference (exhibition) It will be held on July,11,2025 We hope to continue our cooperation We hope to meet you soon Sincerely yours to book accommodations and two-way tickets beforehand

Practical work2:

Ex.2.1P. Represent notes and be ready to retell additional grammar material about all kinds of prepositions in table to conclude 10 sentences combining grammar phenomena with this unit words.

Ex. 2.2 P

Ex. 2.2.1 P. Find additional information about the letter structure and compose letter-invitation to do some Math calculation as a part of land manager's activity using the proposed table

Ex. 2.2.2 P. Propose your own additional variants of phrases to establish business contacts or concerning invitation.

Ex. 2.3 P.

Ex. 2.3.1 P.

A) Connect the columns or add the missed one or fill the gaps within text abstracts:

A land manager can not do without Math c_____. As every e_____ he must be able to solve Higher Math task e_____ and to find adequate s_____. He deals with a_____operations for some uneven or h_____ points m_____ while leveling or topographic a_____calculating as well as while m_____the distance between different l_____s . A land manager may use calibrated t_____or

ruler to m_____ length and width while m_____ square area of land parcel with accuracy. Besides, he can d_____, subtract or add the value

of height, d_____or length numbers while g_____ objects inventory. Moreover, every land manager must be able to calculate i_____ratio values of land taxes for every leased land parcel area without any m_____ error as well as to d_____different geometric figures exampling circle, square, r_____, triangle in a proper scale with d_____or solid lines in m_____.

B)

1дорівнювати A to decrease

2відняти B to subtract

3 помножити C to increase

4 поділити D to divide

5 зростати E ?

6 спадати F to add

C)

1description A опис

2підрахунки B ?

3ширина C width

4висота D height

5довжина E length

6 площа F leveling

Ex.2.3.2. P. Confirm or deny that the word

A) «added» may be translated as «доданий» for the sentence «I added all numbers

B)«calculated» may be translated as «підрахований» for the sentence «Having calculated all numbers we became free

C) «calculating» may be translated as «підрахований» for the sentence «Calculating all numbers we were engaged into Math»

D) « calculated» may be translated as «підрахований» for the sentence «We have calculated all numbers»

E) the word «calculated» may be translated as «підрахований» for the sentence «The calculated numbers were very important»

F) «calculated» may be translated as «підрахований» for the sentence «We calculated all numbers»

Ex.2.3.3 P.. Compose own positive, negative and interrogative sentences for the statement in Simple Tenses. Do not forget about adequate adverbial modifiers.

A) «поділити знайдені числа» with the pronoun «we».

B) «виконувати всі відомі математичні дії» with the pronoun «he».

C) «дорівнювати відомому числу» with the pronoun «they»

D) «додати отримані знаменники». with the pronoun «I».

E)«застосовувати отримані підрахунки». with the pronoun «she».

F) «користуватися вимірювальною рулеткою» with the pronoun «you».

Ex.2.4 P.

Ex.2.4.1. P. Contunue the statements by detailed description:

A) «Розташування» may be translated in two ways- as «_____» or as «_____».

B) The word «numerator» may be used not only while math calculation but also within our lessons time-table to_____

C) Uneven points measurements are such kinds of measurements which _____

D) There are such kinds of prepositions as prepositions of place exampling_____, prepositions of time exampling and prepositions of_____ exampling_____.

Ex.2.3.2 P. Describe the real situation concerning yourself:

A) I see_____behind of me and I can observe_____in front of me as well as_____to the right from me and _____to the left of me. Moreover, I can see _____ on_____, _____under_____and_____over_____. B) In two weeks I_____ but last Friday I_____C) Now I can calculate arithmetic mean in order to_____.

Ex.2.4.2 P. Follow the stages of drawing and propose own description to depict common land manager's objects in geometric figures:

Draw the big rectangle and smaller triangle on the top of it.The size of the upper side of this rectangle must be similar to the lower side of this triangle. Also image the smallest dark triangle inside the previous triangle inside of its top. Besides divide the rectangle into several parallel lines to be at the same time perpendicular the lower line of rectangle. What common object can we observe? Is it in use or out of use for modern surveyor?

Ex.2.4.3 P. Answer all unit 2 questions orally and note two answers in written form mentioning the first and the second questions for the first subgroup, the third and the fourth questions for the second subgroup as well as the fifth and the sixth questions for the third subgroup and the seventh and the eighth ones for the fourth subgroup.

Ex.2.5 P.

Ex 2.5.1. P. Read, translate two dialogue and title every dialogue or add it in your own way. What are any similar or dissimilar features between these two dialogues contents?

DIALOGUE SAMPLE ABOUT MATH 1

-Hello, I see you passing my land parcel. Are you land manager because I I'm looking forward to someone who can measure the squire area of my land parcel?

-Yes, you guessed, I can propose you adequate measurements. But why do you need such calculations?

- I' m afraid that my neighbour has more correct easement than I.

-Well, I can help you and include new data into cadastral layout

-Have you any calibrated tube?

- Sure, I always bring it in need.

-But how to calculate the square area?

- You need to multiply width by length

- What is the result? It is about 32 square meters.

I' ll mark it on the cadastral map and I'll design adequate technical documentation.

- Oh, you are well done and so clever.

- It seems to be true because I am a bachelor from the Faculty of Land Management.

- I see, would you like to eat or drink anything you like?

- Thank you but I am short of time.

-What will be the price?

-No high price because I'm this year graduate.

DIALOGUE SAMPLE ABOUT MATH 2

-Hello, I see you passing me in a low mood. Do you have your own problem?

-Oh, I need to prepare Math task by tomorrow .

-I‟ll help you. What are the Math tasks?

- In the first task you need to find the diagonal square, if there is given side in 5 cm.

-Everything is very simple here. You need to use the Pythagoras‟s theorem, and the diagonal will be 5√5.

- It‟s really very easy. But that's not all. Also you need to find the area of the trapezoid in which the base is given 2 and 8, and the height 6.

-I think you did not study the formula. It is very simple too. It is necessary to add the basics to each other and divide by 2, then the number that came multiplied by the height.

-Really. Surely, every future land manager need to study some basic Math formulas. Thank you for your help.

- And do you know that on Topography lessons we measure angels.

- I‟m afraid you are mistaken in your sentence last word writing. You neede to write angles but not angels. They differ in their meanings.

- Thanks for explanation. I will be glad to help you. See you later.

Ex.2.5.2 P. Compose your own dialogue using Unit 2 grammar and key words as well as phrases for invitation and business contacts as well as focusing on such phrases as…

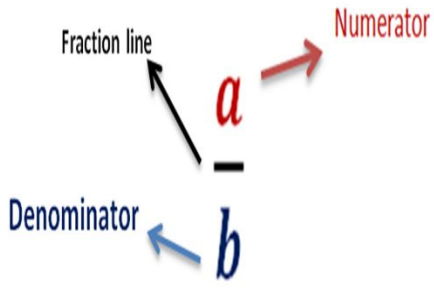
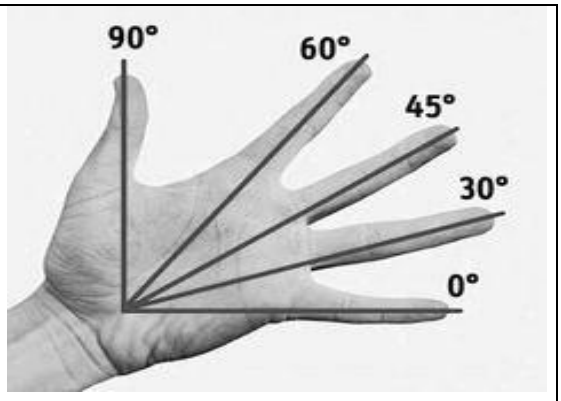
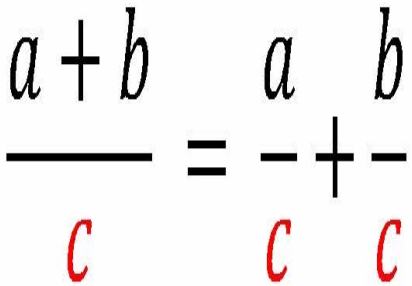
математика	зростає, спадає, площа, квадратна площа, додати, відняти, помножити поділити, підрахунки, дорівнює

Main individual task 2:

2.1 I . Find, announce and rewrite the main principles to describe pictures

2.2 I. Describe the proposed Math images according to the previously found rules

2.3. I. Compose own sentences about these pictures to express your own real life experience dealing with such images:

<table>
<tr><td> 
</td><td> 
</td></tr>
<tr><td>Image «Math» 1</td><td>Image «Math» 2</td></tr>
<tr><td>  </td><td> 
</td></tr>
<tr><td>Image «Math» 3</td><td>Image «Math» 4</td></tr>
</table>

2.4. I. Read, translate and write the mentioned numbers in words.

A) Each meridian degree may be broken into 60 minutes (') and each minute may be broken into 60 seconds.

B) A map with the title «Distribution of Population in France: 1920», for example, should not be used when looking for figures on
the present population of France.

C) The longitude of the Greenwich Meridian is 0 degrees

D) An extraordinary group of earth satellites known as «Landsats» take many satellite images. These satellites circle the earth 14 times every 24 hours, silently scanning, collecting, and sending back a greater view of the world than any eye could ever see.

E) The size and shape of North America, for example, may look somewhat different on 2 different maps because each of them uses different map projections, or methods by which the features of the earth‟s curved surface are transferred onto a flat map.

F) - Once upon a time, Peter received the task to create a new computer model of a relief map of the Cherkasy region at a scale of 1: 1000. For that Peter first developed a scheme of the future map of a given scale in the program AutoCAD. After that, he moved on to 3-D modeling of the map. The order was not easy, so Peter performed it with colleagues - surveyors. Due to this, in 2 weeks the order was ready. After that, the model of the relief map of Cherkasy region was transferred for direct production.

G) From the course of geodesy, you will learn that the Earth has the shape of a geoid, therefore, when depicted on a plane of a small area of the Earth's surface (within 20x20 km), the curvature of this surface can be neglected.

2.5.I .Mark the concrete sphere of land management dealing with the abstracts of the previous exercise and explain your choice. Propose your own variant of the similar task:

1 topography A

2 cartography B

3 pedology C

4 land law D

5 land cadaster E

6 GIS

7 geodesy

Additional individual task 2:

Ex.2.1.I. AD. Read the comments, choose and rewrite two comments to translation from each table:

↑*Comments to ideal translation* (коментарі до бездоганного перекладу)
1. *Your translation is proper* – Цей переклад належний! 2. *You are the best translator* – Ви найкращий перекладач! 3. *No mistakes in your translation* – У Вашому перекладі помилок нема! 4. *Without negative comments for your translation* – Без негативних коментарів щодо Вашого перекладу! 5. *Perfect! I have never seen better translation than this one* – Відмінно! Я ніколи не бачив кращого перекладу за цей!
↓*Comments to less ideal translation* (коментарі із зауваженнями)
1. Your translation good in general but pay attention on…– Ваш переклад в цілому непоганий, але зверніть увагу на… *2. I noticed only such mistakes in your translation as…*– Я помітив лише такі помилки у Вашому перекладі як…. *3. I'm afraid you are mistaken in translation of…* – Я побоююся, Ви помиляєтесь у перекладі … *4. Please, try to improve translation of such words as…* Будь ласка, спробуйте виправити переклад таких слів як… *5. Be more attentive in translation in…*– Будьте уважнішими в перекладі…

Ex.2.1.2 AD.

A) Compose two sentences to use as many Math words in logical chain as it is possible in Ukrainian and in English variants.

B) Announce your English version to another student and check the accuracy of his Ukrainian translation with yours, using the table of comments or announce your Ukrainian version to him and check the accuracy of his English translation with yours.

Ex.2.1.3 AD. Choose the variant of dialogue for your small 5 members' group to do practical calculations:

Dialogue A (1)

- Hi,…….. We have our group‟s special task. Is anybody absent from our group to solve our today‟s general task?

-……..

- What must we… as the first one?

-We must measure the square area of this class‟s floor.

- What instruments do we need for these calculations?

- It‟s better……..but we can do without….

- What will we do?

- We will… and then….

- What will be the result?

-……

-And what do we need to ….as the second task?

- We must measure the quantity of our neighbor‟s bag objects, their weight, length and the use for land manager.

- Who wants to be a neighbor and show the objects of his bag?

-……

- What are their description?

-…

-Thanks for cooperation.

Dialogue B (2)

- Hi,…….. We have our group‟s special task. Is anybody absent from our group to solve our today‟s general task?

-…

-What must we… as the first one?

- We must measure the square area of this class‟s blackboard.

- What instruments do we need for these calculations?

- It‟s better……..but we can do without….

- What will we do?

- We will… and then….

- What will be the result?

-……..

-And what do we need to ….as the second task?

- We must measure the quantity, general weight of all chairs in this class.

- How many chairs are there- and how are they located?

- …

And how to calculate the general weight of all chairs basing upon the approx. weight of one unit?

- We need…….

-- What will be the result?

-…

-Thanks for cooperation.

-…

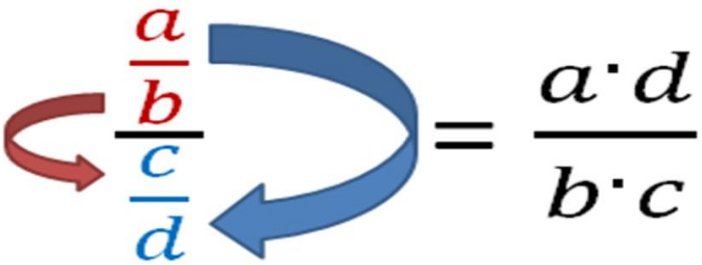
Dialogue C(3)

--Hi,…….. We have our group‟s special task. Is anybody absent from our group to solve our today‟s general task?

-……..

-What must we… as the first one?

- We must apply our own numbers for calculation according to the formulae



- What do you propose? What will be our numerators and denominators?

-……..

- What will be the result?

-……..

- Where can such formulae be applied in the work of land manager?

-……

And what do we need to ….as the second task?

- We must measure the width, length and height of our desks?-

- Are they similar? May we represent the results according to one desk ?

-……..

- What instruments do we need for these calculations?

- It‟s better……..but we can do without….

- What will be the result?

-……..

-Thanks for cooperation.

-…….

Dialogue D (4)

-Hi,…….. We have our group‟s special task. Is anybody absent from our group to solve our today‟s general task?

-……..

-What must we… as the first one?

- We must apply our own numbers for calculation according to the formulae

$$\frac{a+b}{c} = \frac{a}{c} + \frac{b}{c}$$

- What do you propose? What will be our numerators and denominators?

-……..

- What will be the result?

-……..

- Where can such formulae be applied in the work of land manager?

-……

And what do we need to ….as the second task?

-We must measure the square area of this class‟s door.

- What instruments do we need for these calculations?

- It‟s better……..but we can do without….

- What will we do?

- We will… and then….

- What will be the result?

-……..

-Thanks for cooperation.

-…….

Dialogue E (5)

Hi,…….. We have our group‟s special task. Is anybody absent from our group to solve our today‟s general task?

-……..

-What is our t…?

-We need to discuss some arithmetic actions.

- Well, let‟s do it. Due to what arithmetic operations may the value of every number be increased?

-……..

-What are your example to represent such calculating process?

-Well, if we…. we‟ll get… and if we…. we‟d get….

-- Due to what arithmetic operations may the value of every number be decreased?

-……..

-What are your example to represent such calculating process?

-Well, if we…. we‟ll get… and if we…. we‟d get….

- And what cases are these processes in use for land manager?

- They will be in use when he….

-Is geometry also in use for mapping by every land manager?

-……..

- Do we have Math among the subjects to be studied at our Land Management Faculty?

-……..

-Thanks for cooperation.

-……

Ex.2.1.4 AD. Read humoristic dialogue and rewrite the words with similar sounding to the separate volume of your English copy-book «Translator's false friends». Find the difference in similar words translation:

1)

-Is «two» mathematic word? I want to know about «two».

-I want to know about «two» too.

-Let"s go to Too and he will explain us.

- But it"s too early to go to Too. Maybe we"d better to do tattoo.

2) R=

-Do you know a rule that ruler may rule during land manager"s measurement?

- I think it"s true. I agree. Is R a ruler?

-No, it is not. It"s calibrated tube(rullette). Have not you seen it earlier?

- Is there any table on your table besides time-table?

- No, it is not. But if I‟m real surveyor I‟ll have to have many tables for mapping.

Ex.2.1.5 AD. React and express your opinion according to the represented images:

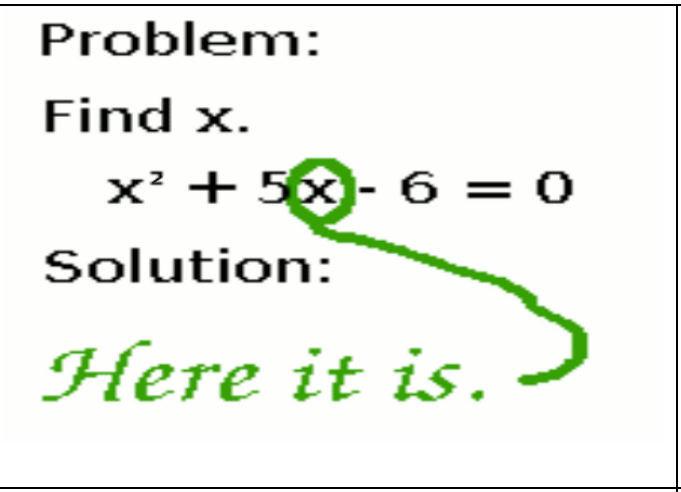
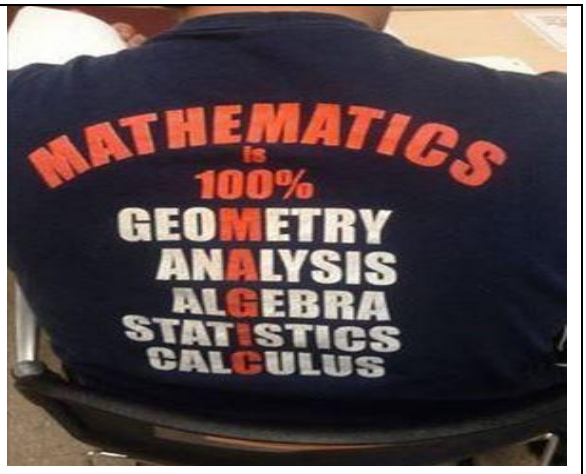
	

Image «Math 5»	Image «Math 6»

1. Answer the questions to be pointed as your variant:

1) What university and faculty do you study at?

2) What kind of student are you?

3) What are the spheres of land manager‟s activities?

4) What are the main specialized departments within the Faculty of Land Management?

5) What are the main programs to train land managers?

6) How may the specialized subjects be in need for future land managers?

7) What are the main institution to be the basis of practice?

8) Do our students do abroad for scientific and business trips?

9) What are the conversational phrases to express congratulations and wishes?

10) What do you know about grammar (Part 1) and what are your samples according to land management in general or Math?

11)What are your favourite words concerning Module 1 themes?

12)What is land management and the duties of land manager?

13)Are you ready to represent all practical works, main individual tasks and additional individual tasks concerning the Faculty of Land Management or Math?

14)Are you ready with the story about yourself and your native town with projection on your specialty?

2. Fill the gaps :

A) He is the oldest land manager…

1 ourselves

2 for their

3 among us

4 for we

5 those

B) на однаковій відстані один від одного – *at the s_____(s_____r) distance from each other*

C) такий самий – *the s_____,* _____ до…– *nearer to….*

_____від...– *f*_____*from .;.*

D) суцільна лінія – *s*_____*line-* _____лінія – *dotted line* паралельна лінія – *p*_____*line*, перпендикулярна лінія– *p*_____ *line ;* сторона –s_____

E) прийменник для орудного відмінка(ким)– *b*_____ ; прийменник для орудного відмінка (ч_____) – *with,* між– *b*_____,над– *o*_____ під– *u*_____

F) попереду– *in f*_____*of* ; позаду– *b*_____*;* д_____– *several ;* нижній –*l*_____

3. Describe the location of objects in current real life situation:

1	…	is located	between	…	from the view of my place point
2	…		in front of	…	from the view of … place point
3	…		behind	…	from the view of our scholar‟s place point
4	…		over	…	from the view of my place point
5	…		under	…	from the view of … place point place point
6	…		opposite to	…	from the view of our scholar‟s place point
7	…		in the middle of	…	from the view of my place point
8	…		near	…	from the view of … place point place point
9	…		… nearer to….	…	…….
10	…		… far from …	…	…….

2.Connect the columns and add the missed variant:

A)

1 ? A власник

2 multiply B помножити

3 owner C угіддя

4 parcel D поділити

5 plot E ділянка

B)

1 вимірювати A to apply

2 застосовувати B to decrease

3 дорівнювати C to equal

4 зростати D ?

5спадати E to increase

C)

1 додати A to multiplicate

2 відняти B to substract

3 ? C to solve

4поділити D to add

5 вирішити E to divide

D)

1? A square area

2вимірювальна рулетка B arithmetic actions

3система координат C system of reference

4математичні дії D calibrated tube

5 квадратна площа E parcel- boundary

E)

1 кількість A width

2ширина B weight

3величина C value

4? D quantity

F)

1довжина A value

2 точність B ?

3 значення C accuracy

4число D number

5 дріб E length

G)

1накреслити A t o observe

2зобразити B ?

3спостерегти C dotted line

4суцільна лінія D solid line-

5пунктирна лінія E to image

H)

1трикутник A triangle

2прямокутник B angle

3квадрат C rectangle

4коло D ?

5кут E square

I)

1між A behind

2 ? B under

3 під C over

4попереду D in front of

5позаду E between

J)

1декілька A several

1нижній B lower

2верхній C inside

4ближче до D nearer to….

5далі від… E upper

UNIT3

LAND LAW

Keywords 3:

A adopted– прийнятий; authorized–затверджений, article – стаття

B border disputes – спори (позови) стосовно меж

C covenant – ковенант (домовленість між сусідами, угода, заповіт), conveyancing-передача прав

D drilling of wells – буріння свердловин

I improvement –поправка **H** heir– спадкоємець

F framework for purchase and sale–шаблон правил для купівлі і продажу

E easement–сервітут (обсяг прав щодо користування особою чужим майном або комплект документів,що засвідчують право на володіння) equitable taxation and deterrent справедливе оподаткування та стримування

L LCU (Land Code of Ukraine) – земельний кодекс України; landmark – межовий знак, land parcel boundary – межа земельної ділянки, lend lease – кредит, позика ,land lease –оренда землі, land owner –землевласник, land parcel cost –вартість земельної ділянки, land redistribution– перерозподіл земель; loan– позика

M moneylender – інвестор

N neighbor– сусід, neighboring – прилеглий

P painuing – паювання (розподіл паїв-ділянок землі), private property– приватна власність, state property– державна власність

S setting the boundaries – установка меж; standard = quota=rate норма

T tax– податок

Text 3:

A land manager must know about land law exampling land code which deals with state and private forms of land real property ownership. Moreover, land

manager as the land planner must be able to compose adequate land management documentation according to normative standards concerning land use relations. These land law relations include land redistribution, land easement, land parcel boundary red lines and its landmark according to elaborated land plot map as well as conveyancing, easement, painuing, lease market with equitable taxation and deterrent.

There are three reasons for setting the boundaries of the land plot: 1) loss or damage of previously set boundary marks, 2) construction works including installation of a fence, 3) during the resolution of border disputes with the owners of neighboring plots, drilling of wells, acquisition of a plot of land by a new owner

"Land market in figures": 1) the term of validity of a land plot lease agreement cannot exceed fifty years and not less than seven years; 2) if by January 1, 2025, the owner of an unclaimed painuing part or his heir has not registered the ownership right to the land plot, he is considered to have refused to receive the land plot.

Questions 3:

1) What does land law deal with?

2) What must land manager as the land planner be able to compose?

3) What do law relations include?

4) What are the reasons for setting the boundaries of the land plot?

5) What is the term of land plot lease agreement?

6) What will happen by 1, 2025 if it is no heir paining part ownership right is proved and registered?

Grammar 3: to be, to have

Conversational phrases3:

Requesting	-Do you mind my Ving(smoking, leaving...) -No, of course not.As you like Yes, I do mind. May I come in? Sorry for my being late. Certainly, you may. I‟m afraid you may not

Practical work 3:

Ex.3.1P. Represent notes and be ready to retell additional grammar material about all cases to use «to be», «to have» to compose 6 sentences combining grammar phenomena with this unit words

Ex 3.2 P.

Ex 3.2.1 P. Mark number of correct variant or open the brackets, propose your own ones with this units key words application:

A) They (to be) here soon.

B) Чи вони в гуртожитку ?

1 Do they in hostel? 2 Are they in hostel? 3 Does they in hostel?

4 They in hostel? 5 Is they at hostel? 6 Or they in hostel? 7 Or they in hostel?

C) They (to be) here a month ago.

D) They (to be) here.

E) Чи він мав власний земельний кодекс?

1Did he has his own Land Code? 2 Have he his own Land Code? 3 Had he his own Land Code? 4Haved he his own Land Code ? 5 He had his own Land Code? 6 Or he had his own Land Code ?7 If he had his own Land Code?

F) Чи він має власний земельний кодекс?

1 Do he has his own Land Code? 2 Have he his own Land Code?3 Had he his own Land Code? 4 Has he his own Land Code ? 5 He has his own Land Code? 6 Or he has his own Land Code ? 7 If he have his own Land Code?

Ex.3.2.2 P. Fill the gaps mentioning to be, to have as well as to note previously unknown words into vocabulary:

A) The verb « to have» may lose its translation «мати» and express…or…

B): the verb « to be » may lose its translation «бути » and express…or…

C) the verbs « to be » and « to have» may be translated as « повинен» when….

D) Solid lines….. the sign to depict the object which... in front of it.

E) The scale…. different for large and small scale maps.

F) The legend …. inside the map frame.

G)Bespoke map…conventional maps.

H) The meridian and parallel…. predicted in this legend.

I) There… several lower and upper map projections.

G) Dotted line ... the sign to depict the objects which... behind.

K) The same objects… to the left of it.

L) If I need to confirm or to deny that «must» is a synonym to «has to» I‘ll choose to…

M) The object… nearer to it or…. further from it.

N) The frame… the result to … done by him with ruler.

O) We … not perfect in map projections because we … freshmen in mapping.

P) The objects … to be observed between these sides.

Q) The map drawing … the object of cartography.

R) The rectangles…. at the same(similar) distance from each other.

S) The angles… with more or less angles values.

T) To depict the positions …. necessary for land manager.

U) The square **….** under the circle and…. to the right to triangle.

V) Also perpendicular line ....shown besides parallel line.

W) Location data… important for mapping.

X) The layout…. for drawing and The maps… the result of three-dimensional observation.

Y) Conventional maps … in use.

Z) The grid…. a number of parallel and perpendicular lines.

Ex.3.2.3 P. Translate and continue using Unit 3 words :

A)…є, був, буду…

B) …є, були і будемо…

C) не є, не була й не буде…

D) Чи вони є і чи будуть…

E) Чи Ви є…, були ним минулого…

F) Чи маєте, чи мали, чи будете мати?

G) Не маєте, не мали, не будете мати…

H) Де…. мають, чи мали, чи матимуть…

I)…маєте, мали, будете мати ...

G)…мають, мали, матимуть…

K)…мав, має і матиме ...

L)….не мав, не має і не матиме ....

M)Чому….має, чи мав і чи матиме?

N)…маю, мала, матиму…

O)…не мала, не маю, не матиму..

P) Чи мала, чи має, чи матиме?

Ex.3.2.4 P. Propose such sentence where_____ lost its main meaning:

A)were, will have, am

B) is, has, are

C) have, was, had

Ex.3.3 P.

Ex.3.3.1 P. Connect the columns and add the missed one or fill the gaps within text abstracts:

A) A land manager must know about land law exampling land c_____which deals with s_____and private forms of land real p_____ ownership. Moreover, land manager as the land p_____must be able to compose adequate land management d_____ according to normative s_____ concerning land use relations. These land law r_____include land r_____, land easement, land parcel b_____y red lines and its landmark according to elaborated land plot map as well as conveyancing, e_____, painuing, lease market with equitable t_____and deterrent.

B) There are three reasons for setting the b_____of the land plot: 1) loss or d_____of previously established boundary marks, 2) construction

works, including installation of a f_____, 3) during the resolution of border disputes with the owners of neighboring plots, drilling of w_____, acquisition of a plot of land by a new owner

C)"Land market in figures": 1) the term of _____ of a land plot lease a_____ cannot exceed fifty years and not less than seven years; 2) if by January 1, 2025, the owner of an unclaimed painuing part or his heir has not registered the o_____right to the land plot, he is considered to have r_____ to receive the land plot.

Ex.3. 3.2 P. Answer all unit 3 questions orally and note two answers in written form mentioning the first and the second questions for the first subgroup, the third and the fourth questions for the second subgroup as well as the fifth and the sixth questions for the third subgroup and the seventh and the eighth ones for the fourth subgroup.

Ex.3.4 P.

Ex.3.4.1 P. Specify the mistakes in accordance of the proposed Ukrainian text to the previous English correct version: «Три підстави встановлення меж земельної ділянки»: 1) втрата чи пошкодження раніше встановлених межових знаків; 2) проведення будівельних робіт, у т.ч. встановлення бази данних для паювання; 3) під час вирішення межових спорів із власниками однієї і тієї ж ділянки, буріння свердловин, придбання земельної ділянки попереднім власником. «Ринок землі у цифрах» : 1) строк дії договору оренди земельної ділянки не може перевищувати п'ятдесяти років та не менше чотирьох років; 2) якщо до 1 вересня 2025 року власник не витребуваної земельної частки (паю) або його спадкоємець не оформив право власності на земельну ділянку, він вважається таким, що став власником автоматично.

Ex. 3.5 *P.*

Ex.3.5.1 *P.*

Review the dialogue and ….

rewrite 9 categories of land purpose being specified in Ukrainian version by

Land Code Article№ 46;

B) rewrite the samples of land relations;

C) improve secret content mistake in this dialogue

Hi, Nazar. Have you never dealt with land law before?

- No, I have not because I have not personal land parcel. Can I help you?

- Yes, you can. What is the purpose of land law?

- It‟s purpose to regulate some land relations. They may include as increasing the economic potential of the land in human settlements, land boundaries etc.

- Do you know anything about 9 categories of land purpose?

-Yes, I do. Every future land manager must know about 9 categories of land purpose being described in Article 19 of the Land Code: 1) farm use land; 2) the land of residential and public buildings; 3) the land of natural reserve and other nature conservation purposes; 4) land of sanitary purpose; 5) recreational resort use lands; 6) land of historical and cultural destination; 7) forest plants land; 8) the land of the water fund; 9) industrial use lands, transport use lands, communication; energetic lines use lands, defense use lands etc. Also land cadastre pays attention on bad degradated land and arable land.

-What are your favorite words according to topic« Land Law»?

- I liked such terms as «expansion of private ownership», «land relations »and «lease relations».

- OK. And what is adequate conversational situation applying these terms?

- Once upon a time I have read a «Kaidash‟s family» by I. Nechui Levytskyi. I thought «Why was not their expansion of private ownership of land proper? They had to read Ukraine‟s Land Code to normalize land relations in general and lease relations concerning pear-tree in particular. I‟d recommend Karpo or Lukash to enter some Land Management Faculties to avoid land troubles».

-Thanks for your answers. Bye.

- Help yourself. See you later.

Ex.3.5.2. Represent future land manager's real life story in artistic scene and

compose your own one about land law problem with application of requesting to be the part of the adequate unit 3 dialogue mentioning the words from table as well as «to be» , «to have» in general and in difficult cases or stable constructions and requesting phrases as the obligatory ones.

земельне право	форми власності на землю, земельний кодекс, закон, поправка, стаття, норма. призначення земель

Main individual task 3

*Ex.3.1 I. Read the words and specify their translation options in your own sentences:*fence, parcels, rare species of tulips, same boundary, belong, owner, hanging branch, accused , blamed, to pay a penalty for damage, near, over

Ex. 3.2 I. Represent the heroes in vivid pictures and think about land law problem solution (a task with humor, on logic). At the same time, consider what tense this story is in, which gave you reason to think so?:

There were two land parcels to be separated by the same boundary. The first owner planted his apple tree directly near the fence between the parcels with hanging branch over it. In his turn the second owner planted rare species of tulips near the fence. That second owner accused that his neighbour‟s apples dropped on his boundary and broke his flowering tulips. Might the apple tree owner be blamed? Had he to pay a penalty for damage?

Ex 3.3. I. Confirm or deny the truth of the statement «Кому належить земля, тому має належати й простір під нею і до самого неба: To whoever owns the land, shall belong to earth to its center and up to the heavens», prove your thought

Ex. 3 4. I Clarify your conclusion by learning about the existence of the concept of "freehold" in Great Britain. Illustrate the conclusion with a picture

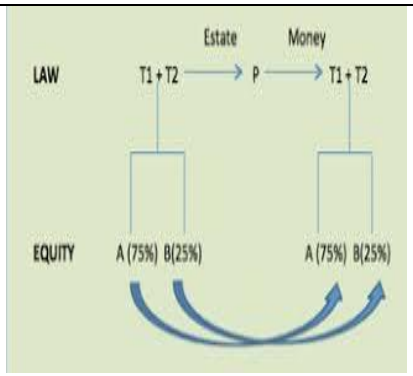
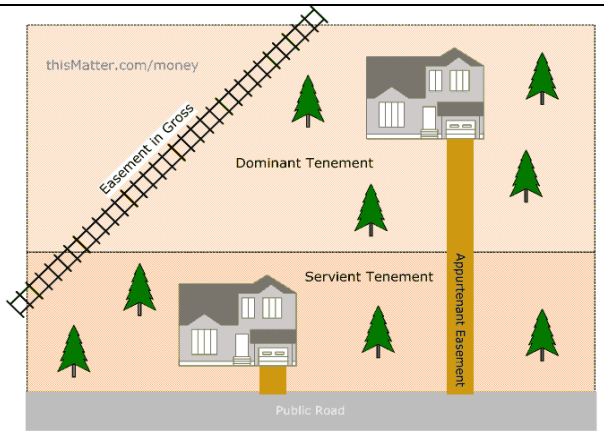
Ex. 3 5. I. Examine the content of e-learn presentation about land law and propose your adequate video about interesting facts of history, achievements and perspectives and the real life problem to be solved according land law

Additional individual task 3:

*Ex.3.1.I AD***.** *Review the table of land management terms in appendices and rewrite those which directly deal with the theme «Land Law» in 10 items crossword with 10 sentences adequate definitions explanation*

Ex.3.1.2 AD. Analyze existing e-learn presentation «Land Law» and propose additional 10 slides

Ex.3.1.3 AD Look at four images and decide which one is the most relative to your native region, your dreams and plans for the future. Explain your choice

<table>
<tr><td> 
</td><td> 
</td></tr>
<tr><td>Image «Land Law» 1</td><td>Image «Land Law» 2</td></tr>
<tr><td> 
</td><td> 
</td></tr>
<tr><td>Image «Land Law» 3</td><td>Image «Land Law» 3</td></tr>
</table>

*Ex.3.1.5AD Watch two videos, choose the most interesting variant for you and explain your choice:*A) Land Law - Unregistered and Registered Land Principles Part 1 URL: https://www.youtube.com/watch?v=kSn-HtxD0IQ;*B)* Land Law revision**.** URL: https://www.youtube.com/watch?v=ifCjExR737M

UNIT4

LAND CADASTER

Keywords 4:

A according to– відповідно до; article– стаття

B boundary– межа; brook– струмок; basin– водойма; estuary– лиман

C citizen – громадянин; citizenship– громадянство; cottage construction – дачне будівництво

D digital–цифровий; defense use lands – земля оборонного призначення

H high-resolution satellite images –супутникові зображення високої роздільної здатності

L land administration– землеустрій як установа вирішення земельних питань; land parcel map = land plot map – план земельної ділянки; land of historical and cultural heritage= земля історично-культурної спадщини; land of natural reserve and other nature conservation purposes– земля природно-заповідного та іншого природоохоронного призначення; land of sanitary purpose – земля оздоровчого призначення; land of residential and public buildings– земля житлової та громадської забудови; land property varieties – форми власності на землю ;land purpose – цільове призначення земель; land planning – землеустрій як дія/рід діяльності; low-altitude– низьковисотний

F farm use land– земля сільськогосподарського призначення; field – поле; forest plants land– земля лісогосподарського призначення

E establishment or restoration of plot boundaries – встановлення чи відновлення меж земельних угідь **G** gardens – сади, grasslands –луки

I immovable property – нерухоме майно; industrial use lands – земля промислового призначення

M maintenance of a residential building – тех.обслуговування житлового будинку; marshland – болото; meadows– луки; monetary evaluation = money value – грошова оцінка

N nature protection zones– природоохоронні зони

O ownership– володіння

P preserve– заповідник property – власність ; public land use – земля спільного громадського користування

R right– право; rural areas density– щільність позаміських районів

V vineyards– виноградники

Text 4:

According to the Article 36 of the Law of Ukraine the state provided access to the basic data of the state land cadastre to find information about the cadastral number of every land plot, its boundaries, area as well as form of ownership or purpose. Prospective technologies of cadastral and registration activity include the use of high-resolution satellite images (HRSI) for rapid establishment of boundaries as well as mapping of rural areas density due to "Cadastre 2.0“ or use of low-altitude air defense systems (LARSI)point cadaster .Besides abovenamed technologies such digital pen for public land use model as STDM is in use too. There are several stages of registration of the right to land: 1) production of technical documentation regarding the establishment or restoration of plot boundaries;2) registration in the State Land Cadastre and assignment of a cadastral number;) registration of the right of ownership in the State Register of Property Rights to immovable property for a guaranteed right of use, ownership, disposal of land plot without risks.

Every citizen of Ukraine has the right to obtain private ownership of up to six plots of land for various purposes: for farming, gardening, construction and maintenance of a residential building as well as for farm buildings or for individual cottage construction as well as for the construction of individual garages.Moreover, a land manager must be able to detect and to map marshland, brook or lake basin, estuary, preserve, gardens and fields, grasslands and meadows vineyards for every separated locality area.

Questions 4:

1) What information can we find within LCU about the state land cadastre ?

2) What are main cadastral topographic objects ?

3) What is the difference between HRSI and LARSI?

4) What is the difference between Cadastre 2.0 and STDM?

5) What are the stages to register the right on land?

6)What is the purpose of six plots to be allowed for Ukrainian citizen ownership**?**

Grammar4: Numerals, Modal verbs

Conversational phrases4: Starting and ending conversation

Starting conversation	Excuse me! May I ask about...?, Go ahead Let us continue previous talk Let us start to discuss… Can I help you? What would like you to hear?
Ending conversation	Thanks for conversation Thanks for your information Thanks for your help See you later Sorry but I‟m in a hurry We must postpone our talk

Practical work4:

Ex.4.1 P. Represent notes and be ready to retell additional grammar material about all cases to use numerals and modal verbs to compose 10 sentences combining grammar phenomena with this unit words

Ex 4.2 P.

Ex 4.2.1 P. Rewrite in words:

A) the 895082-d student‟s phone number is 09643211.

B) the 18473-d student has the phone number 09653412.

C) the 43271-st student‟s hostel‟s room number is 09643211

Ex 4.2.2.Fill the gaps mentioning dates or some words from the text4:

A) Today it is Wednesday, the thirty first of January. Thus tomorrow it will be …

B) Tomorrow it will be Saturday, the thirty first of November. Thus today it is…

C) Yesterday it was Wednesday, the thirty first of July. Thus today it is…

D)

According to the A_____ 3_____ of the Law of Ukraine the state provided access to the basic data of the state land cadastre to find i_____ about the cadastral number of every land plot, its b_____, area as well as form of o_____p or purpose. Prospective technologies of c_____ and registration activity include the use of high-resolution s_____ images (HRSI) for rapid establishment of boundaries as well as m_____of rural areas density due to "Cadastre 2.0“ or use of low-altitude air d_____ systems (LARSI)point cadaster .Besides abovenamed t_____such digital pen for public land use model as STDM is in use too.

There are several stages of registration of the right to land: 1) production of technical documentation regarding the e_____ or restoration of plot boundaries, 2) registration in the S_____ Land Cadastre and assignment of a cadastral number, 3) registration of the right of ownership in the State Register of Property Rights to i_____property for a guaranteed r_____of use, o_____, disposal of land plot without risks. Every c_____ of Ukraine has the right to obtain p_____ ownership of up to six plots of land for various purposes: for farming, gardening, construction and m_____ of a residential building as well as for farm buildings or for individual cottage construction as well as for the construction of individual g_____.A land manager must be able to detect and to map m_____b_____or lake basin, e_____, preserve, gardens and fields, grasslands and m_____s vineyards for every separated locality area.

Ex 4.2.3 P. Write English version and add it with Unit 4 words:

A) одинадцять, третій, семисотий, дві дев‟ятих, дев‟яносто

B)другий, 1627 рік, 1627 результатів, ¼, дванадцятий

C)двадцяте сторіччя, чотириста, дванадцять,2/11, п‟ятимільйонний

D)1859 рік, 1859 ділянок, 1/5, чотирьохсотий

E) дванадцятий, п‘ять, п‘ятий , чотири десятих, дев‘ятсот

F) 1989 рік,1989 рішень, 1/3 …, тисячний дванадцятий

G) шостий,1/2, 2018 рік, 2018 обчислень, триста.

H) сімдесяті роки, шостий поверх, 138 рівнянь, мільйон, 3/12.

I) восьмий, 1/4, триста, 1985 рік, 1985результатів.

G) сьомий,1/3, 1974 лінійки, 1974 рік, тринадцятий.

K) дев‘ятий,2/5, шістдесят, 1991 рік, 1990 підручників з математики.

L) перший, 1813 рік, 1813 рівнянь, ½, трьохсотий

M) двісті, тисяча, перший, шестисотий, одна четверта

N) п'ятий, п‘ятнадцятий, п‘ятдесят, п‘ятсотий, дві восьмих

O) сто, 2019рік, 2019 рулеток, сімнадцятий, другий

P) тисячний, дев‘яносто, сім тисяч чотирнадцять, три дев‘ятих, мільйон

Q) дванадцятий.4/7, шістсот, другий,1989 рік,1989 рівнянь

R) тринадцятий,3/8, тисячний, 100, мільйонний

S) чотирнадцятий, 2/9, третій, 2000, дванадцятий

T) сімдесят дев‘ятий, 400 величин, тисяча,1/2, одинадцятий

U) п‘ятнадцятий, 211, перший, 1998 рік, 1998 розрахунків

Ex 4.2.4 P. Represent date with the number_____being important personally for you, your group and land management history or its achievements themselves.

A) 1, 2, 3 B) 4,5,6 C) 7,8,9,10.

D)100,1000,10000,1000000

Ex 4.3 P.

Ex 4.3.1 P. Translate and continue using Unit 4 words:

A)Ми повинні, були повинні і будемо повинні …

B) Я здатний, був здатний і буду здатний…

D) Є можливим, було можливим і буде можливим…

E) Вмію, вмів, вмітиму….

F) Повинні, були повинні, будуть повинні…

G) Слід (рекомендовано), але не слід….

H) Чи можна?….

Ex 4.3.2 P. Confirm as«Yes» and deny as «No» if…

A) «must» is the synonym to «is able to».

B) «could» is the synonym to «was able to»

C) «can» is a synonym to «able to»

D) « may» is the synonym to « is able to»

E) «may» is a synonym to «might»

F) «must» is a synonym to «has to»

G) «He can draw equal triangles» may be translated as «Він може накреслити рівні трикутники»

H) «He can analyze conventional maps» may be translated as «Він повинен проаналізувати умови зміни властивостей карт»

I)«He must observe map projection» may be translated as «Він повинен карти»

G) «He must become a qualified land manager » may be translated as «Він повинен стати кваліфікованим землевпорядником»

K)«should» is a synonym to «ought to»

L)«could» is a synonym to «might»

Ex 4.3.3 P. Connect the columns and write the missed variant:

A)

1. may	A are able to
2 must	B should to
3 can	C is permitted to
4 ought to	D ?

B)

1 здатний	A have to
2 можливо	B ?
3повинен	C may
4 слід	D is able to

C)

1 can A could

2 may B ?

3 must C had to

4 should D ought to

D)

1 здатний A must

2 повинен B may

3 можливо C should

4 слід D?

E)

1 may A ought to

2 should B ?

3can C will be to

4 must D could

F)

1 is allowed to A можливо

2 was to B ?

3 had to C вмів

4 could

G)

1 might A здатний

2 is permitted to B ?

3 must C можливо

4 will be able to

Ex.4.3.3 P. Answer all unit 4 questions orally and note two answers in written form mentioning the first and the second questions for the first subgroup, the third and the fourth questions for the second subgroup as well as the fifth and the sixth questions for the third subgroup and the seventh and the eighth ones for the

fourth subgroup.

Ex.4.4 P. Specify the mistakes in accordance of the proposed Ukrainian text to the previous English correct version : Чотири етапи реєстрації права на землю здійснюються через наступні стадії: 1) виготовлення технічної документації лише щодо встановлення, але не відновлення меж ділянки, 2) реєстрація в земельному кадастрі окремого населеного пункта без присвоєння якогось певного кадастрового номера; 3) реєстрація права власності у Державному реєстрі речових прав на рухоме і нерухоме майно без гарантованого права користування, володіння, розпорядження земельної ділянки без ризиків. Кожен житель Землі має право отримати в Україні у приватну власність до десятьох ділянок різного цільового призначення: для ведення фермерського господарства, для ведення виноградарства, для будівництва та обслуговування житлового будинку, господарських споруд; для спільного дачного будівництва; для спорудження індивідуальних вольєрів для утримання тварин тощо.

Ex.4.5 P. Represent land manager's real life story in roles and compose your own one about land cadastre problem with application of requesting to be the part of the adequate Unit 4 dialogue mentioning the words from table and phrases to start and to end conversation as the obligatory ones.

земельний кадастр	якість земель (land quality), земельна ділянка, класи земель, бонітування, оцінка земель, процес оцінювання, реєстрація земель, угіддя (рілля, сади, виноградники сіножаті, вулиці, будівлі), водні об'єкти (струмок, море,річка, лиман, болота), піски, непридатні землі (bad lands), цільове призначення, землі с/г призначення, природоохоронні зони, ботанічні сади, парки, сквери,. землі оздоровчого та промислового призначення, *+детальне опрацювання статті 19 земельного кодексу*

Individual task 4:

Ex. 4.1 I.

Describe the purpose of land to be owned by your family and the experience to communicate with land cadaster service. Was this experience pleasant? How to improve the situation itself and the adequate solution?

Ex.4.2. I.

What are the main topographic objects are there in your native town? Prove the statement with illustration.

Ex.4.3.I. Represent the heroes in vivid pictures as well as in schemes pointing main objects and think about another variant of land cadaster problem solution:

Once upon a time a land user wanted to plant sunflowers on his parcel. Previously he wanted an advice from land manager. Land manager was engaged into land user‟s land quality evaluation. A land manager evaluated the plot from the material point of view properly because he prepared ten variants of cadastral photoplan. He evaluated sandy and rocky soil having chosen the category «Industrial use land». He advised to enrich the soil or to change the mind to plant sunflower. The land owner became sad but he respected the thought of a specialist.

Ex.4.4. I. Review the video Final Coundown (URL: https://www.youtube.com/watch?v=9jK-NcRmVcw), specify adequate time periods dealing with some cadastral objects as well as note the titles of these objects: zones (countryside–сільська місцевість, urban area – міська смуга, forest area–лісова зона, steppe area–степова зона); objects (building –будівля, basin – водойма; brook – струмок, estuary –лиман, locality– населений пункт, garden–сад; vineyards – виноградники, river– ріка , road– дорога, railway– залізниця, speedway- автострада, sight– пам‟ятка, field – поле; forest – ліс, grassland–лука, marchland– болото, lake–озеро); relief types (hills – пагорби, ravines – западини/яри, meadows – долини, mountainous area– гірська територія, flat area=plain – рівнинна територія).

Ex.4.5. I. Read and express the main content and idea of each abstract in Ukrainian as well as specify the concrete title of cadastral object to be mentioned in each poem or story:

Land cadastre poem 1 «A Sailor»	A sailor(not a seller) went to sea To see what he could see. But all he could see, Was sea, sea, sea. No field, no grassland or even marchland. And it was the end

Land cadastre poem 2 «An Old Lady»	There was an old lady who said When she found a thief under her bed: “Get up from the floor-You‟re near the door And you may catch a cold in your head! Your thoughts may be in the Highland Or far on a distant Ireland”.
Land cadastre poem 3 «Willie»	Why do you cry Willie, Why do you cry? Why, Willie, why Willie, Why, Willie, why? Row, row, row your bout gently down the estuary stream. Merrily, merrily, merrily Because your life brook is a dream.
Land cadastre story 4 «Rainy Day»	The weather was bad yesterday in the city. It began to rain early in the urban area morning. We had five umbrellas at home but when I wanted to take one, I saw they all were broken. I decided to take them away to umbrella-maker. He asked me to wait and promised my five repaired umbrella in the evening. In the afternoon I entered café near the railway to have a lunch. I waited my food order, sat down and began to eat. In a few minutes strange young lady came in and sat next to me eating. I finished my lunch, got up and took her umbrella for mistake because I had muscle memory to have umbrellas in my hands. Young lady said: “This is not your umbrella. This is mine”. I saw my mistake and apologized.: “Oh, excuse me, it‟s yours, of course. I‟m very sorry”. “ That‟s all right”- she answered laughing. In the evening I went to umbrella-maker and took all my five umbrellas and went to the bus-stop near the speedway to go home. There I found café lady waiting the bus too. She looked at my five umbrellas and said: “ Oh, it‟s not a bad day for you, Sir, is not it? ”
Land cadastre story 5 «A Book about vineyards»	A young man hurried into the village library on the plain.. He asked the old librarian: «Do you remember that I borrowed a book about vineyards a week ago? I want to take it again». The librarian felt very proud.”Why are you going to take this book out again? Did you suppose that it was too interesting and useful?”. No, I did not. Of course not. I just met pretty girl on the field passing while I was taking the book home and I wrote her telephone number on the book‟s page and lost these data.

Additional individual task 4:

Ex.4.1. I AD. Review the table of land management terms in appendices and rewrite those which directly deal with the theme «Land Cadaster» in 10 items crossword with 10 sentences adequate definitions explanation

Ex.4.1.2 I AD. Analyze existing e-learn presentation «Land Cadaster» and propose additional 10 slides

Ex.4.1.3 I AD Analyze existing e-learn video«Land Cadaster» and retell its main idea as well as compose adequate vocubulary. Land cadastre Orthorectification overview. URL: https://www.sinergise.com/en/solutions/real-estate/land-cadastre

Ex.4.1.4 I AD. Look at the image and predict how to do such grid on the land. Was it in need or would it be better to leave the field in the previous natural state?

Ex.4.1.5 I AD. Describe your own experience to be astonished by the changing of land purpose and announce your own advices to protect environment from the cadastral point of view.

1.Answer the questions to be pointed as your variant:

1) What does land law deal with?

2) What must land manager as the land planner be able to compose?

3) What do law relations include?

4) What are the reasons for setting the boundaries of the land plot?

5) What is the term of land plot lease agreement?

6) What will happen by 1, 2025 if it is no heir paining part ownership right is proved and registered?

7) What information can we find within LCU about the state land cadastre ?

8) What are main cadastral topographic objects ?

9) What is the difference between HRSI and LARSI?

10) What is the difference between Cadastre 2.0 and STDM?

11) What are the stages to register the right on land?

12) What is the purpose of six plots to be allowed for Ukrainian citizen ownership**?**

13) What are the conversational phrases to express starting and ending conversation?

14) What are the conversational phrases to express requesting?

15) What do you know about grammar (Part 2) and what are your samples according toLand law and land cadaster?

16) Are you ready to represent all practical works, main additional tasks and additional tasks concerning land law or land cadaster?

3. Agree as «Yes» or deny as «Not», that sentence «He is to be a freshman of the Land Management Faculty » is correct in such translation version as «Він першокурсник факультету землевпорядкування»

4. Point one or more variants to fill the gap:

She … proper skills in Aerospace Research of the Earth

A does not have B has C have D had E shall have

5. Write number- « the fifty three thousand eleventh» andfill the gaps «What… news?»is translated as «Які новини?»

6. Fill the gaps taking into account general content of the sentence : Today it is Friday, the second of June. Thus yesterday it was……, the…. June

7.Connect the columns:

1 can A should to

2 must B is able to

3 may C has to

4 ought to D might

MODULE 3

UNIT5

SOILS

Keywords 5:

A arable land – орна земля

B bad degradated land – непридатна деградована земля; black soil– чорнозем

C clay– глина

H heavy soil – важкий грунт

L light soil– легкий грунт (ще light-світло/світлий); loam – суглинок

O observed– спостережений/ замічений

P peat – торф; planting windbreaks –посадка рослин, затримуючих вивітрювання; pedology–грунтознавство

S samples–зразки (проби); silt – мул;

R to recognize – розпізнати.впізнати; rocky – кам‘янистий

S sandy–піщаний; sod – дерновий; saline – солончак; seaside area- приморська зона; soggy– мокрий; soil conservation – збереження грунту; soil protection – охорона грунтів; soil rational use – раціональне використання грунтів; soil stabilization – укріплення грунтів; soil kinds – види грунту; soil types – типи грунту

Text 5:

Pedology as soil science studies the genesis, evolution, bioproductivity, classification, geography and ecology of soils as well as their properties in different geo- and ecosystems to save and to improve their fertility. A land manager deals with environmental protection in general and with soil and land protection apartly after studying raw materials and organic chemistry. Soil is the surface layer of the earth on which land plants grow. Its protection involves soil rational use, soil stabilization, land melioration, land recultivation through fertilization, irrigation and crop rotation. A land manager must know about such kinds of soils as clay, sandy, peat, silt, soil and rock soils, saline soils, highly

organic land (black soil), loam containing sand, clay and organic matter etc . Moreover, he must recognize such methods of soil conservation as rotation of

cover crops or green manure with other crops, planting windbreaks to stop topsoil loss from wind, perimeter runoff control to prevent erosion as well as grassways or plowing rows perpendicular to the hills.

A land manager must identify the samples of bad unproductive lands or introduce drio irrigation system to prevent overwatering during rain or high wind

Questions 5:

1) What are the kinds of soils?

2) What must land manager be able to identify?

3) What are the methods of soil conservation?

4) How to prevent overwatering during rain or high wind.

5) What is pedology?

6) What is soil?

7) What does soil protection involve?

8) A land manager deals only with environmental protection, does not he?

Grammar5: If-clauses

Conversational phrases 5: Comments

Positive comments	You are well done No mistakes «Without negative comments «Excellent! I have never seen better work than this one
Negative comments	This work is good in general but pay attention on… I noticed only such mistakes in… I‟m afraid you are mistaken in…, Please, try to improve... Be more attentive in…
Reaction on comments	Thanks for your comments I (we)‟ll do the best to improve… I (we)‟ll pay attention on… I(we)‟ll be more attentive in future I promise I (we)‟ll improve this work

Practical work 5 P:

Ex.5.1 P. Represent notes and be ready to retell additional grammar material about if-clauses to conclude 10 sentences combining grammar phenomena with this unit words

Ex5.2 P. Answer all unit 5 questions orally and note two answers in written form mentioning the first and the second questions for the first subgroup, the third and the fourth questions for the second subgroup as well as the fifth and the sixth questions for the third subgroup and the seventh and the eighth ones for the fourth subgroup.

Ex.5.3 P. Fill the gaps:

A)

P_____ as soil science studies the genesis, evolution, b_____, classification, geography and ecology of soils as well as their p_____ in different geo- and ecosystems to save and to i_____ their fertility.

A land manager deals with e_____protection in general and with soil and land protection apartly after studying r_____ materials and organic chemistry. Soil is the surface layer of the e_____on which land plants grow. Its protection i_____s soil rational use, soil stabilization, land melioration, land r_____ through fertilization, irrigation and c_____ rotation.

B)

A land manager must know about such kinds of soils as c_____, sandy, peat, silt and rock soils, saline soils, highly organic land (black soil), l_____containing sand, clay and organic m_____ etc .

Moreover, land manager must know about such methods of soil c_____as rotation of cover crops or green m_____with other crops, planting w_____ to stop topsoil loss from w_____, perimeter runoff control to prevent erosion as well as g_____ or plowing rows perpendicular to the hills.

C)

A land manager must i_____ the samples of bad unproductive lands.

He must know about drio irrigation system to prevent o_____ during rain or high wind.

D) Якщо грунт був би виснажений, його можна було б відновити is translated as «If soil_____ degradated you_____ recultivate it».

E) Якщо грунт буде виснажений, його можна буде відновити is translated as « f soil_____ degradated you_____ recultivate it ».

Ex.5.4 P.

Ex.5.4.1 P. Represent the characters in vivid pictures as well as in schemes pointing main objects and think about another variant of land cadaster problem solution:

Once upon a time, Frank and Diego received the evidence that soil fertility on a field near the city had been deteriorated. They went to this field to check the quality of the soil and to analyze it. On the land parcel they conducted the necessary experiments and took some soil samples.

After returning to the laboratory, Frank and Diego conducted several laboratory tests to show that the soil of this field has nutrient depletion and needs to change the types of grown. crop. Thus, thanks to knowledge of soil science experts Frank and Diego were able to determine the cause of deteriorating soil fertility correctly.

Ex. 5.4.2 P. Prepare the report about kinds of soil and relief in your native region. Illustrate this information on the basis of following expressions:

Soil types: light soil- легкий грунт (ще light-світло/світлий), heavy soil - важкий грунт, sandy- піщаний, black soil- чорнозем, seaside area- приморська зона,arable land – орна земля ; bad degradated land – непридатна деградована земля, clay- глина, peat – торф loam – суглинок, rock – кам‘янистий, silt – мул; sod – дерновий, saline – солончак.

Ex.5.5 P. Read, translate , compose and represent your own additional version using comments as conversational phrases pedological terms and If-clauses as well as your favourite grammar phenomena from your grammar notes:

DIALOGUE SAMPLE ABOUT SOIL

-Hello, have you any problem with pedologist‟s work?

- A little bit. We came our home back from work in dirty clothes and do not know how to wash off the stains.

-What did you do there? -We looked for minerals, raw materials as well as we observed different types of soil exampling chernozem, humus, peat, as well as different types of relief like flat or hilly.

- Of course such work leaves stains. What caused it?

-In my opinion, these stains on our clothes are from black earth, because it is characterized by a dark color and graininess

-But I think that it is from humus, because the color of the spots is more similar to this soil but sometimes I believe that these are stains from working on degraded lands.What should we do?

- I think that first you need to let the dirt dry

- Is it possible to remove the stain while it is still wet?

- No,it is not. If we start to remove the dirt stain when it is wet, it will spread all over the clothes.

- We‟d try to agree and keep waitng to avoid soaking and applying wash powder. Fortunataly, we have some spare clothes to be posted by our parents by «Nova Poshta».

Individual task 5:

Ex 5.1 I. Imagine your practice in future summer while you will be walking on foot to get the place of your geodetic works. Use the table words, emotions and dangers as well as advantages or health problem.

ґрунтознавство	типи ґрунтів. зони ґрунтів (лісова, лісостепова. поліська), засолення чорнозем, кам‟янистість, деградовані ґрунти, лучні, болотні, легкі, важкі, середні, гумус

*Ex 5.2 I. Listen to audio «Classification and Composition» and be sure of correct pronunciation as well as correct translation :*We took soil samples from three proposed farm locations. See the chart below for details. The samples indicate

substantially different soils at each location. The table below summarizes the texture, composition and classification of the samples. No highly-organic soils were found .Both sites 01 and 03 offer desirable soil. However in both cases we recommend adding peat. That will make them more suitable for agriculture. The soil at site 02 is not suitable for irrigated agriculture.

Samples	**Grain texture**	**Composition**			**United Sioil Classification System**
		% sand	% silt	%clay	Symbol/ Group name
Site 01	fine-grained	5	15	80	CL/ clay
Site 02	coarse-grained	75	21	4	SM/silty sand
Site 03	medium-grained	2	68	32	MH/elastic silt

Ex.5.3 I . Review the previous text and confirm or deny the following information:

A) No two sites had the same grain texture____

B) Sites 01 and 03 had highly-organic soil. ____

C) Adding peat to Site 02 will make it suitable for irrigated farming____.

D) Higly –organic soil is best suited for farming____.

E) Course-grained soil is best suited for farming____.

F) Growing crops in higly –organic soil is difficult____.

G) Growing crops in course-grained soil is difficult. ____.

H) Peat makes soil more fertile. ____.

I) Clay makes soil more fertile____.

J) Peat is much more dense than sand. ____.

Ex.5.4 I . Connect the columns:

1 sand A soil deposited by water

2 silt B consisting of tiny particles

3grain C a small piece of material

4 classification D group something belongs to

5 fine-grained E how something feels

6 texture Fsoil made of rock and materials

Ex 5.5.1

Ex 5.5.1 I

Listen to audio «A Guide to Soil Conservation» and be sure of correct pronunciation as well as correct translation:

Without healthy soil farmers can‟t produce healthy crops. But soil faces many threads, including nutrient depletion and erosion. Fortunately several methods of soil conservation can turn unhealthy soil into a plant paradise. One method crop rotation solves nutrient depletion.

Cover crops or green manure are rotated with other crops. The process increases the amount of nitrogen in the soil and reverse land degradation. In addition to addressing nutrient depletion, farmers also combat erosion.

Several practices can prevent erosion.

Planting windbreaks stops topsoil loss from wind. Perimeter runoff contol prevents erosion from water. For example, grassways slow water and direct it away from the fields. Countour-farming techniques exampling keyline design aslo prevent water from eroding soil. In one method farmers plow rows perpendicular to hills. The water slows as it reaches the rows, which results in less soil loss.

Ex 5.5.2 I Connect the columns:

1 nutrient depletion A a name for cover crop that addnitrogen

2 countour farming B process where nutrients are taken from soil

3 cover crops C grassy areas that slow water flow

4 green manure D the practice of maintaining soil

5 soil conservation E plants that add nutrients to soil and preven it from washing away

6 grassways F a method of plowing to prevent erosion

7 keyline design G the use of plant near a field‟s borders to prevent erosion

8 perimeter runoff control H design that maximizes water resources

Additional individual task 5:

Ex. 5.1 I AD. Listen to audio «A Guide to Soil Conservation» and be sure of correct pronunciation as well as correct translation and filling the gaps

Farmer 1: I‟m really worried about the soil in the fields. It‟s_____ soggy.

Farmer 2:Yeah, There‟s been so much rainfall the 2_____

Farmer 1: The soil is 3_____. We have to do something.

Farmer 2: I agree. But what can we do7

Farmer 1: I think that contour farming is a good option.

Farmer 2: I‟m 4_____ that. We‟d have to redisign our fields.

Farmer 1: True, but look at our land. We have 5_____

Farmer 2: Well, you 6_____ there. Countour –farming could be good for us in the next few years. But we have to do something sooner than that.

Farmer1: How about starting with a grassway?

Farmer 2: I like that. We can buy some sod and install it next weekend.

*Ex 5.2 I I AD. Agree or disagree that the participants from the previous dialogue said that :*1) The farmers are concerned about nutrient depletion.2)The land of farm sits on is flat. 3)The farmers will plant a grassway. 4) The current state of the discussed soil is suitale for growing apple-trees with the apples for philologist.

Ex 5.3 I I AD. Fill the gaps according to the mentioned definitions:

1. The rows are at right angles to the fence P_pe_d____a_2. The farmer needs a way to stop wind or water removing the soil in his fields_____o_____n

3. Tree barriers shelter fields from a wind____n_____a_____

4. Growing different crops at different times helps to keep soil healthy C_____r_____t____

5. The forest experienced negative effects on the land after the flood._____n_____e_____d_____n

Ex. 5.4. I AD Review the table of land management terms in appendices and rewrite those which directly deal with the theme «Soils» in 10 items crossword with 10 sentences adequate definitions explanation.

UNIT6

CARTOGRAPHY

Key words 6:

A altitude – височина, вершина ;analysis– аналіз; to analyze– аналізувати; ancient science– стародавня наука; art–мистецтво; artist– митець, художник; azimuth– азимут

B before – перед; between– між

C cartography=mapping- картографія; cartographic grid – картографічна сітка; convergence of meridians – зближення меридіанів

D to decorate– прикрашати; to depict– нанести позначки/ зобразити; deposits– поклади; despite their variety– не зважаючи на їх розмаїття; to determine the size– визначити розмір; direction– напрям; distance– напрям; dotted line– пунктирна лінія; drawn by hand– накреслені вручну; during– впродовж(під час)

F flat representations of the earth– плескате(площинне) представлення земної поверхні; figurative-sign models–образно-знакові моделі; fluid hazard– небезпека повені

E earth's surface– земна поверхня

H he is considered to be – вважають, що він…; huge– гігантський

I invention of printing–винайдення друкарської справи

L latitude – широта; legend– умовні позначки; the length of the arc– довжина дуги; longitude– довгота

P paintings – картини, художні полотна; population– населення; to predict– передбачати, прогнозувати; previously combined into one science – попередньо об‟єднані в одній науці; proper– належний, правильний

R rainfall– опади; reflect spatial placement and interrelationships– відобразити просторове розміщення та взаємозв‟язки; Renaissance– епоха Відродження

S scale – масштаб; shooting –зйомка, знімання показників(хибний друг перекладача до варіанту перекладу «стрільба»); similar – подібний; state

boundaries– державні кордони; system of reference– система координат; solid line– суцільна лінія; surveyor– геодезист (хибний друг перекладача до варіанту перекладу «першошукач» або «розвідник»)

V to vary – різнитися, відрізнятися

U to use – використовувати

V value– цінність, цінувати

W wall – стіна; wall maps –настінні мапи; was the first to measure – був перший, хто виміряв ; weather changes– зміни погодних умов

Text 6:

Maps are flat representations of the earth varying in size from small maps to huge wall maps. Using different colors and symbols maps can illustrate state boundaries, relief or soil types, rainfall, fluid hazard, as well as population character, weather changes or mineral resources deposits. Despite their variety, all maps have similar components like a title; a legend or key, a direction indicator and a scale.

Topographic shooting predicts cartographic analysis of distance between objects, their location to conclude cartographic grid in proper azimuth, meridian and parallel cartographic projection in a proper linear scale and in a proper system of reference using special legend like solid and dotted lines. Cartographer must know about azimuth, equator, convergence of meridians, horizontal coordinates in longitude or latitude as well as vertical position in altitude.

Cartography is an ancient science that deals with the study, development and creation of geographical maps exampling Eratosthenes „works on geodesy, astronomy, cartography , geography to be previously combined into one science. Eratosthenes wrote the book "Geography" to depict earth's surface on a map even with parallels and meridians drawn through some geographical points. He is considered to be the first surveyor because he was the first to measure the length of the arc of the meridian to determine the size of the Earth. During the Renaissance, the art of cartographers was valued so much that geographical maps

decorated the walls of apartments just as much as paintings by artists. Before the invention of printing, maps were drawn by hand, they were very expensive.

Modern cartography deals with real-time personalization and good design to reflect spatial placement and interrelationships of natural and social phenomena and their state over time through figurative-sign models in cartographic images.

Questions 6:

1) What are the similar components of all maps?

2) Cartographer must know only about azimuth, equator, convergence of meridians, must not he?

3) What are maps and what may they illustrate?

4) What is cartography in general and was it previously the part of one science?

5) What does topographic shooting predict?

6) What was Eratosthenes‟ contribution into development of cartography?

7) Were topographic maps during the Renaissance printed and out of value?

8) What does modern cartography deal with?

Grammar 6: The Adjectives, the Nouns

Conversational phrases 6: agreement and disagreement

Agreement	I agree, it „s true It‟s correct, I support this thought
Disagreement	It is false, it‟s not correct I disagree I‟m afraid I can‟t support the thought about I‟m afraid that you‟re mistken

Practical work 6:

Ex 6.1P.

Ex.6.1.1 P. Represent notes and be ready to retell additional grammar material about adjectives and nouns to conclude 10 sentences combining grammar phenomena with this unit words

Ex6.1.2 P. Answer all unit 6 questions orally and note two answers in written form mentioning the first and the second questions for the first subgroup, the third and the fourth questions for the second subgroup as well as the fifth and the sixth

questions for the third subgroup and the seventh and the eighth ones for the fourth subgroup.

Ex.6.2 P.

Ex.6.2.1 P. Agree or disagree with arguments:

A) Modern cartography deals with the study of geographical maps exampling Eratosthenes „works.B) Eratosthenes dealt with cartography but not with geodesy or astronomy. C) We can decorate the walls with geographical maps in our modern society with the profits being previously for artists in the time of the Renaissance. D) .Maps are mostly to depict political boundaries.

Ex.6.2.2 P. Mark two variants: plural for noun and comparison for adjective:

A) mouse, important (1 mouse 2 mouses 3 mise 4 mice 5 important- the imortantest 6 more important - the most important 7importanter - the importantest)

B)criterion, easy(1 criterion 2 criterions 3 criteria 4 criterias 5more easy- the most easy 6 easier- the most easy 7 easier- the easiest)

C) phenomenon, little (1 phenomenons 2 phenomen 3 phemomen 4 phenomena 5 more little- the most little 6 littler- the littlest 7 less-the least J lit-lit)

D) bad, person (1most 2east 3 worst 4 badder 5persons 6 people 7 peoples)

Ex.6.3 P.

Ex.6.3.1 P. Mark one variant or deny the presence of the correct variants at all:

D) Mapping is the most important subject for a future land manager

1) Картографія – важливий предмет для землевпорядника

2) Картографія – важливіший предмет для землевпорядника

3) Картографія – найважливіший предмет для землевпорядника

E) The Faculty of Land Management is the best faculty

1) Факультет землевпорядкування – гарний факультет

2) Факультет землевпорядкування – кращий за інші

3) Факультет землевпорядкування – найкращий факультет

F) Landscape Management Faculty is better faculty

1)Факультет землевпорядкування – гарний факультет

2) Факультет землевпорядкування – кращий за інші

3) Факультет землевпорядкування – найкращий факультет

G) Topography is more important subject for a future land manager

1) Топографія – важливий предмет для землевпорядника

2) Топографія – важливіший предмет для землевпорядника

3) Топографія – найважливіший предмет для землевпорядника

Ex.6.3.2 P.Connect the columns and add the missed variant:

A)

1 leaf A ending «a» in plural

2 datum B ending ? in plural

3 church C ending «s» in plural

4 deer D ending «es» in plural

B)

1 phenomenon A ending «a» in plural

2 box B ending «ves» in plural

3 fly C ending ? in plural

4 wolf D ending «es» in plural

C)

1 duty A ending «a» in plural

2 automaton B ending ?in plural

3bruch C ending «s» in plural

4 ox D ending «es» in plural

E ending«ies» in plural

Ex.6.4 P.

Ex.6.4.1 P.. Fill the gaps:

A) «big» may be compared as «…» or «the…» .

«complicated» may be compared as «…» or «the…» .

«far» may be compared as «…» or «the…» .

Ex.6.4.2 P.Confirm or deny the accuracy of statement:

A) «Ступені порівняння від «complicated» творяться за допомогою залучення попередніх слів «more» «the most» без суфіксів «er» та «est»: complicated– more complicated – the most complicated»

B) Ступені порівняння від «complicated» творяться за допомогою суфіксів«er» та «est»: complicated – complicater–the complicatest

C) Ступені порівняння від «big» творяться за допомогою суфіксів «er» та «est»: big – bigger – the biggest

D) the eleventh educational block is further from «Vasylkivska» subway station than the sixth one within the National University of Life and Environmental Sciences of Ukraine

E) Bee-keeping is less important subject to be studied by land manager than pedology

F) The sixth educational block is further from Vasylkivska subway station than the eleventh one within the National University of Life and Environmental Sciences of Ukraine

G) Bee-keeping is more important subject to be studied by land manager than Survey

Ex.6.4.3 P. Propose two forms to compare the word and conclude your own adequate sentence about cartography

A) many, modern B)far, interesting C) high, wonderful D*)* short*,* little

Ex. 6.5 P.

Ex.6.5.1 P. Fill the gaps:

A) Maps are flat r_____ of the earth varying in size from small maps to huge wall maps. Using different colors and s_____ maps can illustrate state boundaries, relief or soil types, rainfall, fluid hazard, as well as population character, weather changes or mineral resources deposits. Despite their variety, all maps have similar components like a title; a legend or key, a direction indicator and a scale.

B)

Topographic s_____ predicts cartographic analysis of distance between objects, their l_____ to conclude cartographic grid in proper azimuth, meridian and parallel cartographic projection in a proper linear s_____ and in a proper system of reference using special l_____ like solid and dotted lines. Cartographer must know about a_____, equator, convergence of meridians, horizontal coordinates in l_____ or latitude as well as vertical position in a_____.

C)

Cartography is an a_____ science that deals with the study, development and creation of geographical maps exampling Eratosthenes „works on g_____, astronomy, and cartography , geography to be previously joint into one science. Eratosthenes wrote the book "G_____" to plot earth's s_____ on a map even with parallels and meridians drawn t_____ some geographical points. He is considered the first s_____ because he was the first to m_____ the length of the arc of the m_____ to determine the size of the Earth.

D)

During the Renaissance, the art of c_____ was valued so much that geographical maps decorated the walls of apartments just as much as paintings by artists. Before the i_____ of printing, maps were drawn by hand, they were very e_____.

Modern cartography deals with real-time p_____and good design to reflect spatial placement and i_____ of natural and social phenomena and their state over time through figurative-sign models in cartographic i_____.

Ex.6.5.2 P. Read, translate and represent as scene in artistic way using visual objects:

– Hi, nice to meet you.

– Hi, it‟s nice to meet you too.-

– Let join us to our groupmate‟s birthday party.-

– Oh, it may be later because now I am studying digital maps of terrain, map coverage of Ukraine and mapping of Ukrainian land.

– It‟a a pity but what is your progress?

– Oh, by this moment I‟ve got knowledge only about basic scale of map as well as dashed elements of map or types of map legend.

– Is it enough for marking of cartographic representations to achieve geometrical accuracy of map?

– I‟m not sure.

–Well, do you mean these positions for digital maps of terrain or of common title maps?

– Who knows…But what unstudied material left?

– Well, I need also to know about surveying preimage of map, compilation sheet of map and transferring of cartographic imagery.

– I think that you are over hardworking student and you need a break just now. Your brain needs a rest at least for a half of day.

– I agree, I‟m glad that you take care of me. Let us go to our groupmate‟s birthday party.

Ex.6.5.3 P. Represent your own dialogue about cartography mentioning the words from table and phrases of agreement and disagreement as the obligatory ones.

картографія	план, карта, цифрові карти, легенда, масштаб рамка карти, довгота широта, меридіан, паралель, градус

Main individual task 6:

6.1.I Remind the main principles to describe pictures

6.2.I Describe the proposed cartography images according to the previously found rules

6.3.I Compose own sentences about these pictures to express your own real life experience dealing with such images

Image «Cartogaphy» 1

Image «Cartogaphy» 2

Image «Cartogaphy» 3

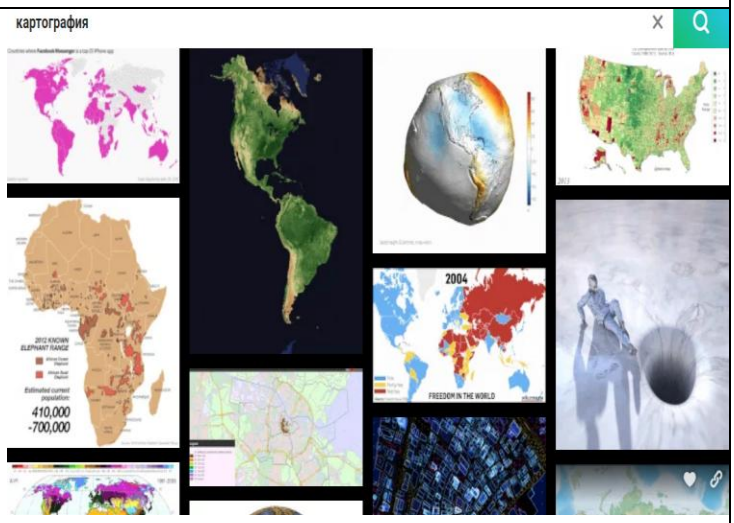


Image «Cartogaphy» 4

6.4.I

6.4.1 I.Continue the real life story to solve a problem mentioning the sides of world (eastern direction- східний напрям, western direction-західний напрям, northern direction-північний напрям, southern direction-південний напрям): Once I got lost in the woods and did not know where to go, but with the help of the map I orientated and went to the road where I was picked up by the first car and taken to the city….

6.4.2 I. Listen to the Track 61 «The best of the best» according ,find interesting words, annotate it in Ukrainian and find accordance with cartography and adjectives for your abstract. How to depict your abstract locality?

A). The most exciting thing to do.*(think-думати, thin-тонкий)*

B). The most frightening activity.

C).The best shopping.

D). The most expensive place to stay

E). The most historical place.

F). The wildest ….

6.4.3 I. Represent the main idea of this text in one Ukrainian sentence. Agree or disagree that this statement is true or false fact. Propose similar text about interesting facts concerning cartography .What is your attitude to this game? What was you own experience ?

The world's first puzzle was invented by the English cartographer John Spilsbury around 1760. But it was not intended for entertainment, but for educational purposes, because it was a map of Europe cut into states. This method of learning was very clear and very popular with children, and only many years later other people began to release game puzzles.

Ex.6.5 I

Ex.6.5.1 I. Look through e-learn presentation «Cartography» and answer the questions to audience.

Ex.6.5.21 I Analyze and retell the main idea of video: A) Lesson 3 –Part 1 What is cartography. URL: https://www.youtube. com/watch?v=zdFOQuXKvHE ; *B)* Cartography video learning. URL: https://www. youtube.com/watch?v=OP1tG_EPA0

Additional individual task 6

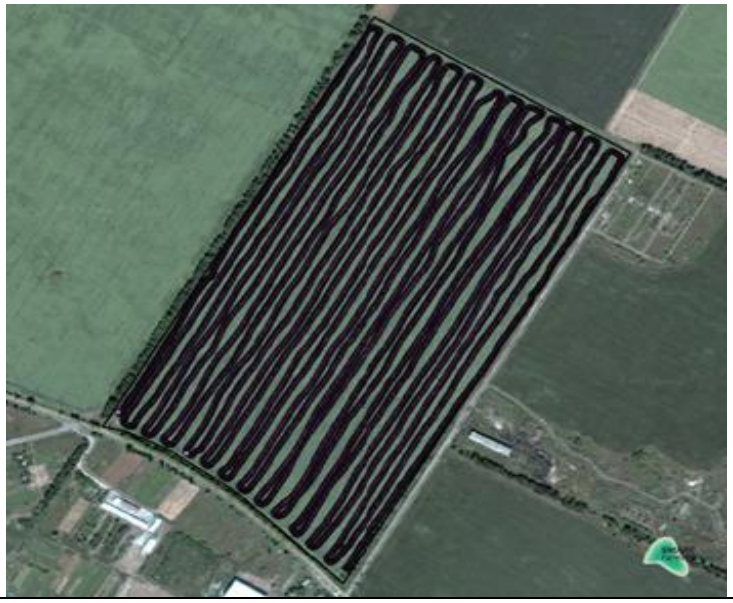
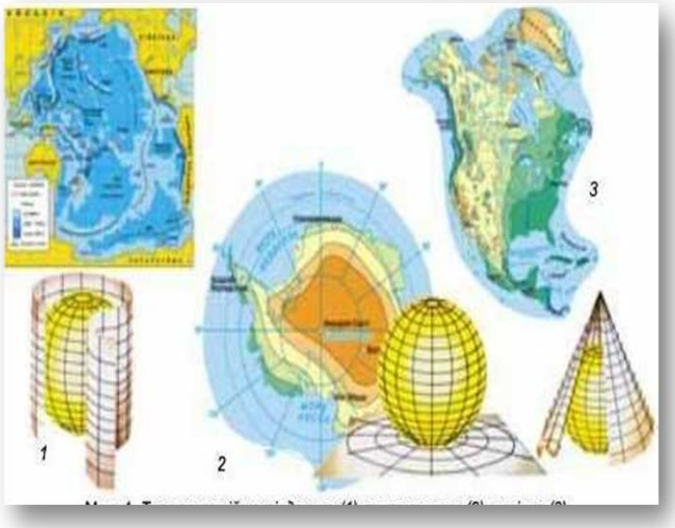
Ex. 6.1. I Add. Represent the characters in vivid pictures as well as in schemes pointing main objects and think about another variant of cartography problem solution: Once upon a time a man was lost in the unknown wood. It was nervous for a long time but for his pleasure he found a map of neighboring localities under the tree. He could read this map cartographic grid to depict the adequate positions. His topographical shooting predicted cartographic analysis of distance between objects. According to this map legend the man could calculate correct

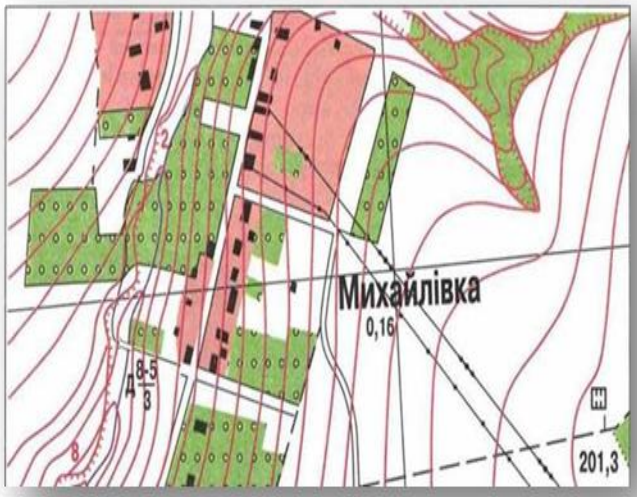
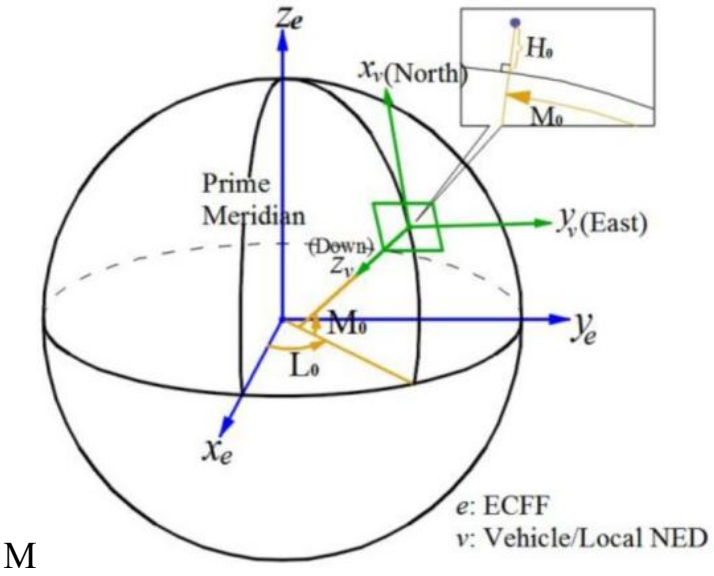
distance and correct direction to go away from the wood. His family was glad to meet him again. The man kept the map and decided to become a land manager.

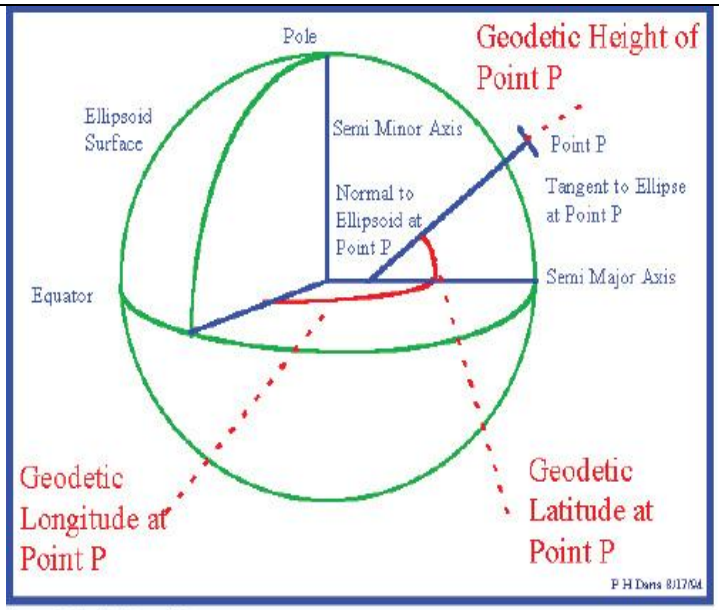
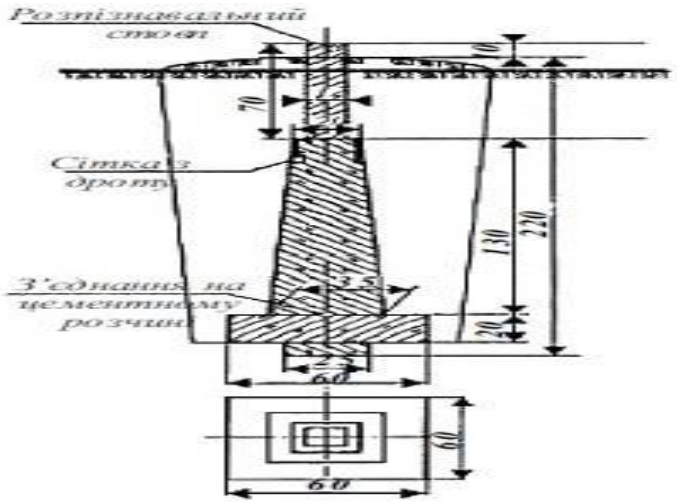
Ex. 6.1. 2Add. Connect the term with its definition:

1 latitude	A the angle distance of a point on the Earth from the Equator
2 longitude	B the angle distance east or west from Greenwich Meredian
3 scale	C the relationship between lenth on the map and actual distance on the ground.
4 legend	Dexplaination the meaning of colors and symbols used on a map
5 parallels or lines of latitude.	E are to show east and west direction
6 meridians or lines of longitude.	F are to show to North and south directions
7 degree	G includes 60 minutes(„) to conclude coorinate grid
8 minute	H includes 60 seconds(„“) to conclude coorinate grid
9 map frame	I contains an ordered set of map layers, a scale bar, north arrow, map title, descriptive text, and a legend.
10 landscape	J everything you can see when you look across an area of land, including hills, rivers, buildings, trees, and plants.
11 cartography	K the science or art of making or drawing maps
12 map	L drawing of a particular area such as a city, a country, or a continent, showing its main features as they would appear if you looked at them from above
13 grid	M a network of horizontal and perpendicular lines (as for locating places on a map)

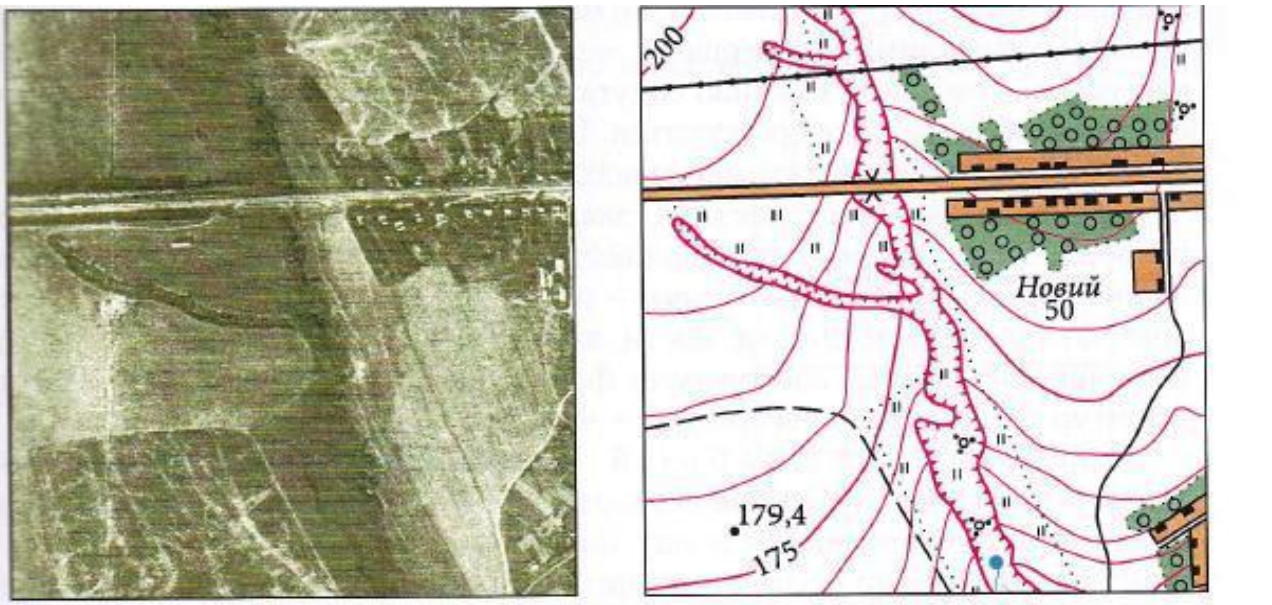
Ex. 6.1. 3 Add. Connect the columns for image , kind of map and its definition. Add the list of Unit's 6 words in need.

1 topographic map	A 	B represents some portions of the Earth‟s surface by using mathematic rules, maps of large and medium scales, including topography, elevation, description or coordinate grid, they have a permanent legend
2 large-scale topographic maps	C 	D are used for detailed study of the area, orientation on it, accurate measurements and calculations
3 medium-scale topographic maps	E 	F are used for preliminary design of railways and highways, geological surveys, preliminary calculations in the design of large structures

4 small-scale topographic maps	G 	J are used in solving scientific-research and applied tasks related to the use of natural resources, economic development of the territory, with the general design of large industrial complexes, navigation and other works
5 cadastral maps	K 	L large scale maps to 1 : 5 000) – including geodetically determined fixed points, topography, elevation and description
6 maps for records, planning and projection purposes	M 	N detailed topographic maps and thematic maps that are issued for specific needs of institutions, organizations, etc.

7 predictive (prognostic) map	O 	P shows the probable status of displayed events in the future
8 current maps	 Q Figure 2. Geodetic Coordinates	R capturing a territory on the date of the earliest possible date of publishing a map
9	K 	?

Ex. 6.1. 4I Add. Translate and draw your own topographic mentioning localities space between the sixth and eleventh educational blocks of our university - between the Vasylkivska str. and Heroiv Oborony str.:



Мал. 14. Аерофотознімок та план однієї й тієї ж місцевості

Мал. 15. Умовні топографічні знаки

Ex. 6.1. 5 I. Add. Do one variant on your own choice:

A) Review the table of land management terms in appendices and rewrite those which directly deal with the theme «Land Management» in 10 items crossword with 10 sentences adequate definitions explanation

B) Analyze existing e-learn presentation «Cartography » and propose additional 10 slides

C) Analyze existing three e-learn videos about cartography. Which of them is more important and interesting for you. Why?

*(*Lesson 3 –Part 1 What is cartography URL: https://www.youtube.com/watch?v=zdFOQuXKvHEor

Cartography video learning. URL: https://www.

youtube.com/watch?v=OP1tG_EPA0 or (Cartography [Electronic resource]. URL: : https://www. youtube.com/ watch?v=FXgSwxsxiRI Mana).

Module 3 check-up

1.Answer the questions to be pointed as your variant:

1) What are the kinds of soils?

2) What must land manager be able to identify?

3) What are the methods of soil conservation?

4) How to prevent overwatering during rain or high wind.

5) What is pedology?

6) What is soil?

7) What does soil protection involve?

8) A land manager deals only with environmental protection in general, does not he?

9) What are the similar components of all maps?

10) Cartographer must know only about azimuth, equator, convergence of meridians, must not he?

11) What are maps and what may they illustrate?

12) What is cartography in general and was it previously the part of one science?

13) What does topographic shooting predict?

14) What was Eratosthenes‟ contribution into development of cartography?

15) Were topographic maps during the Renaissance printed and out of value?

16) What does modern cartography deal with?

17) Can you compose your own sentences about cartography and soils using If-Clauses, Adjectives and Nouns?

18) How toexpress agreement and disagreement as well as comments?

19) What are your favourite words concerning Module 3 terms?

20) Are you ready to represent all practical works, main individual tasks and additional individual tasks concerning soils and cartography ?

2 .Connect the columns:

A)

1 latitude A довгота

2 elevation B западина

3 trench C вивищення

4 пунктирний D dotted

5 суцільний E solid

F нема відповідності

B)

1масштаб A inaccuracies

2рамка B longitude

3 довгота C scale

4широта D latitude

5 неточності E frame

C)

1карта, виготовлена на замовлення A attributional data

2карти, придатні до використання B conventional maps-

3дані про розташування предметів C bespoke map-

4широкомасштабні карти D location data-

5дані про співвідношення предметів E large scale map-

D)

1 church A закінчення «s» у множині

2 phenomenon B закінчення «es» у множині

3 wolf C закінчення «ies» у множині

4 duties D закінчення «ves» у множині

5ray E нема відповідності

*3.Choose the variat of comparison to « great».*A greater- the most great

B greater- the greatest C greater- more great D more great- the most great

E ступенів порівняння не утворює

4.Improve the mistake in sentence : If we will be cartographers we‟ll be dealing with soil state determinations too while depicting adequate legend on our layouts.

5. Improve the mistake in sentence : If we would be cartographers we‟d be dealing with soil state determinations too while depicting adequate legend on our layouts.

MODULE 4

UNIT7

GEODESY

Keywords 7:

A altimeter–висотомір; angle–кут

C current– поточний (на даний час)

D detailed observation–скурпульозний огляд у деталях; directional boring–горизонтальне прокладення; distance measurements– заміри відстаней

E to elevate- піднімати, elevation – вивищення; excavation and hydraulic works-земельні та гідротехнічні роботи; to establish position of points встановити розташування об'єктів; fixing of, fixing of slopes and high water mark.

F field– поле *або* сфера; fixing – закріплення, установка, фіксація; further predicted changes – подальші передбачені зміни.

G geodetic grid– -геодезична сітка; geodetic executive shooting – геодезичне виконавче знімання; geodetic points – геодезичні точки; Gravity Field – поле тяжіння; groundwork for positioning – земельні роботи для встановлення орієнтирів

H high water mark–відмітка висоти ґрунтових вод

L land probing analysis and high water mark– аналіз показників зібраних проб та відмітка підходу води до поверхні; leveler– нівелір

M monitoring the changes–поточний контроль змін у стані

S space positions of points– просторові координати точок ; survey– геодезія *або* розвідка

P previous–попередній; processing of geodetic measurements – обробка геодезичних замірів; pillars–засадничі основи *або* стовпи; properties–властивості; to provide–забезпечити

R rail– рейка; rotation –обертання; ruler– лінійка

S shape–форма, slope – відхід від вертикальної позиції, схили; solution – рішення; space– простір; spatial and scales – просторові масштаби

T temporal scales – часові масштаби; terrestrial–наземний, площинний, одновимірний; theodolite–теодоліт; three-dimensional–трьохвимірний; toolbox– інструментарій

Text 7:

Survey (geodesy) is a science to determine terrestrial or three-dimensional space positions of points, distance and angles between them dealing with physics, geography, geology and law. It is the science of accurately measuring and understanding three fundamental properties of the Earth: its geometric shape, its orientation in space (vertical elevations and geographical positions) and its gravity field . The groups of geodetic devices are mechanical, electrooptical and radio electronic apparatus. The representatives of geodetic devices are theodolite, altimeter, leveler, tachometer, tellurometer or special instrument for EDM (electronic distance measurements). Ruler, compass, rail, bussol are to be geodetic tools too.

The practical role of geodesy is to provide a network of accurately surveyed points on the Earth‟s surface, the vertical elevations and geographic positions. Today the toolbox of geodesy comprises a number of space-geodetic and terrestrial techniques for detailed observations of the «three pillars of geodesy» (Geokinematics, Earth Rotation, the Gravity Field) on a wide range of spatial and temporal scales.

Either geodetic survey or land probing analysis are in need to establish position of points. The accuracy and up-to-date managing of geodetic points is of great importance for further directional boring, excavation and hydraulic works, fixing of geodetic points, fixing of slopes and high water mark to monitor previous, current and further predicted changes

Questions 7:

1)What is geodesy?

2)What are three fundamental properties of the Earth?

3) What is EDM?

4)What are three pillars of geodesy?

5)What are representatives of geodetic devices themselves?

6) What is the practical role of geodesy?

7) What further activities are dealt with the previous geodetic survey?

8) Is only geodetic survey in need to establish position of points?

Grammar 7: Passive voice, English Tenses

Conversational phrases 7: stimulating

Stimulating	Let‟s discuss Let‟s do Don‟t be afraid, You can do it Everything will be done in time You‟ll get all you‟ve planned We‟ll do the best to help you Your problem will be solved

Practical work7:

Ex 7.1P.

Ex.7.1.1 P. Represent notes and be ready to retell additional grammar material about passive voice and English Tenses to conclude 10 sentences combining grammar phenomena with this unit words

Ex7.1.2 P. Answer all unit 7 questions orally and note two answers in written form mentioning the first and the second questions for the first subgroup, the third and the fourth questions for the second subgroup as well as the fifth and the sixth questions for the third subgroup and the seventh and the eighth ones for the fourth subgroup.

Ex.7.2 P.

Ex.7.2.1 P. Propose the solution of geodetic problem and stimulate your partner to improve the situation

How to improve this dangerous situation?....

A) The bridge pillar slopping is huge.

B) This geodetic instrument has predicted high water mark

C) I need to determine the angles levels but I‟ve lost leveler.

Ex.7.2.2 P. Explain what geodesist can do with_____ and what is _____structure and_____ illustrated sample?

A) theodolite; B) altimeter; C) leveler ;D) tachometer; E) tellurometer; F) special instrument for EDM; G) ruler; H) compass; I) rail; G) bussol.

Ex.7.3 P.

Ex.7.3.1 P. Fill the gaps up:

A)

Survey (geodesy) is a science to determine t_____ or three-dimensional space positions of points, distance and a_____ between them dealing with physics, geography, geology and law. It is the science of accurately measuring and understanding three f_____ properties of the Earth: its geometric shape, its orientation in space (vertical e_____ and geographical positions) and its gravity field. The groups of geodetic devices are m_____l, electrooptical and radio electronic a_____.

B)

The r_____ of geodetic devices are theodolite, a_____, leveler, t_____, tellurometer or special instrument for EDM (electronic distance m_____). The practical role of geodesy is to provide a network of accurately surveyed points on the Earth‟s surface, the vertical e_____ and geographic positions.

C)

Today, the t_____ of geodesy comprises a number of space-geodetic and terrestrial techniques for detailed o_____ of the «three pillars of geodesy» (Geokinematics, Earth Rotation, the G_____ Field) on a wide range of spatial and temporal s_____.

Either geodetic survey or land p_____ analysis are in need to establish position of points. The accuracy and up-to-date managing of g_____ points is of great i_____for further d_____l boring, excavation and h_____ works, fixing of geodetic points, fixing of slopes and h_____water mark.

Ex.7.3.2

Open the brackets

A) He (to go) last Friday

B) Recently we (to go) here.

C) We (to study) now.

D) He already (to be) ready

E) They (to study) at the Faculty of Land Management

F) They ever (to study) at the Faculty of Plant Protection..

Ex.7.3 P.

Ex.7.3.1 P. Transform the verb into negative form:

will write ,wrote . write

Ex.7.3.2 P. Mark one correct variant for translation «Чи він працював в майстерні ?»

A)

1 Was he work in workshop? 2 Did he work in workshop?

3 He worked in workshop? 4 Did he worked in workshop?

5 If he worked in workshop ? 6 Or he worked in workshop?

B)

Чи він працює в майстерні ?

1 Was he work in workshop? 2 Does he work in workshop?

3 Is he work in workshop? 4 Do he work n workshop?

5 If he works in workshop ? 6 Or he works in workshop?

Ex.7.3.3 P. Connect the columns and add the missed variants:

A)

1say	A always
2are saying	B ?
3has said	C by midnight
4will say	D at 9 o‟clock

B)

1 translated	A next month
2 will translate	B ?
3 were translating	C five months ago
4 have translated	D by 3 o‟clock

C)

1 repairs	A ?
2 is repairing	B in a year
3 has repaired	C a year ago
4 will repair	D at 7 o‟clock p.m

Ex. 7.4 P.

Ex. 7.4.1 P. Compose the sentence, using different adverbial modifiers and formula of _____ Tenses for the verb _____ for each separate sentence in present, past and future.

A) Perfect Tense for the verb «to determine» ;

B) Continuous Tense for the verb «to provide»;

C) Simple Tenses for the verb «to analyze».

Ex.7.4.2 P. Transform the statement into passive voice:

A) They drive a motor B) They will drive a motor C)They drove a motor

Ex.7.5 P.

Ex.7.5.1. I Add. Represent the characters in vivid pictures as well as in schemes pointing main objects and think about another variant of cartography problem solution:

SURVEY REAL LIFE STORY SAMPLE

Once upon a time a surveyor went out into the field to make a theodolite survey of the territory of the farm # 23. To do this, he took with him a geodetic instrument - a theodolite. Having noted the points of the boundaries of the farm, the surveyor made the binding of several points to the reference points and began to measure the horizontal angles to the points of the landfill. Suddenly, clouds

began to come and it started to rain. The surveyor was forced to postpone his work, because during bad weather the accuracy and efficiency of measurement is violated, and the device under the rain can fail.

Ex.7.5.2 I Add.

Read, translate ,add and represent as the artistic scene

- Hi, Oleksandr. Did you study Geodesy at school?

- No, I did not because I studied only Geography. Can I help you more ?

- Yes, what are the kinds of geodetic instruments?

- There are several geodetic devices like mechanical, optical-mechanical, electrooptical, and radio electronic apparatus

-What are your favorite words according to topic« Geodesy and Geodetic Devices»?

- I liked such terms as «geodetic achievements», «geodetic history» and «processing of geodetic measurements».

- What do they mean?

- Listen. «Processing of geodetic measurement is….»,«geodetic achievements are…..», « geodetic history deals with…..»

- OK. And what is adequate conversational situation applying these terms?

- Once upon a time a geodesist was engaged into geodetic executive shooting and further geodetic calculations. He could do it due to processing of geodetic measurements and fixing of slopes and high water mark. Accurate positioning of parcels favored further directional boring. The consumer was glad and paid a proper salary. Due to the previous success now this geodesist is trying to work with geospatial modelling to form a national geospatial data infrastructure to combine history and achievements.

-Thanks for your answers. Bye. - Help yourself. See you later.

Ex.7.5 P. Compose and represent your own additional version using this unit conversational phrases , terms abou geodesy and grammar: mentioning the words from table and phrases stimulating as the obligatory ones.

геодезія (survey)	вимірювальні прилади (теодоліт, нівелір) вимірювати, кути, довжини ліній, точність, похибка, рейка, лінійка, компас, бусоль

Main individual tasks 7:

7.1.I. Remind the main principles to describe pictures

7.2.I. Describe the proposed cartography images according to the previously found rules

7.3.I. Compose own sentences about these pictures to express your own real life experience dealing with such images

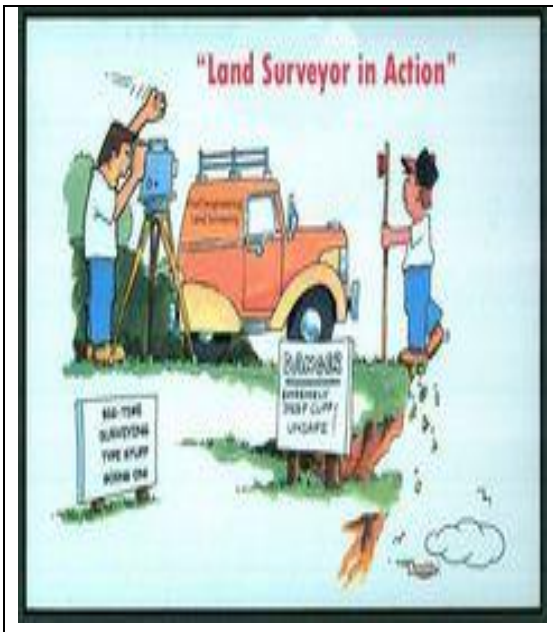
<table>
<tr><td> 
</td><td> 
</td></tr>
<tr><td>Image «Geodesy» 1</td><td>Image «Geodesy» 2</td></tr>
<tr><td> 
</td><td>  </td></tr>
<tr><td>Image «Geodesy» 3</td><td>Image «Geodesy» 4</td></tr>
</table>

Image «Geodesy» 5

Ex.7.4.I

Ex7.4.1 I. Look through e-learn presentation «Geodesy» and answer the questions to audience.

Ex7.4.2 I Analyze and retell the main idea of video «Geodesy»-URL: https://www.youtube.com/watch?v=BCK5Zj--w7w

Ex.7.5.*I*

Ex.7.5.1 I. Represent the main idea of this text in one Ukrainian sentence. Agree or disagree that this statement is true or false fact. Propose similar text about interesting facts concerning geodesy .What is your attitude to three dimensional space position in our modern life ? Can we do without such devices ?

For the first time the size of the Earth (like a sphere) was determined by the ancient Greek mathematician and philosopher Pythagoras. For geodetic measurements, he proposed a method of triangulation. Thanks to degree measurements, it was found that the Earth is flattened from the poles. Survey is a science to determine terrestrial or three dimensional space positions.

Ex.7.5.2 *I . Find and improve more than five secret mistakes in incorrect Ukrainian variant .Propose your own interesting facts about geodesy in the similar way:*

Geodetic measurement to divide the earth's surface into separate sections developers in Egypt, China and other countries for many centuries BC. For 6 centuries BC in the Nile Valley there were irrigation systems and canals, the construction of which required the performance of geodetic works. Already in the third century BC was recognized as the radius of the radius of the Earth, which was then taken as a sphere.	Геодезичні вимірювання для розподілу поверхні землі на окремі ділянки розроблялися в Єгипті, Японії та інших країнах за багато століть до н.е. За 5 століть до н.е. в долині річки Амазонки існували осушувальні дренажні системи і канали, будівництво яких вимагало виконання геодезичних робіт. Вже в тринадцятому столітті до н.е. був визначений радіус Землі, яка тоді приймалася за плескату поверхню.

.

Additional individual task 7

*Ex.7.1 I Add. Read the words and ask about their meanings in chain without repeated consulting:*геодезія – survey (geodesy); вимірювальні прилади – measuring instruments;теодоліт – theodolite; нівелір (оптико-механічний геодезичний прилад) – level;вимірювати – to measure ; кути – angles; довжини ліній–line lenghts; точність – accuracy ; похибка – faulty; рейка – rail;лінійка– ruler; компас – compass; бусоль – bussol; висотомір – altimeter; висота над горизонтом – elevation;закріплюючий гвинт – clamping screw; візир – view (peep sight);триніг – tripod; наводячий гвинт – tangent screw;

Ex.7.2. I Add. Connect the term with its definition and add the list of this unit words with the unknown ones from this exercise:

1 survey	A is a science to determine terrestrial or three-dementional space positions of points, distance and angles between them dealing with trigonomentry, georgraphy, geology and law
2 theodolite	B to define directions and to measure horizontal and vertical angles , to define the difference between heights of points of the earth's surface with a tripod

3 theodolite main working measure	C the horizontal and vertical circles with degree minus and second divisions.
4 tacheometer	D old rectungular technique using angle prism and stell tape
5 gravimeter	E to measure graviry basing upon measuring of acceleration of free fall(for example, on a reflecting prism in a vaccuum tube)
6 level	F to determine the height diferrences relative to a given level surface commonly reffered to mean sea level.
7 electro-optical rangefinders and radiolanders	G to measure the distance along the length of the line of light waves measured or radio waves, whose rate of propagation is known
8 bussol	H to define direction of the lines relative to the meridian
9 astrolabe	I consists of a circle with divisions, on which angles were counted using a ruler, rotating with dioptrams, served to guide the subject
10 electronic tacheometer	J is to measure distances, aclinic and vertical angles, recording data, software programs like Surveying, Measuring,Setting Out, Area.
11 altimeter	K to measure height meter
12 barometer	L to use pressure as an indicator of height
13 compass	M to indicate southern, eastern, northern and western sides and poles

Ex.7.3. I Add. Fill the table up:

Geodetic instruments

N	Title, use, structure	Image

1	_____ _____ _____ _____ _____ _____ _____ _____ ___	
2	_____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____	
3	_____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____	
4	_____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____	

Ex.7.4. I Add. Fill the table:

N	Title, use, structure	Image
5	_____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____	
6	_____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____	
7	_____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____	
8	_____ _____ _____ _____ _____ _____ _____ _____	

9	_____ _____ _____ _____ _____ _____ _____ _____ _____ _____	

Ex.7.4. I Add. I Analyze existing three e-learn videos about geodesy. Which of them is more important and interesting for you. Why?

1)A Brief History of Geodesyhttps[Electronic resource]. Available at : www.youtube.com/watch?v=hsmB-rMw4lQ

2) Geodesy . URL : https:// www.youtube.com/watch?v=j7_f_wKTwhI

3) Fundamentals of Geodesy URL : https://www.youtube.com/watch?v=RoO-653Uc_M

UNIT 8

GIS

Keywords:

A aerial photography – аерофотозйомка; aerial shooting – аерофотозйомка (збір показників за допомогою дронів); aerocamera – аерокамера; aerial visual observation– відеспостереження засобами літальних апаратів;antenna ground plane – наземна антенна відбиття сигналів

C to create highly detailed maps – розробити деталізовані карти(плани місцевості) ; to create three-dimensional maps–розробити трьохвимірні плани місцевості; to combine photos from different angles –скомбінувати фото з різних кутових ракурсів; remote– дистанційний, віддалений; remote zoning-дистанційне зонування районів

G GIS (geographic information system)

S scanner sampling – збирання проб (зразків) за допомогою сканера;

Text 8: GIS

GIS (geographic information system) deals with terrestrial surveying or satellite geodesy. It allows us to create complex accurate topographical map due to remote sensing, the gathering and recording of information through aerial photographs and satellite images to combine photos from different angles . GIS uses the process of triangulation to calculate the location of elements to provide access to a huge amount of data about the environment displaying almost any type of element like roads, bridges, buildings, rivers, political boundaries, soil types, state of crops or soils weather conditions, indices of grains vegetation, lack of fertilizing, human behavior the degree of forest cut etc.

GIS provided the recent achievements in topographical and geodetic activities due to three technologies: satellite radio navigation systems (GNSS) being created to specify objects location coordinates as well as their direction or speed of movement., laser 3D scanning (lidar surveying) and operational mapping using unmanned aerial vehicles (UAVs) to create three-dimensional maps by

scanner sampling to save time and manual labor costs.A multifunctional geodetic device combines a function of theodolite, a laser rangefinder and a computer to solve many construction and geodetic tasks. The most commonly used adequate trade marks are Topson, Sokkia, Trimble, Pentax, Leis, Nikon. GPS (Global Positioning System) digital maps are to detect digital relief(terrain) model by means of DWP (digital photogrametic stations) photomaps using antenna ground plane. Photogrammetry is aerocamera aerial visual observation for remote geopilot sensing and remote zoning of the Earth to do aerial shooting with proper land surface background foreground photos. GPS receivers produce three-dimensional coordinates in a geocentric coordinate frame. Unmanned aerial vehicles -drones can create three-dimensional maps by scanner sampling to save time and labor costs. The collected data are tagged and digitally recorded into a Geographic Information System Database.

Questions 8:

1) What does GIS allow us?

2)What is GPS and DWP?

3) What is photogrammetry?

4) Do drones use antenna ground plate themselves?

5) What devices may combines the function of theodolite, a laser rangefinder and a computer? 6) What is Geographic Information System Database used for?

7) Drones are unmanned aerial vehicles, are not they?

8) What do GPS receivers provide?

Grammar 8: Types of questions, negative verb forms

Conversational phrases8: Розмовна англійська за фільмами

КРОК1.	*URL:* https://www.youtube.com/watch?v=tNvgOwfzstI(5 suitable phrases)
КРОК 2	*URL:* https://www.youtube.com/watch?v=8uAmdXW0MmY(5 suitable phrases)
КРОК 8	*URL:* https://www.youtube.com/watch?v=h3c8KPkYjsU(5 suitable phrases)

Practical work 8:

Ex 8.1.

Ex.8.1.1. Represent notes and be ready to retell additional material about types of questions, negative verb forms to compose 10 sentences combining grammar phenomena with this unit words

Ex8.1.2. Answer all unit 8 questions orally and note two answers in written form mentioning the first and the second questions for the first subgroup, the third and the fourth questions for the second subgroup as well as the fifth and the sixth questions for the third subgroup and the seventh and the eighth ones for the fourth subgroup.

*Ex.*8.2 Represent 5 favourite convestational phrases to be used in the abovementioned videos:

KPOK1.	Phrase 1.
	Phrase 2.
	Phrase 3.
	Phrase 4.
	Phrase 5.
KPOK2.	Phrase 6.
	Phrase 7.
	Phrase 8.
	Phrase 9.
	Phrase 10.
KPOK 8.	Phrase 11.
	Phrase 12.
	Phrase 13.
	Phrase 14.
	Phrase 15.

Ex.8.3

Ex.8.3.1

A) Compose all kinds of questions to: Unmanned aerial vehicles -drones can create three-dimensional maps by scanner sampling to save time and labor costs.

B) Transform the following verbs into negative form: collected, records, brought, may observe, were GIS followers, has skills in aerial shooting

Ex.8.3.2

Translate or point the type of questions and compose your own adequate samples using this unit key words with different sentences and different verb indicators:

A)Підметове запитання стосовно ГІС: _____?

B)Розділове запитання стосовно ГІС: _____?

C)Альтернативне запитання стосовно ГІС: _____?

D) Спеціальне запитання стосовно ГІС: _____?

E) _____ question anout GIS : Does GIS (geographic information system) deal with terrestrial surveying?

Ex.8.4.

Ex.8.4.1. Fill the gaps:

A) GIS (g_____ information system) deals with t_____surveying or satellite geodesy. It allows us to create complex accurate topographical map due to remote sensing, the gathering and recording of information through aerial photographs and satellite images to combine photos from different a_____ . GIS uses the process of triangulation to calculate the location of elements to provide access to a huge amount of data about the e_____ displaying almost any type of element like roads, bridges, buildings, rivers, political boundaries, soil types, state of crops or soils weather conditions, indices of grains v_____, lack of fertilizing, human behavior the degree of forest c_____ etc.

B) GIS provided the recent a_____ in topographical and geodetic activities due to three technologies: satellite radio n_____ systems (GNSS) being created to specify objects location c_____ as well as their direction or

speed of movement, laser 3D s_____(lidar surveying) and operational mapping using unmanned aerial vehicles (UAVs) to create three-d_____ maps by scanner sampling to save time and manual labor costs.A m_____geodetic device combines a function of t_____, a laser rangefinder and a computer to solve many construction and geodetic tasks.

C

The most commonly used adequate trade marks are T_____, Sokkia, Trimble, Pentax, Leis, Nikon. GPS (Global Positioning System) d_____ maps are to detect digital relief(terrain) model by means of DWP (digital p_____ stations) photomaps using antenna g_____ plane. Photogrammetry is a_____ aerial visual observation for remote geopilot sensing and r_____ zoning of the Earth to do aerial shooting with proper land surface background foreground photos. GPS r_____ produce three-dimensional coordinates in a geocentric coordinate frame.U_____aerial vehicles -drones can create three-dimensional maps by s_____sampling to save time and labor costs. The c_____data are tagged and digitally recorded into a Geographic Information S_____ Database.

Ex.8.5

Ex.8.5.1. Read, translate and represent as scene in artistic way using visual objects as well as rewrite the types of existing maps to be prepared with the help of GIS systems:

-Hi, it‟s time for vocations. Take the most necessary things with you.

– OK, I‟m ready.

– Oh, but why is your luggage too heavy? What papers did you take?

– I cannot do without general GIS topographic map, GIS international world map, GIS general geographic maps as well as GIS general economic maps and GIS general educational maps. They are not too heavy.

– But I feel that you did not say everything.

– Just a little. Also I put economic- geographical maps , engineering-geological maps , population service maps ,medical geographical maps, social economic maps.

– Is it all? Look at my eyes

– Well, I think that you have not noticed public phenomenon maps, topographic digital maps, physical geographical maps , digital contour maps digital naval mapsi and digital relief maps within my vocation luggage.

– Oh, leave all maps at home.

–Why?

– I do not think that you will deal with digital map editing or selecting metric cartographical information, semantic cartographical information, service cartographical information or even cartographical digital information and initial map data in summer on the beach

– Well, you may be right. I‟d follow your advice but what about digital map passport instead of all maps?. I want to spend some vocation time observing degree map frame, inner map edge, outer map edge to calculate map margin dimensions.

– No way, only fresh air, clear water, warm sun and I instead of all maps, passports and GIS work. Have a real rest. Postpone all your GIS activity till September.

– I agree.

– Not at all. I‟ll follow you to avoid your overworking.

– Thanks for taking care of me. Bye.

Ex.7.5. Compose and represent your own additional version using this unit conversational phrases , terms abou GIS and grammar mentioning the words from table and phrases «Розмовна англійська за фільмами» as the obligatory ones:

ГІС (GIS)	геопросторові дані з космоса, геолітальні апарати, дрони, геоінформаційна система, remote zoning

Main individual task 8

8.1 I. Remind the main principles to describe pictures

8.2.I Describe the proposed cartography images according to the previously found rules

8.3.I Compose own sentences about these pictures to express your own real life experience dealing with such images as well as decide what object is related to land manager's previous topic but not to the GIS itself:

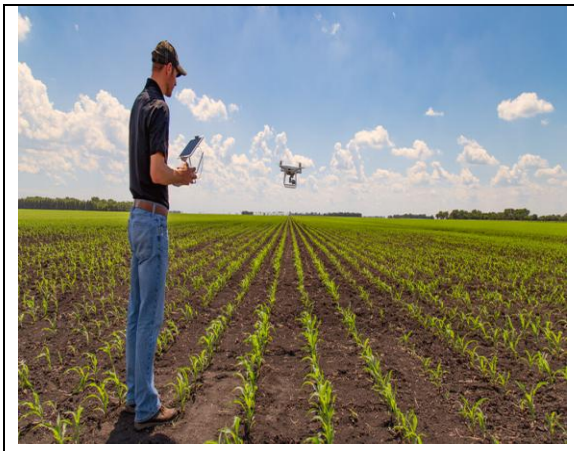


Image 1 «GIS»

Image 2 «GIS»

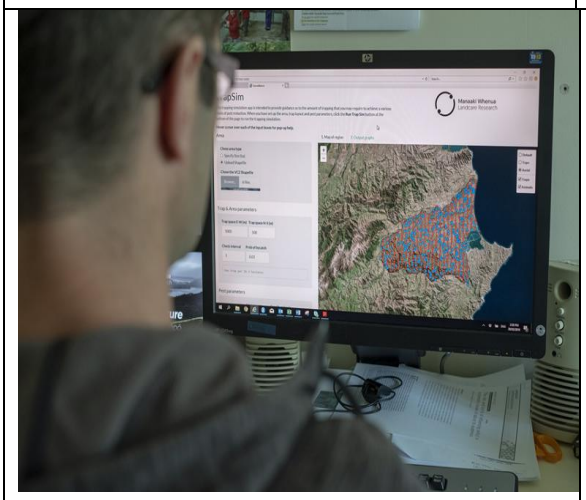


Image 3 «GIS»

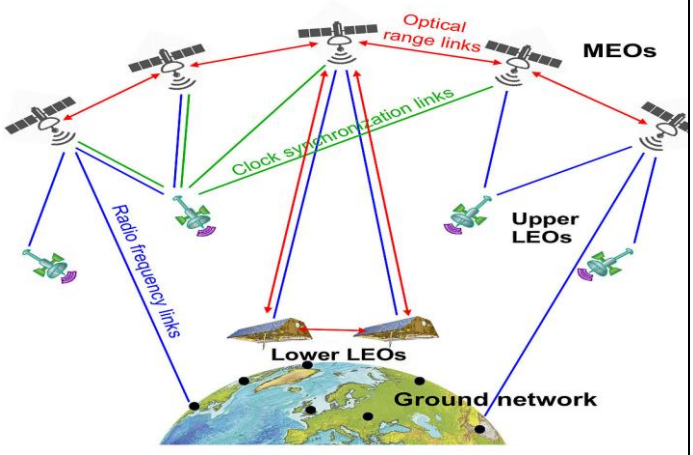


Image 4«GIS»

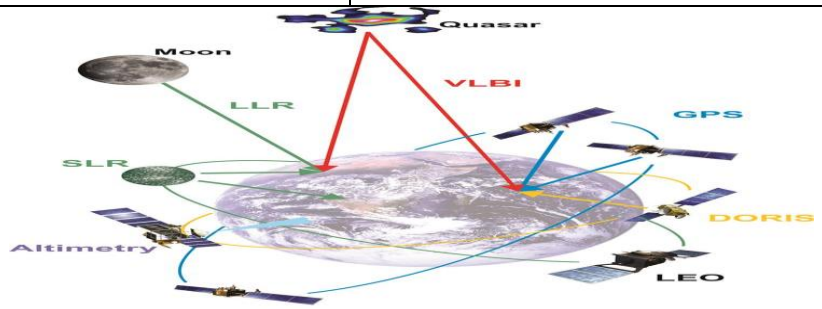


Image 5«GIS»

8.4.I Read, translate and compare two GIS real life stories.Which of them did you prefer? Why?

GIS REAL LIFE STORY1

Once upon a time, a surveyor Diego received an order to develop a photomap of the territory of the company "UkrAvtoBud". To do this, Diego first checked all the devices needed to work. The main device for compiling a photomap is an unmanned aerial vehicle - a drone. After that, Diego went to the first place of shooting. Here he took aerial photographs of the area. After processing the results, Diego made the first part of the photomap. Thus, this surveyor developed the entire photomap and fulfilled the order on time.

GIS REAL LIFE STORY2

Once upon a time the first -year student had decided to use GPS tool by summer. He had already asked his group- mate : «Look! Is earth‟s surface being studied by every land manager now with GPS tool?» Group- mate has answered: «Without GPS tools you are not gathering a complete set of wide range of valuable information now. But you can not use laser rangefinder, multifunctional geodetic device, antenna ground plane without special training». Thus the first – year student has just decided to join adequate student‟s scientific society to study aerial satellite shooting

8.5. I Do two tasks on your own choice

*A)Analyze four e-learn course videos about GIS and choose the most important and interesting one specially for you:*1)How GPS Works. URL: https://www.youtube.com/ watch?v=IoRQiNFzT0k;2)Learn what Maptitude GIS software can do for you. URL:: https://www.caliper.com/maptitude/gis_software/default htm;3)GIS Mapping your world. URL: https://www. youtube.com/watch?v =6AlH5TvFoLw 10 min; 4) -----Cartography and GIS URL: https://www.youtube. com/watch?v=MjVw2plCDpE

B) Analyze e-learn course presentation and add own 10 slides

C) Rewrite rhe basic GIS terma from the appendice and compose 10 words crossword as well as propose own words which were not mentioned by this textbook's author at all.

Additional individual task 8:

Ex. 8.1.I Add. Read the words, put them in order and ask about their meanings in chain without repeated consulting:

1 three-dimensional representation	A зйомка з повітря
2 digital maps	B аеровізуальні спостереження
3 antenna ground plate	C цифрові карти
4 aerial shooting	D дистанційний збір данних
5 aerial visual observation	E цифрові карти
6 foreground photo	F геопросторові дані з космоса
7 general global space data	G цифрові фотограметичні робочі станції
8 GPS(Global Positioning System)	H дистанційне зонування
9 GIS (geographical infornation systems)	I геолітальний апарат
10 DWP (digital photogramettic stations)	K дистанційний збір показників
11remote sensing	L супутникова радіогеодезична система у єдиній всесвітній системі відліку
12remote zoning	M передній план фотознімку
13 geopilot	N радіодальномір
13 tellurometer	O пластина антен для захисту GPS сигналів, відбитих від земної поверхні–

Ex. 8.2.I Add.

A)Compose two sentences to use as many words in logical chain as it is possible in Ukrainian and in English variants

B) Announce your English version to another student and check the accuracy of his Ukrainian translation with yours, using the table of comments

C) Announce your Ukrainian version to another student and check the accuracy of his English translation with yours

Ex. 8.3.I .Add. Read the text1 , express its main idea, propose the title and rewrite unknown words from it:

ADDITIONAL GIS TEXT 1

Modern-day topography is generally concerned with the measurement and recording of elevation contours, producing a three-dimensional representation of the earth's surface. A series of points are chosen and measured in terms of their horizontal coordinates, such as latitude and longitude, and their vertical position, in terms of altitude. When recorded in a series, these points produce contour lines which show gradual changes in the terrain.Real time kinematic GPS techniques are used as well. The collected data are tagged and digitally recorded into a Geographic Information System database.

GPS reciervers produce three-dementional coordinates in a geocentric coordinate frame. GPS navigation in agriculture is a relatively new thing. It allows you to accomplish many of the things that have recently seemed incredible: field measurements, mapping terrain, parallel driving, autopilot. Drones can create three-dimensional maps for analyzing the land for nitrogen and other substances.

Maps are further used to design landing patterns Horsh, and DroneUA are dedicated to the effective use of the capabilities of unmanned aerial vehicles as one of the main means of monitoring the state of crops and preparing a plan-map basis on the state of soils for the further effective use of land parcelscreation of soil maps by sampling; creation of ground maps using a soil scanner; Droni: physical basics, choices, weather conditions and legal issues; sensors: the possibilities and the choice of sensors, vegetation indices; assessment of long-range fields and others. Thus, GPS-navigation is a unique solution that eliminates overlapping during spraying and cleaning, re-processing parts of fields, building field maps and

planning how much and on what area to make mineral fertilizers next year. The greatest benefit from using GPS on the farm is measured in saving time and labor costs.

Ex. 8.4.I Add. Choose one among three additional texts, compose its plan and rewrite unknown words from it.

ADDITIONAL GIS TEXT 2

Electronic station

Geodetic control network (also geodetic network, reference network, control point network, or control network) is a network, often of triangles, which are measured precisely by techniques of terrestrial surveying or by satellite geodesy.developments in the digital world such as GIS (geographic information system) have allowed us to create increasingly complex topographical map. There are a variety of digital systems which utilize the basic data collected from topographic surveying to produce maps:GIS uses computer software to create highly detailed maps with distinct layers displaying almost any type of element, such as roads, bridges, buildings, rivers, political boundaries, soil types, 3-D rendering uses satellite or aerial images to produce a three-dimensional model using computer software. Aerial photography and photogrammetry combine photos from different angles and use the process of triangulation to calculate the location of elements.

Rapid developments in technology have made several new tools available. These tools already have provided a wide range of valuable infor-mation about the earth‟s surface. Remote sensing, the gathering and recording of information through aerial photographs and satellite images, ranks among the most important of the new methods. A multifunctional geodetic device combining a theodolite, a laser rangefinder and a computer designed to solve many construction and geodetic tasks. The most commonly used trade marks are: Topson, Sokkia, Trimble, Pentax, Leis, Nikon.

TOTAL STATION

- The total station is an improvised version of modern surveying instruments such as EDM – Electronic distance measurement, auto level and digital level.
- Total station is a combination of an electronic theodolite and an electronic distance meter (EMD).
- This combination makes it possible to determine the coordinates of reflector by aligning the instrument's cross hair on the reflector and simultaneously measuring the vertical and horizontal angles and slope distances.
- On board micro-processor in the instrument, takes care of recording, readings and the necessary computations. The data can be easily transferred to a computer where it can be used to generate map.

The total station works by firing an infrared laser beam at a reflector mounted on a stadia rod. The distance between the total station and the reflector is calculated based on the time taken for the beam to reflect back to the total station.

Total stations were originally developed for the construction industry – e.g. surveying new roads, laying out building foundations, utility lines etc..

Ex. 8.5.I Add. Predict the device with help of which there were image E or image F done.

Were they mentioned as the previous images or texts descriptions?

What image is closer to everyday landscape manager's work?

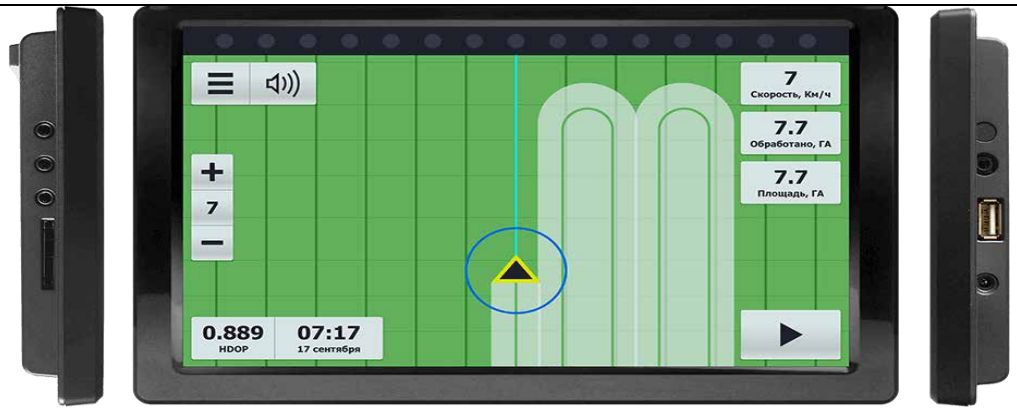


Image 6«GIS»

Image 7«GIS»

Module 4 check-up

1.Answer the questions to be pointed as your variant:

1)What is geodesy?

2)What are three fundamental properties of the Earth?

3) What is EDM?

4)What are three pillars of geodesy?

5)What are representatives of geodetic devices themselves?

6) What is the practical role of geodesy?

7) What further activities are dealt with the previous geodetic survey?

8) Is only geodetic survey in need to establish position of points?

1) What does GIS allow us?

2)What is GPS and DWP

3) What is photogrammetry?

4) Do drones use antenna ground plate themselves?

5) What devices may combines the function of theodolite, a laser rangefinder and a computer?

6) What is Geographic Information System Database used for?

7) Drones are unmanned aerial vehicles, are not they?

8) What do GPS receivers provide?

9)What are the main types of questions?

10)Are you ready with all Module 4 practical works?

11)Are you ready with all Module 4 individual tasks?

12)What are your favourite module 4 conversational phrases?

2.Open the brackets

A) He (to go) already.

B) Look! He (to cross) the street.

C) I (to see theodolite) never before studying at NULES.

D) If I (to do airial shooting) on time I (to be glad).

9.Put five differebnt types of question to the sentence «We are controlling these drones now».

10 Transform active voice into passive: They always calcultatye the distance between the total station and reflector in a proper way.

11. Connect the columns and write the missed item variant:

A)

1sampling A зйомка

2 shooting B?

3 observation C збирання проб (зразків)

4 terrain D спостереження

5 frame E рамка

6 plane

B)

1вимірювати A to measure

2 довжини ліній B line lenghts

3 макет C ?

4цифрові карти D digital maps

5 розграфлена сітка E layot

перпендикулярних ліній

C)

1геодезія A accuracy

2вимірювальні B measuring

3нівелір C survey

4 точність D ?

D)

1 цифрові E *digital*

2похибка A?

3рейка B rail

4лінійка C faulty

5 висотомір D ruler

6 кут F ?

E)

1висота над горизонтом	A clamping screw-
2закріплюючий гвинт	B tangent screw-
3наводячий гвинт	C ?
4візир	D tripod
5 триніг	E view

F)

1plane	A зйомка
2shooting	B задній план
3observation	C пластина
4foreground	D передній план
5 background	E ?

Appendix 1

The grounds of scientific work

PRACTICAL WORK «ANNOTATION»

1. Вступ до анотації:

The title of the reviewed article is…-*Назва рецензованої статті…*

The author is …. *Автор-….*

The article is from.... *Стаття взята з…(назва джерела)*

2. Основна частина анотації (подана в фахових журналах)

Summary:	
Актуальність	The relevance of the study is to describe…-*Актуальність статті- це опис…* The article is devoted to the analysis of the current state and prospects for improving….-*Стаття присвячена аналізу поточного стану та перспектив покращення/виправлення* The article deals with the actual theme concerning… It is analyzed the current state of…*Аналізується поточний стан…* The article focuses on the fact that.. -*Стаття фокусується на тому факті, що…*
Постановка проблеми	The article is devoted to definition of…-*Стаття присвячена визначенню….* The article touches upon the problem of…*Стаття торкається проблеми…* The object of research is…-*Об'єкт дослідження- це* It is investigated the problem concerning…Досліджується проблема щодо…
Шляхи вирішення проблеми	It was proposed to improve… by… *Запропоновано виправити …завдяки…*
Висновки	The article reveals…- *В статті розкрито….* The article provides a comprehensive analysis- *В статті проведено комплексний аналіз* The main conclusions are…-*Основні висновки- це* The article showed that…. *Стаття показала те,що…*
Перспективи досліджень	The prospect of research is…-*Перспективи дослідження- це* The direction of further research may be dealt with…-*Напрям подальшого дослідження може бути дотичним до….*
Keywords: ключові слова	5-8

3. Подальша структура англомовної статті, окрім зазначеного « Summary»:

1) Introduction;

2) Results and discussion;

) Conclusions;

4) References.

Ознайомившись з Теорією,

1. Надайте відповіді на запитання:

1)What is the scheme of annotation?

2) What are the basic clichés of annotation?

3) What is the structure of scientific article?

2.Fill the gaps : The following components of scientific article except of summary itself is noting… The previous stage before summary itself is noting…

3. Доповніть пропущені елементи таблиці:

3.1

Актуальність	The relevance of …. is to .e… The article is devoted to the a….and prospects for improving…. The article deals with the ac……concerning… It is analyzed the c….of… The article f…on the fact that..

3.2

Постановка проблеми	The article d…..of… The article t….the problem of… The object of r…. is… It is i…. the problem concerning…
Шляхи вирішення проблеми	It was proposed to i..… by…

3.3.

Висновки	The main c….are… It was c…… that … The a……that….
Перспективи досліджень	The prospect of r….. is… The d…. of further r… may be dealt with…
Keywords:	5-…

3.Анотуйте уривки як тренувальні зразки статей, придумавши цікаве ім'я автора, назву умовної статті та журналу з цією умовною публікацією. Анотуйте тільки ті уривки, для розуміння яких на цьому етапі навчання особисто Вам не потрібні допоміжні засоби. Антотації представте у короткому вигляді, використавши одну допоміжну фразу з кожного пункту таблиці анотації. Додайте ще одну фразу «Власне враження..Я вважаю, що для мене цей уривок…»

ABSTRACT A

A land manager deals with land law, land use, geodesy, land cadastre, land administration, land measurements like land parcel boundaries, land planning environmental economics for all land parcels and land plots. Landowners and land users need him as land manager, surveyor or land planner for land management or

land planning works, land-use planning surveying works taking into account ecological network state. In general, land Management is the branch of agriculture dealing with land reforms as well as cadastre and distribution of land natural resources. Planning crop rotation is one of the main tasks for both agronomists and land managers.

Land Management is a universal specialty dealing engineering, economy, chemistry, agriculture, geography automation etc. A land manager can not do without Math calculations too. He deals with arithmetic operations for some uneven or homogeneous points measurements. A land manager may use calibrated tube or ruler to multiply length and width while measuring square area of land parcel with accuracy. Besides, he can divide, subtract or add the value of height, depth or length numbers while geodetic objects inventory. A land manager must be able to calculate increasing ratio values of land taxes for every leased land parcel area without any measurement error.

Professional training at our Land Management Faculty being guided by Taras O. Yevsiukov within the National University of Life and Environmental Sciences of Ukraine is provided by 5 following special departments: a) Management of Land Resources; b) Land Cadastre; c) Land Use Planning; d) Geodesy and Cartography; e) Geoinformatics and Aerospace Research of the Earth. Their activity is devoted to land relations, land management, land planning and development projects and the state of land cadastre, planning environmental protection, monitoring and governmental control of rational land use, protection of land etc. Thus, the future land managers study on 5 following programs: a) land management and cadastre; b) land conservation; c) evaluation of land and real estate; d) geodesic-cartographic technologies in land management; e) GIS in land management.

All subjects studied at the University are very important. Land-survey studies land estimation; land law and geology deal with the structure of the land. The experts in geodesy and cartography will carry out aerial shootings of the earth and make maps. Geoinformation system will help to make the programs for drawing up of maps
and estimations.

Our students have practice in subdivisions of the State Committee for Land Resources of Ukraine, the Central and regional research and project institutes of Land Management, State Land Cadastre Centre, Institute of Agricultural surveys, etc. The faculty cooperates with land management foreign institutions like Italy, USA, Germany etc too.

ABSTRACT B

A land manager must know about land law exampling land code concerning state and private forms of land real property ownership and to conclude adequate land management documentation according to norm and normative standards concerning land use relations like land redistribution, land easement, land parcel boundary red lines and its landmark according to elaborated land plot map as well as conveyancing, easement, painuing, lease market with equitable taxation and

deterrent tax.

Three key rights in land law include:

– leases, which are when an owner allocates the use of land to a new owner for a period of time. The law also recognizes that sometimes the owner may simply be giving a licence for their property to be used, which in theory creates only a personal right.

– mortgages are used to give moneylenders the right to seize property in the event that a loan is not repaid.

– covenants involve rights and duties between neighbours; for example, an agreement that a neighbour will not build on a piece of land.

The adoption of the new edition of Ukraine‟s Land Code (LCU) in October 2001 gave a new impetus to the reform of land relations. It creates a foundation for further improvement and development of land relations not only in the agrarian sector, but also in the domain of non-farm lands.

There are 7 key principles of the land reform: 1) the expansion of private ownership of land;2) state's guarantee of land rights to legal entities and citizens; 3) division of state and communal lands; 4) increasing the economic potential of the land in human settlements;5) introduction of state management of land resources and land use on the basis of economic evaluations; 6) improvement of the calculation of the rental rate; 7) the development of lease relations.

This knowledge is important because economic mechanisms regulating land relations are being actively introduced now. Money value of farm lands must be properly calculated as money value of non-farm lands. A framework for purchase and sale of land is being shaped now too. The most important thing is to provide instruments certifying ownership of land.

ABSTRACT C

Land cadastre describes the plot from the material point of viewLand cadastre deals with land bonitet inventory. It is the list of land properties and its quality evaluation for cost definition like soils boning. Cadastral map may be periodically changed due to repeated cadastral photoplan surveying data to conclude general land management project.

Thus, every land manager must know about 9 categories of land purpose being described in Article 19 of the Land Code: 1) farm use land; 2) the land of residential and public buildings; 3) the land of natural reserve and other nature conservation purposes; 4) land of sanitary purpose; 5) recreational resort use lands; 6) land of historical and cultural destination; 7) forest plants land; 8) the land of the water fund; 9) industrial use lands, transport use lands, communication; energetic lines use lands, defense use lands etc. Also land cadastre pays attention on bad degradated land and arable land.

A land manager deals with environmental protection in general and with soil and land protection. Soil is the surface layer of the earth on which land plants grow. Its protection involves soil rational use, soil stabilization, land melioration, land recultivation through fertilization, irrigation and crop rotation apartly. He must know about such kinds of soils as clay, sandy, peat, silt, soil and rock

soils, saline soils, highly organic land(black soil), loam containing sand, clay and organic matter etc as well as methods of soil conservation like rotation of cover crops or green manure with other crops, planting windbreaks to stop topsoil loss from wind, perimeter runoff control to prevent erosion as well as grassways or plowing rows perpendicular to the hills. A land manager must detect the samples of bad unproductive lands and must be able to detect and to map marshland, brook or lake basin, estuary, preserve, gardens and fields, grasslands and meadows vineyards for every separated locality area. He must know about drio irrigation system to prevent overwatering during rain or high wind.

ABSTRACT D

Survey (geodesy) is a science to determine terrestrial or three-dimensional space positions of points, distance and angles between them dealing with trigonometry, physics, geography, geology and law. Thus, geodesy is the science of accurately measuring and understanding three fundamental properties of the Earth: its geometric shape, its orientation in space, and its gravity field as well as the changes of these properties with time. The practical role of geodesy is to provide a network of accurately surveyed points on the Earth‟s surface, the vertical elevations and geographic positions. Today, the toolbox of geodesy comprises a number of space-geodetic and terrestrial techniques for detailed observations oft he «three pillars of geodesy» (Geokinematics, Earth Rotation, the Gravity Field) on a wide range of spatial and temporal scales.

Geodetic survey and land probing analysis is to establish position of points like base line elevation without faulties for further geodetic calculations and processing of geodetic measurements while reconnoitre observation.

The geodetic executive shooting plays the key role when planning and deciding about any interventions into environment (in urban or rural regions) or for monitoring the changes caused by man or natural processes. They are necessary for accurate positioning of parcels or objects taken into consideration. The geodetic objects are included into the system of triangular nets of different levels (density from a few hundred meters, up to a few kilometers) which are the groundwork for positioning, calculations and measurements. The accuracy and up-to-date managing of geodetic points is of great importance for further directional boring, excavation and hydraulic works, fixing of geodetic points, fixing of slopes and high water mark

There are several geodetic devices like mechanical, optical-mechanical, electrooptical, and radio electronic apparatus for the measurement of the lengths of lines, angles, and superelevations in the construction of astronomical-geodetic grids and leveling nets; for mapping, construction, and installation; and for the operation of large engineering structures, radiotelescope antennas, and so on. Geodetic instruments also include instruments for astronomical determinations associated with geodetic projects, as well as for surveying. We use bussol , compass, theodolite, leveler, tellurometer, tacheometer, theodolite, altimeter or

special instrument for EDM (electronic distance measurement) Every geodesist must know how to adjust rail, tripod, tangent or clamping screws for proper view (peep sight). There are 4 groups of geodetic instruments:
a) instruments and devices for measuring the length of lines;
b) instruments for determining directions and measuring angles;
c)instruments for determining superelevations;
d) instruments for graphic surveying.

ABSTRACT E

Topographic shooting predicts cartographic analysis of distance between objects, their direction and physical distinguish features. It is to conclude proper geographical and cartographic grid to depict the positions with adequate location data and attributional data in proper azimuth, meridian and parallel cartographic projection. Creating geographical grid is to depict the positions. The mapping layot predicts difference in relief (terrain) landscape like mountain, hill, plain, trench, drainage pattern etc. in a proper linear scale and in a proper system of reference using special legend like solid and dotted lines. Maps are flat representations of the earth. They vary in size from small maps that appear in pocket size to huge wall maps.

Building a road, a house, planting plants etc. requires primary mapping to show fluid hazard, soil erosion as well as population character or weather changes to generalize earth pattern problem. Maps can be rolled and folded and are easy to carry around. They and related material can also be collected in an atlas to provide an easy-to-use reference. Using different colors and symbols maps can illustrate many kinds of topics, including rainfall, mineral resources, all maps have one or more inaccuracies, called distortions. Despite their variety, all maps have similar components, or parts. These include a title, a legend or key, a direction indicator and a scale. Four the most useful map properties are correct shape, correct size, correct distance, and correct direction. Map may be of bespoke kind but every kind must be conventional ones. Modern-day topography is generally concerned with the measurement and recording of elevation contours, producing a three-dimensional representation of the earth's surface. A series of points are chosen and measured in terms of their horizontal coordinates, such as latitude and longitude, and their vertical position, in terms of altitude. When recorded in a series, these points produce contour lines which show gradual changes in the terrain. Creating maps atlas predicts the knowledge about azimuth, equator , convergence of meridians, point longitude and latitude etc.

ABSTRACT F

Real time kinematic GPS techniques are used by modern land manager. Geodetic control network deals with terrestrial surveying or satellite geodesy. GIS (geographic information system) allows us to create complex topographical map. GIS uses computer software to create highly detailed maps with distinct layers displaying almost any type of element like roads, bridges, buildings, rivers,

political boundaries, soil types. Aerial photography and photogrammetry combine photos from different angles and use the process of triangulation to calculate the location of elements.

Rapid developments in technology have made several new tools available. These tools already have provided a wide range of valuable information about the earth‟s surface. Remote sensing, the gathering and recording of information through aerial photographs and satellite images, ranks among the most important of the new methods.

A multifunctional geodetic device combining a theodolite, a laser rangefinder and a computer designed to solve many construction and geodetic tasks. The most commonly used trade marks are Topson, Sokkia, Trimble, Pentax, Leis, Nikon.

GPS (Global Positioning System) digital maps are to detect digital relief(terrain) model by means of DWP (digital photogramettic stations) photomaps using antenna ground plane. Aerocamera aerial visual observation is for photogrammetry. GPS is for remote geopilot sensing and remote zoning of the Earth to do aerial shooting with proper land surface background foreground photos.GPS receivers produce three-dimensional coordinates in a geocentric coordinate frame.

Unmanned aerial vehicles Drones can create three-dimensional maps for analyzing the lack of fertilizes, to monitor weather conditions or vegetation indices the state of crops or soils by scanner sampling to save time and labor costs. The collected data are tagged and digitally recorded into a Geographic Information System database.

ІНДИВІДУАЛЬНЕ ЗАВДАННЯ «ОНОВИ НАУКОВОЇ РОБОТИ»

1. 1.Напишіть короткі тези укр. мовою (власні або від підгрупи) , використовуючи фрази «На даний час актуалізується… Дотичні до даної проблеми такі попередні дослідження відомих лінгвістів як…. Наша мета… Вибірка/експеримент проводився на базі… протягом…Результатом дослідження стало… Отже,… Перспективою дослідження є…..»

на одну з тем на вибір (зафіксуйте варіант у викладача)

1)Хибні друзі перекладача в текстах на землевпорядну тематику

2)Іншомовні кліше виявлення основних комунікативних намірів при обговоренні теми «Картографія»

3) Іншомовні кліше виявлення основних комунікативних намірів при обговоренні теми «Грунтознавство »

4) Іншомовні кліше виявлення основних комунікативних намірів при обговоренні теми «Геодезія»

5) Іншомовні кліше виявлення основних комунікативних намірів при обговоренні теми «ГІС»

Appendix 2

Land manager‟s basic terms in tables

ОСНОВНІ ТЕРМІНИ ЗЕВ

1	геодезія (survey)	вимірювальні прилади (теодоліт, нівелір) , вимірювати, кути, довжини ліній, точність, похибка, рейка, лінійка, компас, бусоль
2	землеустрій	land planning, land administration + *різниця між ними та відповідні терміни*
3	кадастр	якість земель (land quality), земельна ділянка, класи земель, бонітування, оцінка земель, процес оцінювання, реєстрація земель, угіддя(рілля, сади, виноградники сіножаті, вулиці, будівлі), водні об‟єкти(струмок, море,річка, лиман, болота), піски, непридатні землі (bad lands)
4	земельне право	форми власності на землю, цільове призначення,земельний кодекс, закон, землі с/г призначення, природоохоронні зони, поправка, стаття, норма, ботанічні сади, парки, сквери. землі оздоровчого та промислового призначення, *+детальне опрацювання статті 19 земельного кодексу*
5	картографія	план, карта, цифрові карти, легенда, масштаб рамка карти, довгота широта, меридіан, паралель, градус
6	ГІС (GIS)	геопросторові дані з космоса, геолітальні апарати, дрони, геоінформаційна система, remote zoning
7	ґрунтознавство	типи ґрунтів зони ґрунтів (лісова, лісостепова. поліська), засолення чорнозем, кам‟янистість, деградовані ґрунти, лучні, болотні, легкі, важкі, середні, гумус
8	математика	зростає, спадає, площа, квадратна площа, додати, відняти, помножити поділити, підрахунки, дорівнює
9	анотування статей	вступ, основна частина, conclusion + *їх наповнення та зразок написання*

100 basic land management terms

1	аерокосмічне знімання	1. aerospace shooting *['еросnейс 'шутін]* 2. aerial shooting *['еріал 'шутін]*
2	аерофотокамера	aerocamera *['ерокамра]*
3	азимут	azimuth *['езімус]*

4	антропогенне навантаження	anthropogenic loading *[ансропод'женіс 'лоадін]*
5	атлас	atlas *['етлес]*
6	базисна сторона	base line side*['бейз 'лайн 'сайд]*
7	бонітет	bonitet *['бонітет]*
8	бонітування ґрунтів	soils boning *['соілз 'бонін]*
9	вартість земельної ділянки	land parcel cost *['ленд 'пасел кост]*
10	вертикальний кут	vertical angle *['вьотікал енгл]*
11	виконавче знімання	executive shooting *[ік'зекьютів'шутін]*
12	висота перерізу рельєфу	relief section altitude *[ре'ліф секшн 'алтітьюд]*
13	висота точки	point altitude *[поінт 'алтітьюд]*
14	географічна сітка	geographical grid *[джіо'графікал грід]*
15	геодезична засічка	geodetic serif *[джіо'детік 'серіф]*
16	геодезична мережа	geodetic network *[джіо'детік 'нетвок]*
17	геодезичний знак	1. geodetic mark*[джіо'детік мак]* 2. geodetic sign*[джіо'детік сайн]*
18	геодезичний прилад	geodetic instrument *[джіо'детік 'інструмент]*
19	геодезичні координати	1. geodetic coordinates*[джіо'детік 'кодінейтс*] 2.geodetic reference *[джіо'детік 'рефренс]*
20	геодезичні роботи	1.geodetic works*[джіо'детік вокс]* 2.excavation works*[екске'вейшн вокс]*
21	геодезія	1. survey*['сьовей]* 2. geodesy *[джі'одесі]*
22	геоінформатика	1.geoinformatics *[джіоінфо'матікс]* 2. geo-informatics
23	геоінформаційна система	GIS (geographic information system) *[джі ай ес]* *(джіо'графік інфо'мейшн 'сістем)*
24	геоїд	geoid *['джіойд]*
25	геопросторові дані	1. geospatial information*[гіо'спейшл інфо'мейшн]* 2. geospatial data*[гіо'спейшл 'дейта]*
26	гідротехнічні споруди	hydraulic structures*[хай'дролік 'стракчес]*
27	горизонтальне прокладення	directional boring *[дай'рекшнл 'борін]*
28	горизонтальний кут	horizontal angle*['хорізонл 'енгл]*
29	грошова оцінка земельних ділянок	monetary evaluation of land parcels *['монетері евалью'ейшн оф ленд 'паселс]*
30	дешифрування	decoding *[ді'коудін]*
31	дирекційний кут	1.directional angle*[ді'рекшенл енгл]* 2.grid bearing *[грід 'берін]* 3.. grid azimuth*[грід 'азімус]*

32	дистанційне зондування Землі	remote zoning of the Earth *[рі'моут 'зоунін оф зе Ьос]*
33	довгота точки	point longitude *['поінт 'лонгітьюд]*
34	документація із землеустрою	land management documentation *[лend 'менеджмент докьюмен'тейшн]*
35	екватор	equator*[ік'вейто]*
36	екологічна мережа	ecological network*[іко'лоджікал 'нетвок]*
37	економіка природокористування	1. environmental economics*[інвайро'ментал іко'номікс]* 2. economics of nature use *[іко'номікс оф 'нейче юз]*
38	зближення меридіанів	convergence of meridians*[кон'ведженс оф ме'рідіенс]*
39	зелена зона	green zone*[грін 'зоун]*
40	зелений конвеєр	green conveyor*[грін кон'веє]*
41	земельна ділянка	land parcel*[лend 'пасел]*
42	земельне законодавство	land law *[лend 'ло]*
43	земельний кадастр	land cadastre *[лend ке'дастре]*
44	земельний сервітут	land easement*[лend 'ізмент]*
45	земельні відносини	land use relations*[лend юз рі'лейшнс]*
46	земельні угіддя	land plots*[лend плотс]*
47	землевласник	landowner*[лend'оуне]*
48	землевпорядне проектування	land planning design*[лend 'пленін ді'зайн]*
49	землевпорядник	1.land manager *[лend 'менедже]* 2. land planner *[лend 'плене]* 3. surveyor*['сьовейе]*
50	землевпорядні роботи	1.land management works*[лend 'менеджмент вокс]* 2. land planning works *[лend 'планін вокс]* 3. surveying works *['сьовеїн вокс]*
51	землекористування	land use*[лend 'юз]*
52	землекористувач	land user*[лend 'юзе]*
53	землеустрій	land management *[лend 'менеджмент]*
54	інвентаризація земель	land inventory*[лend ін'венторі]*
55	інтерполяція	interpolation*[інтепо'лейшн]*
56	кадастрове знімання	cadastral survey*[ке'дастрел сьовей]*
57	кадастровий план	cadastral map*[ке'дастрел меп]*
58	картографічна проекція	cartographic projection*[кето'графік про'джекшн]*
59	картографічна сітка	cartographic grid*[кето'графік грід]*
60	картографія	cartography *['кетографі]*
61	ландшафт	landscape*['лендскейп]*

62	лінійний масштаб	linear scale*['лінеа скейл]*
63	малопродуктивні землі	1. bad lands*['бед лендс]* 2. unproductive lands*[анпро'дактів лендс]*
64	масштаб	scale*['скейл]*
65	межа земельної ділянки	land parcel boundary *[лend пасл 'боундрі]*
66	межовий знак	landmark*['лендмак]*
67	меліорація земель	land melioration *[лend 'міліорейшн]*
68	меридіан	meridian *[ме'рідіен]*
69	населений пункт	1. locality*[лоу'каліті]*2. settlement*['сетлмент]*
70	нерівноточні вимірювання	uneven measurements*[ан'івен 'межементс]*
71	нівелювання	leveling*['левелін]*
72	об‟єкт землеустрою	land planning object*[лend 'пленін 'обджект]*
73	обробка геодезичних вимірів	processing of geodetic measurements *['проусесін оф джіо'детік 'межементс]*
74	ортофотоплан	orthophotomon*[ософой'томон]*
75	охорона ґрунтів	soil protection*['соіл про'текшн]*
76	охорона земель	land protection *[лend про'текшн]*
77	охорона навколишнього середовища	environmental protection *[інвайро'ментл про'текшн]*
78	паралель	parallel *['паралел]*
79	паювання	painuing *['пайнуін]*
80	перевищення	exceeding *[ек'сідін]*
81	план земельної ділянки	1.land plot map*[лend 'плот меп]* 2. land parcel map*[лend 'пасел меп]*
82	похибка вимірювання	measurement error *['межемент 'ерo]*
83	рекогносцировка	reconnoitre observation *[реко'нойте обзев'ейшн]*
84	рекультивація земель	land recultivation*[лend рікалті'вейшн]*
85	рельєф	1.relief*[рі'ліф]*2. terrain*[ті'рейн]*
86	рівноточні вимірювання	homogeneous points measurements *[хомо'джініес поінтс 'межементс]*
87	робоче проектування	working design *['вокін ді'зайн]*
88	румб	rhumb *[рам]*
89	сівозміна	crop rotation*[кроп ро'тайшн]*
90	топографічна карта	topographic map*[топо'графік меп]*
91	топографічне знімання	topographic shooting *[топо'графік 'шутін]*

92	топографія	topography *[то'пографі]*
93	точність вимірювання	measurement accuracy *['межемент 'акьюрасі]*
94	умовні знаки	legend *['ледженд]*
95	управління земельними ресурсами	1. land administration *[ленд едміні'стрейшн]* 2. land management *[ленд 'менеджент]*
96	фотограмметрія	photogrammetry *[фоуто'граметрі]*
97	фотоплан	photomap*['фоутомеп]*
98	цифрова модель рельєфу	1. digital relief model*['діджітал ріліф'модл]* 2. digital terrain model*['діджітал ті'рейн 'модл]*
99	червона лінія	red line*[ред 'лайн]*
100	широта точки	point latitude *['поінт 'летітьюд]*

Correctional tasks

Correctional task № 1

1.1. Represent the basic rules about Simple Tenses in Active Voice and Participle 2 and conclude adequate own positive, negative and interrogative sentences for the statement «визначати довжину оглянутої земельної ділянки» with the pronoun «we». Do not forget about adequate adverbial modifiers.

1.2. Write English version and add it with Unit 1 words :перший, 1813 рік, 1813 рівнянь, ½, трьохсотий.

1.3.Represent date with the number «1» being important for land management and explain your choice.

1.4. Choose the variant to translate «Landscape Management Faculty is better faculty »? (A. Факультет землевпорядкування– гарний факультет B. Факультет землевпорядкування – кращий за інші. C. Факультет землевпорядкування – найкращий факультет) and conclude your own adequate sentence using Unit 1 words.

1.5. Confirm or deny that the word calculated may be translated as «підрахований» for the sentence «We calculated all numbers» and choose 3 irregular verbs to be the most adequate to engineering profession. Be ready to transform them into all Simple Tense forms and into Participle 2.

Correctional task № 2

2.1. Represent the basic rules about Simple Tenses in Active Voice and Participle 2 and conclude adequate own positive, negative and interrogative sentences for the statement «користуватися вимірювальною рулеткою» with the pronoun «you». Do not forget about adequate adverbial modifiers.

2.2. Write English version and add it with Unit 1 words: двісті, тисяча, перший, шестисотий, одна четверта.

2.3.Represent date with the number «1» being important for your Land Management Faculty and explain your choice.

2. 4. Confirm or deny that the sixth educational block is further from Vasylkivska subway station than the eleventh one within the National University of Life and Environmental Sciences of Ukraine» and conclude your own adequate sentence using Unit 1 words.

2.5. Confirm or deny that the word calculated may be translated as «підрахований» for the sentence «The calculated numbers were very important» and choose 3 irregular verbs to be the most adequate to engineering profession. Be ready to transform them into all Simple Tense forms and into Participle 2.

Correctional task №3

3.1. Represent the basic rules about Simple Tenses in Active Voice and Participle 2 and conclude adequate own positive, negative and interrogative sentences for the statement «застосовувати отримані підрахунки». with the pronoun «she». Do not forget about adequate adverbial modifiers.

3.2. Write English version and add it with Unit 1 words: п'ятий, п'ятнадцятий, п'ятдесят, п'ятсотий, дві восьмих.

3.3. Represent date with the number «3» being important for your group and explain your choice.

3.4.Choose the variant for «bad» in comparison (A most B least C worst D bedder) and conclude your own adequate sentence with correct variant using Unit 1 words.

3.5. Confirm or deny that the word calculated may be translated as «підрахований» for the

sentence «We have calculated all numbers» and choose 3 irregular verbs to be the most adequate to engineering profession. Be ready to transform them into all Simple Tense forms and into Participle 2.

Correctional task№ 4

4.1. Represent the basic rules about Simple Tenses in Active Voice and Participle 2 and conclude adequate own positive, negative and interrogative sentences for the statement «додати отримані знаменники». with the pronoun «I». Do not forget about adequate adverbial modifiers.

4.2. Write English version and add it with Unit 1 words: сто, 2019рік, 2019 рулеток, сімнадцятий, другий.

4.3. Represent date with the number «4» being important for your Land Management Faculty and explain your choice.

4.4. Propose two forms to compare the word «interesting» and conclude your own adequate sentence using Unit 1 words.

4.5. Confirm or deny that the word calculating may be translated as «підрахований» for the sentence «Calculating all numbers we were engaged into Math» and choose 3 irregular verbs to be the most adequate to engineering profession. Be ready to transform them into all Simple Tense forms and into Participle 2.

Correctional task №5

5.1. Represent the basic rules about Simple Tenses in Active Voice and Participle 2 and conclude adequate own positive, negative and interrogative sentences for the statement «дорівнювати відомому числу» with the pronoun «they». Do not forget about adequate adverbial modifiers.

5.2. Write English version and add it with Unit 1 words : тисячний, дев'яносто, сім тисяч чотирнадцять, три дев'ятих , мільйон.

5.3. Represent date with the number «5» being important for land management as a science and explain your choice.

5.4. Choose the variant to translate «Survey is important subject for a future land manager» (A Геодезія - важливий предмет для землевпорядника B Геодезія - важливіший предмет для землевпорядника C Геодезія - найважливіший предмет для землевпорядника) and conclude your own adequate sentence using Unit 1 words.

5.5. Confirm or deny that the word calculated may be translated as «підрахований» for the sentence «Having calculated all numbers we became free» and choose 3 irregular verbs to be the most adequate to engineering profession. Be ready to transform them into all Simple tense forms and into Participle 2.

Correctional task №6

6.1. Represent the basic rules about Simple Tenses in Active Voice and Participle 2 and conclude adequate own positive, negative and interrogative sentences for the statement «виконувати всі відомі математичні дії» with the pronoun «he». Do not forget about adequate adverbial modifiers.

6.2. Write English version and add it with Unit 1 words : тисячний, одна третя, триста, сімнадцятий, сімдесят.

6.3. Represent date with the number «1» being important for your Land Management Faculty and explain your choice.

6.4.Confirm or deny that the sixth educational block is nearer to «Vasylkivska» subway station than the eleventh one within the National University of Life and Environmental Sciences of Ukraine» and conclude your own adequate sentence using Unit 1 words.

6.5. Confirm or deny that the word «added» may be translated as «доданий» for the sentence «I added all numbers» and choose 3 irregular verbs to be the most adequate to engineering profession. Be ready to transform them into all Simple tense forms and into Participle 2.

Correctional task №7

7.1. Represent the basic rules about Simple Tenses in Active Voice and Participle 2 and conclude adequate own positive, negative and interrogative sentences for the statement «вирішити потрібне рівняння» with the pronoun «I». Do not forget about adequate adverbial modifiers.

7.2. Write English version and add it with Unit 1 words: одинадцять, третій, семисотий, дві дев'ятих, дев'яносто.

7.3. Represent date with the number «7» being important for your group and explain your choice.

7.4. Propose two forms to compare the word «large» and conclude your own adequate sentence using Unit 1 words

7.5. Confirm or deny that the word added may be translated as «доданий» for the sentence «The added numbers were very important» and choose 3 irregular verbs to be the most adequate to engineering profession. Be ready to transform them into all Simple Tense forms and into Participle 2.

Correctional task №8

8.1. Represent the basic rules about Simple Tenses in Active Voice and Participle 2 and conclude adequate own positive, negative and interrogative sentences for the statement «поділити знайдені числа» with the pronoun «we». Do not forget about adequate adverbial modifiers.

8.2. Write English version and add it with Unit 1 words :другий, 1627 рік, 1627 результатів, ¼, дванадцятий.

8.3.Represent date with the number «8» being important for your Land Management Faculty and explain your choice.

8.4.Confirm or deny that Bee-keeping is more important subject to be studied by land manager than Survey and conclude your own adequate sentence using Unit 1 words.

8.5.Confirm or deny that the word «adding» may be translated as «доданий»» for the sentence «Adding all numbers we are engaged into Math» and choose 3 irregular verbs to be the most adequate to engineering profession. Be ready to transform them into all Simple tense forms and into Participle 2.

Correctional task №9

9.1. Represent the basic rules about Simple Tenses in Active Voice and Participle 2 and conclude adequate own positive, negative and interrogative sentences for the statement «підвищити вимоги до точності отриманих результатів» with the pronoun «he». Do not forget about adequate adverbial modifiers.

9.2. Write English version and add it with Unit 1 words: двадцяте сторіччя, чотириста, дванадцять,2/11, п'ятимільйонний.

9.3. Represent date with the number «9» being important for land management as a science and explain your choice.

9.4 .Choose the variant to translate «Survey is more important subject for a future land manager» (A Геодезія- важливий предмет для землевпорядника B Геодезія - важливіший предмет для землевпорядника C Геодезія- найважливіший предмет для землевпорядника) and conclude your own adequate sentence using Unit 1 words

9.5.Confirm or deny that the word «added» may be translated as «доданий» for the sentence «She has added all numbers» and choose 3 irregular verbs to be the most adequate to engineering profession. Be ready to transform them into all Simple Tense forms and into Participle 2.

Correctional task №10

10.1. Represent the basic rules about Simple Tenses in Active Voice and Participle 2 and conclude adequate own positive, negative and interrogative sentences for the statement «визначати межі купленої земельної ділянки» with the pronoun «they». Do not forget about adequate adverbial modifiers.

10.2. Write English version and add it with Unit 1 words : третій , 1859 рік, 1859 ділянок, 1/5, трьохсотий.

10.3. Represent date with the number «10» being important for your Land Management Faculty and explain your choice.

10.4.Propose two forms to compare the word. «wonderful» and conclude your own adequate sentence using Unit 1 words.

10.5.Confirm or deny that the word «added» may be translated as «доданий» for the sentence «She has the added numbers» and choose 3 irregular verbs to be the most adequate to engineering profession. Be ready to transform them into all Simple tense forms and into Participle 2.

Correctional task №11

11.1. Represent the basic rules about Simple Tenses in Active Voice and Participle 2 and conclude adequate own positive, negative and interrogative sentences for the statement «визначати потрібну квадратну площу» with the pronoun «you». Do not forget about adequate adverbial modifiers.

11.2. Write English version and add it with Unit 1 words : дванадцятий, п'ять, п'ятий , чотири десятих, дев'ятсот.

11.3. Represent date with the number «11» being important for your group and explain your choice.

11.4. Confirm or deny that Bee-keeping is less important subject to be studied by land manager than Survey and conclude your own adequate sentence using Unit 1 words.

11.5.Confirm or deny that the word «divided» may be translated as «поділений» for the sentence «They divided all numbers» and choose 3 irregular verbs to be the most adequate to engineering profession. Be ready to transform them into all Simple tense forms and into Participle 2.

Correctional task №12

12.1. Represent the basic rules about Simple Tenses in Active Voice and Participle 2 and conclude adequate own positive, negative and interrogative sentences for the statement «використовувати відомі результати» with the pronoun «they». Do not forget about adequate adverbial modifiers.

12.2. Write English version and add it with Unit 1 words : четвертий, 1714 рік, 1714 величин, 1/6,сотий.

12.3. Represent date with the number «12» being important for your Land Management Faculty and explain your choice.

12.4.Choose the variant to translate «Landscape Management Faculty is the best faculty »? (A. Факультет землевпорядкування– гарний факультет B. Факультет землевпорядкування – кращий за інші. C. Факультет землевпорядкування – найкращий факультет) and conclude your own adequate sentence using Unit 1 words. Propose two forms to compare the word « modern » and conclude your own adequate sentence using Unit 1 words.

12.5.Confirm or deny that the word «divided» may be translated as «поділений» for the sentence «Having divided all numbers we found a result» and choose 3 irregular verbs to be the most adequate to engineering profession. Be ready to transform them into all Simple Tense forms and into Participle 2.

Correctional task № 13

13.1. Represent the basic rules about Simple Tenses in Active Voice and Participle 2 and conclude adequate own positive, negative and interrogative sentences for the statement «здійснювати обчислення площі проданої земельної ділянки» with the pronoun «she». Do not forget about adequate adverbial modifiers.

13.2. Write English version and add it with Unit 1 words : 1989 рік,1989 рішень, 1/3 ..., тисячний дванадцятий

13.3. Represent date with the number «13» being important for your group and explain your choice.

13.4. Confirm or deny that Survey is the most important subject to be studied by land manager and explain your choice.Propose two forms to compare the word «small» and conclude your own adequate sentence using Unit 1 words

13.5. Confirm or deny that the word «divided» may be translated as «поділений» for the sentence «He has divided the numbers» and choose 3 irregular verbs to be the most adequate to engineering profession. Be ready to transform them into all Simple tense forms and into Participle 2.

Correctional task №14

14.1. Represent the basic rules about Simple Tenses in Active Voice and Participle 2 and conclude adequate own positive, negative and interrogative sentences for the statement «користуватися знайденою лінійкою» with the pronoun «I». Do not forget about adequate adverbial modifiers.

14.2. Write English version and add it with Unit 1 words: п'ятий, 2002 рік, 2002 числа,1/7, мільйонний.

14.3. Represent date with the number «1» being important for your Land Management Faculty and explain your choice.

14.4. Propose two forms to compare the word «low» and conclude your own adequate sentence using Unit 1 words.

14.5.Confirm or deny that the word «divided» may be translated as «поділений» for the sentence «He has the divided numbers» and choose 3 irregular verbs to be the most adequate to engineering profession. Be ready to transform them into all Simple Tense forms and into Participle 2.

Correctional task №15

15. 1. Represent the basic rules about Simple Tenses in Active Voice and Participle 2 and conclude adequate own positive, negative and interrogative sentences for the statement «відняти значення підрахованого чисельника» with the pronoun «we». Do not forget about adequate adverbial modifiers.

15. 2. Write English version and add it with Unit 1 words : шостий,1/2, 2018 рік, 2018 обчислень, триста.

15. 3. Represent date with the number «15» being important for land management as a science and explain your choice.

15. 4. Confirm or deny that Bee-keeping is less important subject to be studied by land manager than Survey and conclude your own adequate sentence using Unit 1 words.

15. 5. Confirm or deny that the word «divided» may be translated as «поділений» for the sentence «The divided numbers were less» and choose 3 irregular verbs to be the most adequate to engineering profession. Be ready to transform them into all Simple tense forms and into Participle 2.

Correctional task №16

16.1. Represent the basic rules about Simple Tenses in Active Voice and Participle 2 and conclude adequate own positive, negative and interrogative sentences for the statement «визначати кількість куплених земельних ділянок» with the pronoun «you». Do not forget about adequate adverbial modifiers.

16.2. Write English version and add it with Unit 1 words : сімдесяті роки, шостий поверх, 138 рівнянь, мільйон, 3/12.

16. 3. Represent date with the number «16» being important for your Land Management Faculty

and explain your choice.

16.4.Choose the variant to translate «Survey is the most important subject for a future land manager» (A Геодезія- важливий предмет для землевпорядника B Геодезія- важливіший предмет для землевпорядника C Геодезія- найважливіший предмет для землевпорядника) and conclude your own adequate sentence using Unit 1 words.

16.5. Confirm or deny that the word «multiplied» may be translated as «помножений» for the sentence «He has the multiplied numbers» and choose 3 irregular verbs to be the most adequate to engineering profession. Be ready to transform them into all Simple Tense forms and into Participle 2.

Correctional task №17

17.1. Represent the basic rules about Simple Tenses in Active Voice and Participle 2 and conclude adequate own positive, negative and interrogative sentences for the statement «користуватися знайденим описом математичних дій» with the pronoun «they». Do not forget about adequate adverbial modifiers.

17.2. Write English version and add it with Unit 1 words: сьомий,1/3, 1974 лінійки, 1974 рік, тринадцятий.

17.3. Represent date with the number «17» being important for your group and explain your choice.

17.4. Propose two forms to compare the word «little» » and conclude your own adequate sentence using Unit 1 words.

17.5. Confirm or deny that the word «multiplied» may be translated as «помножений» for the sentence «You multiplied all numbers well» and choose 3 irregular verbs to be the most adequate to engineering profession. Be ready to transform them into all Simple Tense forms and into Participle 2.

Correctional task №18

18.1. Represent the basic rules about Simple Tenses in Active Voice and Participle 2 and conclude adequate own positive, negative and interrogative sentences for the statement «визначати ширину оглянутої земельної ділянки» with the pronoun «it». Do not forget about adequate adverbial modifiers.

18.2. Write English version and add it with Unit 1 words :восьмий, 1/4, триста, 1985 рік, 1985результатів.

18.3. Represent date with the number «18» being important for your Land Management Faculty and explain your choice.

18.4. Propose two forms to compare the word «short» and conclude your own adequate sentence using Unit 1 words.

18.5.Confirm or deny that the word «multiplied» may be translated as «помножений» for the sentence «Having multiplied all numbers we found a result» and choose 3 irregular verbs to be the most adequate to engineering profession. Be ready to transform them into all Simple Tense forms and into Participle 2.

Correctional task № 19

19. 1.Represent the basic rules about Simple Tenses in Active Voice and Participle 2 and conclude adequate own positive, negative and interrogative sentences for the statement «помножити відомі значення» with the pronoun «I». Do not forget about adequate adverbial modifiers.

19.2. Write English version and add it with Unit 1 words: дев'ятий,2/5, шістдесят, 1991 рік, 1990 підручників з математики.

19.3. Represent date with the number «19» being important for land management as a science and explain your choice.

19.4. Confirm or deny that the eleventh educational block is further from «Vasylkivska» subway station than the sixth one within the National University of Life and Environmental Sciences of Ukraine» and conclude your own adequate sentence using Unit 1 words

19.5. Confirm or deny that the word «multiplied» may be translated as «помножений» for the sentence «The multiplied numbers were more» and choose 3 irregular verbs to be the most adequate to engineering profession. Be ready to transform them into all Simple Tense forms and into Participle 2.

Correctional task № 20

20.1. Represent the basic rules about Simple Tenses in Active Voice and Participle 2 and conclude adequate own positive, negative and interrogative sentences for the statement «рахувати отримані значення» with the pronoun «she». Do not forget about adequate adverbial modifiers.

20.2. Write English version and add it with Unit 1 words:одинадцятий,1/6, шістнадцять, перший, 400, 14.

20.3. Represent date with the number «20» being important for your Land Management Faculty and explain your choice.

20.4. Propose two forms to compare the word «high» » and conclude your own adequate sentence using Unit 1 word.

20.5. Confirm or deny that the word «multiplied» may be translated as «помножений» for the sentence «He has multiplied the numbers» and choose 3 irregular verbs to be the most adequate to engineering profession. Be ready to transform them into all Simple Tense forms and into Participle 2.

Correctional task № 21

21.1. Represent the basic rules about Simple Tenses in Active Voice and Participle 2 and conclude adequate own positive, negative and interrogative sentences for the statement «помножити отримані дроби» with the pronoun «you». Do not forget about adequate adverbial modifiers.

21.2. Write English version and add it with Unit 1 words:дванадцятий.4/7, шістсот, другий,1989 рік,1989 рівнянь.

21.3. Represent date with the number «21» being important for your group and explain your choice.

21.4. Confirm or deny that «Ступені порівняння від «complicated» творяться за допомогою залучення попередніх слів «more» «the most» без суфіксів «er» та «est»: complicated– more complicated – the most complicated» and conclude your own adequate sentence using Unit 1 words and this word comparison in a correct form.

21.5. Confirm or deny that the word «determined» may be translated as «визначений» for the sentence «He has the determined numbers» and choose 3 irregular verbs to be the most adequate to engineering profession. Be ready to transform them into all Simple tense forms and into Participle 2.

Correctional task № 22

22.1. Represent the basic rules about Simple Tenses in Active Voice and Participle 2 and conclude adequate own positive, negative and interrogative sentences for the statement «користуватися потрібною системою координат» with the pronoun «they». Do not forget about adequate adverbial modifiers.

22.2. Write English version and add it with Unit 1 words: тринадцятий,3/8, тисячний, 100, мільйонний.

23.3. Represent date with the number «1» being important for your Land Management Faculty and explain your choice.

24.4.Propose two forms to compare the word «many» and conclude your own adequate sentence using Unit 1 words .

22.5.Confirm or deny that the word «determined» may be translated as «визначений»» for the

sentence «You determined all numbers well» and choose 3 irregular verbs to be the most adequate to engineering profession. Be ready to transform them into all Simple Tense forms and into Participle 2.

Correctional task № 23

23.1. Represent the basic rules about Simple Tenses in Active Voice and Participle 2 and conclude adequate own positive, negative and interrogative sentences for the statement «вимірювати продану земельну ділянку» with the pronoun «we». Do not forget about adequate adverbial modifiers.

23.2. Write English version and add it with Unit 1 words: чотирнадцятий, 2/9, третій, 2000, дванадцятий.

23.3. Represent date with the number «23» being important for land management as a science and explain your choice.

23.4. Confirm or deny that «Ступені порівняння від «big» творяться за допомогою суфіксів «er» та «est»: big – bigger – the biggest». and conclude your own adequate sentence using Unit 1 words and this word comparison in a correct form.

23.5. Confirm or deny that the word «determined» may be translated as «визначений» for the sentence «Having determined all numbers we found a result» and choose 3 irregular verbs to be the most adequate to engineering profession. Be ready to transform them into all Simple Tense forms and into Participle 2.

Correctional task № 24

24.1. Represent the basic rules about Simple Tenses in Active Voice and Participle 2 and conclude adequate own positive, negative and interrogative sentences for the statement «обчислити невідомий коефіцієнт основного значення» with the pronoun «he». Do not forget about adequate adverbial modifiers.

24.2. Write English version and add it with Unit 1 words: п'ятнадцятий, 211, перший, 1998 рік, 1998 розрахунків.

24.3. Represent date with the number «24» being important for your group and explain your choice.

24.4. Propose two forms to compare the word «far» » and conclude your own adequate sentence using Unit 1 words.

24.5.Confirm or deny that the word «determined» may be translated as «визначений» for the sentence « The determined numbers were important» and choose 3 irregular verbs to be the most adequate to engineering profession. Be ready to transform them into all Simple tense forms and into Participle 2.

Correctional task № 25

25.1. Represent the basic rules about Simple Tenses in Active Voice and Participle 2 and conclude adequate own positive, negative and interrogative sentences for the statement «визначити приблизне значення ширини» with the pronoun «you». Do not forget about adequate adverbial modifiers.

25.2. Write English version and add it with Unit 1 words: вісімдесят дев'ятий, 400 величин, тисяча,1/2, одинадцятий.

25.3.Represent date with the number «25» being important for land management as a science and explain your choice.

25.4.Confirm or deny that «Ступені порівняння від «complicated» творяться за допомогою суфіксів«er» та «est»: complicated – complicater–the complicatest and conclude your own adequate sentence using Unit 1 words and this word comparison in a correct form.

24.5. Confirm or deny that the word «determined» may be translated as «визначений» for the sentence «He has determined the numbers» and choose 3 irregular verbs to be the most adequate to engineering profession. Be ready to transform them into all Simple tense forms and into Participle 2.

Correctional task № 26

26.1. Fill the gaps with all possible «to be» forms and adverbial modifiers: Longitude and latitude…. depicted on the map frame.
26.2. Translate and continue «мав, має і матиме» using Unit 2 words.
26.3. Connect the columns and conclude adequate English sentence using Unit 2 words:

1. may	*A are able to*
2 must	*B should to*
3 can	*C is permitted to*
4 ought to	*D has to*

26.4.Propose your own 3 adverbs to be the most frequently used by land manager and explain your choice.
26.5. Conclude your own sentence with Unit2 words basing upon the proposed grammar formulae If you V, we'll V».

Correctional task № 27

27.1. Fill the gaps with all possible «to be» forms and adverbial modifiers :We … not perfect in map projections because we … freshmen in mapping.
27.2. Translate and continue «не мав, не має і не матиме» using Unit 2 words.
27.3. Confirm or deny that «He can analyze conventional maps» may be translated as «Він повинен проаналізувати умови зміни властивостей карт» and conclude similar using Unit 2 words and modal verbs synonyms.
27.4. Propose your own 3 adverbs to be the most frequently used by land manager and explain your choice.
27.5. Conclude your own sentence with Unit2 words basing upon the proposed grammar formulae «When you V2, we'd V».

Correctional task № 28

28.1. Fill the gaps with all possible «to be» forms and adverbial modifiers : The objects … to be observed between these sides.
28.2. Translate and continue «Чи має, чи мав і чи матиме? » using Unit 2 words.
28.3. Connect the columns and conclude adequate English sentence using Unit 2 words :

1 здатний	*A have to*
2 можливо	*B should to*
3повинен	*C may*
4 слід	*D is able to*

28.4. Propose your own 3 adverbs to be the most frequently used by land manager and explain your choice.
28.5. Conclude your own sentence with Unit2 words basing upon the proposed grammar formulae « If he Vs, you'll V».

Correctional task № 29

29.1. Fill the gaps with all possible «to be» forms and adverbial modifiers : The map drawing … is the object of cartography.
29.2. Propose the variant of Unit2 words sentence where «have» lost its main meaning.
29.3. Confirm or deny that «He must observe map projection» may be translated as «Він повинен ввивчати карти» and conclude similar sentence using Unit 2 words and modal verbs synonyms.
29.4. Propose your own 3 adverbs to be the most frequently used by land manager and explain your choice.
29.5. Conclude your own sentence with Unit2 words basing upon the proposed grammar formulae « I'd V when she V2».

Correctional task task № 30

30.1. Fill the gaps with all possible «to be» forms and adverbial modifiers :The rectangles…. at the same(similar) distance from each other.
30.2. Propose the variant of Unit2 words sentence where «was» lost its main meaning.
30.3. Confirm or deny that «must» is a synonym to «has to» and conclude adequate sentence using Unit 2 words and modal verbs synonyms.
30.4. Propose your own 3 adverbs to be the most frequently used by land manager and explain your choice.
30.5. Conclude your own sentence with Unit2 words basing upon the proposed grammar formulae «He'll V if they V».

Correctional task № 31

31.1. Fill the gaps with all possible «to be» forms and adverbial modifiers :The angles… with more or less angles values.
31.2. Translate and continue «маю, мала, матиму» using Unit 2 words.
31.3. Confirm or deny that «He must become a qualified land manager » may be translated as «Він повинен стати кваліфікованим землевпорядником» and conclude similar sentence using Unit 2 words and modal verbs synonyms.
31.4. Propose your own 3 adverbs to be the most frequently used by land manager and explain your choice.
31.5. Conclude your own sentence with Unit2 words basing upon the proposed grammar formulae «We'll V when he Vs».

Correctional task № 32

32.1. Fill the gaps with all possible «to be» forms and adverbial modifiers :To depict the positions …. necessary for land manager.
32.2. Translate and continue «не мала, не маю, не матиму» using Unit 2 words.
32.3. Connect the columns and conclude adequate English sentence using Unit 2 words:

1 can	*A could*
2 may	*B might*
3 must	*C had to*
4 should	*D ought to*

32.4. Propose your own 3 adverbs to be the most frequently used by land manager and explain your choice.
32.5. Conclude your own sentence with Unit2 words basing upon the proposed grammar formulae «When she V2 they'd V».

Correctional task № 33

*33.1. Fill the gaps with all possible «to be» forms and adverbial modifiers :*The square **….** *under the circle and…. to the right to triangle.*
33.2. Translate and continue «Чи мала, чи маю, чи матиму? » using Unit 2 words.
33.3. Confirm or deny that «He can draw equal triangles» may be translated as «Він може накреслити рівні трикутники» and conclude similar sentence using Unit 2 words and modal verbs synonyms. .
33.4. Propose your own 3 adverbs to be the most frequently used by land manager and explain your choice.
33.5. Conclude your own sentence with Unit2 words basing upon the proposed grammar formulae «If you V, I'll V».

Correctional task № 34

34.1. Fill the gaps with all possible «to be» forms and adverbial modifiers: Also perpendicular line ....shown besides parallel line.
34.2. Propose the variant of Unit2 words sentence where «had» lost its main meaning.
34.3. Translate and continue « Я здатний, був здатний і буду здатний» using Unit 2 words.
34.4. Propose your own 3 adverbs to be the most frequently used by land manager and explain your choice.
34.5. Conclude your own sentence with Unit2 words basing upon the proposed grammar formulae «He'll V when she Vs».

Correctional task № 35

35.1.Fill the gaps with all possible «to be» forms and adverbial modifiers :The frame… the result to … done by him with ruler.
35.2. Translate and continue «не мають, не мали і не матимуть» and conclude English sentence using Unit 2 words.
35.3. Confirm or deny that «must» is a synonym to «has to» and conclude similar sentence using Unit 2 words and modal verbs synonyms.
35.4. Propose your own 3 adverbs to be the most frequently used by land manager and explain your choice.
35.5. Conclude your own sentence with Unit2 words basing upon the proposed grammar formulae «If you V2 I'd V».

Correctional task № 36

36.1. Fill the gaps with all possible «to be» forms and adverbial modifiers :The object… nearer to it or…. further from it.
36.2. Propose the variant of Unit 2 words sentence where «are» lost its main meaning.
36.3. Translate and continue «Є можливим, було можливим і буде можливим» using Unit 2 words.
36.4. Propose your own 3 adverbs to be the most frequently used by land manager and explain your choice.
36.5. Conclude your own sentence with Unit2 words basing upon the proposed grammar formulae «You'll V when I V».

Correctional task № 37

37.1. Fill the gaps with all possible «to be» forms and adverbial modifiers :The same objects… to the left of it.
37.2. Translate and continue «мають, мали, матимуть» using Unit 2 words.
37.3. Confirm or deny that «must» is a synonym to «has to» and conclude similar sentence using Unit 2 words and modal verbs synonyms.
37.4. Propose your own 3 adverbs to be the most frequently used by land manager and explain your choice.
37.5. Conclude your own sentence with Unit 2 words basing upon the proposed grammar formulae «If we V2 you'd V».

Correctional task № 38

38.1. Fill the gaps with all possible «to be» forms and adverbial modifiers :The plan … imaged on the layot.
38.2. Translate and continue « Чи мають, чи мали, чи матимуть ?» using Unit 2 words.
38.3. Translate and continue «Ми повинні, були повинні і будемо повинні» using Unit 2 words.

38.4. Propose your own 3 adverbs to be the most frequently used by land manager and explain your choice.
38.5. Conclude your own sentence with Unit2 words basing upon the proposed grammar formulae «You'll V if we V».

Correctional task № 39

39.1. Fill the gaps with all possible «to be» forms and adverbial modifiers: Dotted line ... the sign to depict the objects which... behind.
39.2. Propose the variant of Unit2 words sentence where «has» lost its main meaning.
39.3. Confirm or deny that «may» is a synonym to «might» and conclude similar sentence using Unit 2 words and modal verbs synonyms.
39.4. Propose your own 3 adverbs to be the most frequently used by land manager and explain your choice.
39.5. Conclude your own sentence with Unit2 words basing upon the proposed grammar formulae «When she Vs he'll V».

Correctional task № 40

40.1. Fill the gaps with all possible «to be» forms and adverbial modifiers : There… several lower and upper map projections.
40.2. Propose the variant of Unit2 words sentence where «is» lost its main meaning .

40.3. Connect the columns and conclude adequate English sentence using Unit 2 words:
1 здатний A must
2 повинен B may
3 можливо C should
4 слід D can
40.4. Propose your own 3 adverbs to be the most frequently used by land manager and explain your choice.
40.5. Conclude your own sentence with Unit2 words basing upon the proposed grammar formulae «They'd V if he V2».

Correctional task № 41

41.1. Fill the gaps with all possible «to be» forms and adverbial modifiers :The meridian and parallel…. predicted in this legend.
41.2. Translate and continue « маєте, мали, будете мати» using Unit 2 words.
41.3 Translate and continue «Повинні, були повинні, будуть повинні » using Unit 2 words and modal verbs synonyms.
41.4. Propose your own 3 adverbs to be the most frequently used by land manager and explain your choice.
41.5. Conclude your own sentence with Unit2 words basing upon the proposed grammar formulae «He'll V when they V».

Correctional task № 42

42.1. Fill the gaps with all possible «to be» forms and adverbial modifiers: Bespoke map…conventional maps.
42.2. Propose the variant of Unit2 words sentence where «were» lost its main meaning.
42.3. Confirm or deny that «can» is a synonym to «able to» and conclude similar sentence using Unit 2 words and modal verbs synonyms.
42.4. Propose your own 3 adverbs to be the most frequently used by land manager and explain your choice.
42.5. Conclude your own sentence with Unit2 words basing upon the proposed grammar formulae «If she Vs they 'll V».

Correctional task № 43

43.1. Fill the gaps with all possible «to be» forms and adverbial modifiers : The legend .... inside the map frame».

43.2. Translate and continue «не маєте, не мали, не будете мати» using Unit 2 words.

43.3.Connect the columns and conclude adequate English sentence using Unit 2 words:

1 may A ought to
2 should B is permitted to
3can C will be to
4 must D could

43.4. Propose your own 3 adverbs to be the most frequently used by land manager and explain your choice.

43.5. Conclude your own sentence with Unit2 words basing upon the proposed grammar formulae «They'd V if I V2».

Correctional task № 44

44.1. Fill the gaps with all possible «to be» forms and adverbial modifiers :The scale…. different for large and small scale maps.

44.2. Translate and continue «Чи маєте, чи мали, чи будете мати?» using Unit 2 words.

44.3. Translate and continue «Вмію, вмів, вмітиму» using Unit 2 words.

44.4. Propose your own 3 adverbs to be the most frequently used by land manager and explain your choice.

44.5. Conclude your own sentence with Unit2 words basing upon the proposed grammar formulae «When you V I'll V».

Correctional task № 45

45.1. Fill the gaps with all possible «to be» forms and adverbial modifiers : Solid lines….. the sign to depict the object which... in front of it.

45. 2. Propose the variant of Unit2 words sentence where «will have» lost its main meaning .

45.3. Confirm or deny that «should» is a synonym to «ought to» and conclude similar sentence using Unit 2 words and modal verbs synonyms.

45.4. Propose your own 3 adverbs to be the most frequently used by land manager and explain your choice.

45.5. Conclude your own sentence with Unit2 words basing upon the proposed grammar formulae «If you V2 I'd V».

Correctional task № 46

46.1. Fill the gaps with all possible «to be» forms and adverbial modifiers : Location data… important for mapping.

46.2. Propose the variant of Unit2 words sentence where «am» lost its main meaning.

46.3. Connect the columns and conclude adequate English sentence using Unit 2 words:

1 is allowed to А можливо
2 was to В повинен
3 had to С вмів
4 could

46.4. .Propose your own 3 adverbs to be the most frequently used by land manager and explain your choice.

46.5. Conclude your own sentence with Unit2 words basing upon the proposed grammar formulae «They'll V when we'll V».

Correctional task № 47

47.1. Fill the gaps with all possible «to be» forms and adverbial modifiers :The layot…. for drawing after observation.

47.2. Propose the variant of Unit2 words sentence where «will have» lost its main meaning.
47.3. Translate and continue «Можливо, було можливим, буде можливим» using Unit 2 words.
47.4. Propose your own 3 adverbs to be the most frequently used by land manager and explain your choice.
47.5. Conclude your own sentence with Unit2 words basing upon the proposed grammar formulae «If you V she'll V».

Correctional task № 48

48. 1. Fill the gaps with all possible «to be» forms and adverbial modifiers: Conventional maps … in use.
48.2. Translate and continue «мають, мали. матимуть» using Unit 2 words.
48.3. Confirm or deny that «could» is a synonym to «might» and conclude similar sentence using Unit 2 words and modal verbs synonyms.
48.4. .Propose your own 3 adverbs to be the most frequently used by land manager and explain your choice.
48.5. Conclude your own sentence with Unit2 words basing upon the proposed grammar formulae «He'd V when you V2».

Correctional task № 49

49.1. Fill the gaps with all possible «to be» forms and adverbial modifiers : The grid…. a number of parallel and perpendicular lines.
49.2. Translate and continue « не має, не мав , не матиме» using Unit 2 words.
49.3. Connect the columns and conclude adequate English sentence using Unit 2 words:

1 might	*A здатний*
2 is permitted to	*B повинен*
3 must	*C можливо*
4 will be able to	

49.4. Propose your own 3 adverbs to be the most frequently used by land manager and explain your choice.
49.5. Conclude your own sentence with Unit2 words basing upon the proposed grammar formulae « If she Vs I'll V».

Correctional task № 50

50.1. Fill the gaps with all possible «to be» forms and adverbial modifiers :The maps… the result of three-dimensional observation.
50..2. Translate and continue «Чи мають, чи має, чи матимуть ? » using Unit 2 words.
50..3. Translate and continue «Повинен, був повинен, буду повинен using Unit 2 words.
50..4. .Propose your own 3 adverbs to be the most frequently used by land manager and explain your choice.
50..5 Conclude your own sentence with Unit2 words basing upon the proposed grammar formulae « I'd V when he V2».

Correctional task № 51

51.1. Transform the noun «criterion» into plural form and conclude adequate sentence with Unit 3 words.
51.2. Propose different types of pronouns to fill the gaps « Propose… …. digital maps».
51.3. Fill the gaps basing upon the proposed variant «Have you.... details to mount level?»:
A any B some C much D not
51.4. Put 5 kinds of questions to the sentence «Geodetic devices may have a faulty in measurement because of weather conditions».

51.5. Confirm or deny that participle 1 may be translated as additional action or attribute in sentence «They are using compass now». Conclude your own similar sentence with Unit 3 words.

Correctional task № 52

52.1. Transform the noun «automaton» into plural form and conclude adequate sentence with Unit 3 words.
52.2. Propose different types of pronouns to fill the gaps «… faulties may be improved by...».
52.3. Connect the columns:

1 this scholar	*A цей викладач*
2 that scholar	*B ці викладачі*
3 these scholars	*C той викладач*
4 those scholars	*D ті викладачі*

52.4. Put 5 kinds of questions to the sentence «Survey and geodesy are the same phenomena».
52.5. Confirm or deny that participle 1 may be translated as additional action or attribute in sentence «Using compass you may detect the poles». Conclude your own similar sentence with Unit 3 words.

Correctional task № 53

53.1. Transform the noun «formulae» into plural form and conclude adequate sentence with Unit 3 words.
53.2. Propose different types of pronouns to fill the gaps « Tell… about… survey».
53.3. Connect the columns:

1 I	*A their*
2 he	*B our*
3 we	*C her*
4 they	*D his*
5 she	*E my*

53.4. Put 5 kinds of questions to the sentence «Level and theodolite are geodetic measuring instruments».
53.5. Confirm or deny that Participle 1 may be translated as additional action or attribute in sentence « Having used the compass I detected the poles». Conclude your own similar sentence with Unit 3 words.

Correctional task № 54

54.1. Transform the noun «phenomenon» into plural form and conclude adequate sentence with Unit 3 words.
54.2. Propose different types of pronouns to fill the gaps «… accuracy may be reached by…».
54.3. Connect the columns:

1 хтось	*A something*
2 щось	*B sometimes*
3 десь	*C somewhere*
4 інколи	*D somebody*
5 декілька (певні)	*E some*

54.4. Put 5 kinds of questions to the sentence «Landscape manager may measure angles as well as line lenghts.
54.5. Confirm or deny that participle 1 may be translated as additional action or attribute in sentence «Look! They are determining the elevation». Conclude your own similar sentence with Unit 3 words.

Correctional task № 55

55.1. Transform the noun «index» into plural form and conclude adequate sentence with Unit 3 words.
55.2. Propose different types of pronouns to fill the gaps «Read… about … theodollite».
55.3. Fill the gaps of sentence «Engineer's wife is crying. She has cut …» basing upon the proposed variants:
A she
B her
C herself
D my
55.4. Put 5 kinds of questions to the sentence «You have some faulties in geodetic observation».
55.5. Confirm or deny that participle 1 may be translated as additional action or attribute in sentence « Determining the elevation they were noting the data ». Conclude your own similar sentence with Unit 3 words.

Correctional task № 56

56.1. Transform the noun «datum» into plural form and conclude adequate sentence with Unit 3 words.
56.2. Propose different types of pronouns to fill the gaps «… may measure … landscape in three -dimensional representation».
56.3. Connect the column:
1 цей A that
2ці B these
3той C those
4mi D that
56.4. Put 5 kinds of questions to the sentence «The accuracy of geodetic measurement depended upon weather conditions».
56.5. Confirm or deny that participle 1 may be translated as additional action or attribute in sentence « Having determined the elevation they replaced their location». Conclude your own similar sentence with Unit 3 words.

Correctional task № 57

57.1. Transform the noun «glass» into plural form and conclude adequate sentence with Unit 3 words.
57.2. Propose different types of pronouns to fill the gaps «… can observe the map…».
57.3. Choose the variants to continue the sentence «Ask...»:
A him B it's C his D me
57.4. Put 5 kinds of questions to the sentence «The word «level» means a geodetic instrument».
57.5. Confirm or deny that participle 1 may be translated as additional action or attribute in sentence «Clamping screw is small but important detail». Conclude your own similar sentence with Unit 3 words.

Correctional task № 58

58.1. Transform the noun «foot» into plural form and conclude adequate sentence with Unit 3 words.
58.2. Propose different types of pronouns to fill the gaps «Read… about… mapping».
58.3. Choose the variant to fill the gaps:
Is it your altimeter? – Yes, it is … altimeter
A your B his C my D her
58.4. Put 5 kinds of questions to the sentence «Landscape manager will deal with survey».

58.5. Confirm or deny that participle 1 may be translated as additional action or attribute in sentence «We are clamping different screws now». Conclude your own similar sentence with Unit 3 words.

Correctional task № 59

59.1. Transform the noun «box» into plural form and conclude adequate sentence with Unit 3 words.
59.2. Propose different types of pronouns to fill the gaps «… can answer the question about…. geodetic instruments».
59.3. Choose the variant to fill the gaps:I like … tripod, dear land manager
A your
B his
C my
D their
59.4. Put 5 kinds of questions to the sentence «Theodollite is the spread geodetic instrument».
59.5. Confirm or deny that participle 1 may be translated as additional action or attribute in sentence «Having clamped the screw we started observation». Conclude your own similar sentence with Unit 3 words.

Correctional task № 60

60.1. Transform the noun «bus» into plural form and conclude adequate sentence with Unit 3 words.
60.2. Propose different types of pronouns to fill the gaps «… can fix the level …».
60.3. Choose the variant to fill the gaps: The models of geodetic observing are good. What is the name of …owner?
A your
B his
C my
D their
60.4. Put 5 kinds of questions to the sentence «Compasses were more complicated than the rulers».
60.5. Confirm or deny that participle 1 may be translated as additional action or attribute in sentence «We were drawing line lengths at 11 o'clock». Conclude your own similar sentence with Unit 3 words.

Correctional task № 61

61.1. Transform the noun «city» into plural form and conclude adequate sentence with Unit 3 words.
61.2. Propose different types of pronouns to fill the gaps«… geodetic instruments are the newest among…».
61.3. Choose the variant to fill the gaps: She has theodollite and level . And what is the title of … device?
A their
B her
C hers
D she's
61.4. Put 5 kinds of questions to the sentence «Repeated bussol measurement is for accuracy».
61.5. Confirm or deny that participle 1 may be translated as additional action or attribute in sentence «We became land managers drawing line lengths». Conclude your own similar sentence with Unit 3 words.

Correctional task № 62

62.1. Transform the noun «duty» into plural form and conclude adequate sentence with Unit 3 words.
62.2. Propose different types of pronouns to fill the gaps «…can do all measurements …».
62.3. Transform the nouns into plural form and possessive case for statement «This difficulty is temporary itself …»
62.4. Put 5 kinds of questions to the sentence «Landscape manager measured elevation with altimeter».
62.5. Confirm or deny that Participle 1 may be translated as additional action or attribute in sentence «Having drawn line length we changed the type of our activity». Conclude your own similar sentence with Unit 3 words.

Correctional task № 63

63.1. Transform the noun «opportunity» into plural form and conclude adequate sentence with Unit 3 words.
63.2. Propose different types of pronouns to fill the gaps « … instruments were brought for…».
63.3. Transform the nouns into plural form and possessive case «That bookshelf was empty itself…».
63.4. Put 5 kinds of questions to the sentence «You can observe landscape using view».
63.5. Confirm or deny that participle 1 may be translated as additional action or attribute in sentence «Measuring angles we were involving into geodetic work». Conclude your own similar sentence with Unit 3 words.

Correctional task № 64

64.1. Transform the noun «fly» into plural form and conclude adequate sentence with Unit 3 words.
64.2. Propose different types of pronouns to fill the gaps «… can bring the rail…».
64.3. Transform the nouns into plural form and possessive case «This man is clever himself…»
64.4. Put 5 kinds of questions to the sentence «Level is the spread geodetic instrument».
64.5. Confirm or deny that participle 1 may be translated as additional action or attribute in sentence «Land managers will be measuring angles at 5 o'clock». Conclude your own similar sentence with Unit 3 words.

Correctional task № 65

65.1. Transform the noun «water» into plural form and conclude adequate sentence with Unit 3 words.
65.2. Propose different types of pronouns to fill the gaps «…theodollite is necessary for…».
65.3. Transform the nouns into plural form and possessive case «That sheep grazes as usual itself»
65.4. Put 5 kinds of questions to the sentence «Landscape manager got peep sight for observation».
65.5. Confirm or deny that Participle 1 may be translated as additional action or attribute in sentence « Having measured the angles they changed the type of their activity». Conclude your own similar sentence with Unit 3 words.

Correctional task № 66

66.1. Transform the noun «air» into plural form and conclude adequate sentence with Unit 3 words.
66.2. Propose different types of pronouns to fill the gaps «Write the article about …».
66.3. Transform the nouns into plural form and possessive case «This mouse runs away itself »
66.4. Put 5 kinds of questions to the sentence «The accuracy of geodetic measurement depends upon weather conditions».

66.5. Confirm or deny that participle 1 may be translated as additional action or attribute in sentence «We can use rail while mapping». Conclude your own similar sentence with Unit 3 words.

Correctional task № 67

67.1. Transform the noun «manual» into plural form and conclude adequate sentence with Unit 3 words.
67.2. Propose different types of pronouns to fill the gaps «… are observing landscape changes in three dimensional representations due to … digital map».
67.3. Transform the nouns into basic form: cities, teeth.
67.4. Put 5 kinds of questions to the sentence «Landscape manager dealt with survey».
67.5. Confirm or deny that participle 1 may be translated as additional action or attribute in sentence « He was using rail at that moment ». Conclude your own similar sentence with Unit 3 words.

Correctional task № 68

68.1. Transform the noun «class» into plural form and conclude adequate sentence with Unit 3 words.
68.2. Propose different types of pronouns to fill the gaps «... geodetic instruments are the best for…».
68.3. Transform the nouns into basic form: leaves, dictionaries.
68.4. Put 5 kinds of questions to the sentence «Tripod supports geodetic installation».
68.5. Confirm or deny that Participle 1 may be translated as additional action or attribute in sentence «Using rail they were involving into geodetic measurement». Conclude your own similar sentence with Unit 3 words.

Correctional task № 69

69.1. Transform the noun «faculty» into plural form and conclude adequate sentence with Unit 3 words.
69.2. Propose different types of pronouns to fill the gaps « Send…. …. compass».
69.3. Transform the nouns into basic form:men, knives.
69.4. Put 5 kinds of questions to the sentence « The word «level» meant the geodetic instrument».
69.5. Confirm or deny that participle 1 may be translated as additional action or attribute in sentence «Having used rail they noticed some necessary numbers». Conclude your own similar sentence with Unit 3 words.

Correctional task № 70

70.1. Transform the noun «auditorium» into plural form and conclude adequate sentence with Unit 3 words.
70.2. Propose different types of pronouns to fill the gaps «…knows about level….».
70.3. Transform the nouns into basic form:libraries, shelves.
70.4. Put 5 kinds of questions to the sentence « Rail has the similar features with the ruler».
70.5. Confirm or deny that Participle 1 may be translated as additional action or attribute in sentence «Studying survey I became proper land manager ». Conclude your own similar sentence with Unit 3 words.

Correctional task № 71

71.1. Transform the noun «box» into plural form and conclude adequate sentence with Unit 3 words.
71.2. Propose different types of pronouns to fill the gaps «…can observe landscape changes with… theodollite».
71.3. Transform the nouns into basic form:automata, criteria.

71.4. Put 5 kinds of questions to the sentence « Tangent screw- may be near the clamping screw».
71.5. Confirm or deny that participle 1 may be translated as additional action or attribute in sentence « Pay attention! She is studying survey». Conclude your own similar sentence with Unit 3 words.

Correctional task № 72

72.1. Transform the noun «accuracy» into plural form and conclude adequate sentence with Unit 3 words.
72.2. Propose different types of pronouns to fill the gaps « Measure… ….».
72.3. Transform the nouns into plural form: country, mouse.
72.4. Put 5 kinds of questions to the sentence « Landscape manager deals with survey».
72.5. Confirm or deny that participle 1 may be translated as additional action or attribute in sentence «Having studied survey I became proper land manager». Conclude your own similar sentence with Unit 3 words.

Correctional task № 73

73.1. Transform the noun «faulty» into plural form and conclude adequate sentence with Unit 3 words.
73.2. Propose different types of pronouns to fill the gaps «… geodetic instruments were important for…».
73.3. Transform the nouns into plural form: class, box.
73.4. Put 5 kinds of questions to the sentence «Digital maps operate three-dimensional representation».
73.5. Confirm or deny that participle 1 may be translated as additional action or attribute in sentence «Using theodollite we can not study level as an geodetic instrument». Conclude your own similar sentence with Unit 3 words.

Correctional task № 74

74.1. Transform the noun «compass» into plural form and conclude adequate sentence with Unit 3 words.
74.2. Propose different types of pronouns to fill the gaps «…can measure…. parameters….».
74.3. Choose the nouns without plural form
A money B year C time D glass E fish F water.
74.4. Put 5 kinds of questions to the sentence «The accuracy of geodetic measurement will depend upon weather conditions».
74.5. Confirm or deny that participle 1 may be translated as additional action or attribute in sentence «You are using theodollite now». Conclude your own similar sentence with Unit 3 words.

Correctional task № 75

75.1. Transform the noun «instrument» into plural form and conclude adequate sentence with Unit 3 words.
75.2.Propose different types of pronouns to fill the gaps « Ask…about….».
75.3. Choose the nouns without plural form:
A nose B sugar C time D tree E milk F page

75.4. Put 5 kinds of questions to the sentence «Altimeters are the measuring geodetic instruments».
75.5. Confirm or deny that participle 1 may be translated as additional action or attribute in sentence «Having used theodollite we paid attention on level». Conclude your own similar sentence with Unit 3 words.

Correctional task № 76

76.1.Translate the sentence and transform it into passive voice: We can elaborate new DWP (digital photogramettic stations

76.2. Propose a range of adverbial modifiers to be used in p. sentence.

76.3. Change the basic p.1.verb to express all active and passive perfect forms.

76.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.

76.5. Choose the variant to fill the gaps «They…. at that moment» (A was working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 77

77.1.Translate the sentence and transform it into passive voice: They are installing antenna ground plane now.

77.2. Propose a range of adverbial modifiers to be used in p.1 sentence.

77.3. Change the basic p.1.verb to express all active and passive perfect forms

77.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.

77.5. Choose the variant to fill the gaps «They…. two years ago» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 78

78.1.Translate the sentence and transform it into passive voice: Remote sensing deals with DWP (digital photogramettic stations)-

78.2. Propose a range of adverbial modifiers to be used in p.1 sentence.

78.3. Change the basic p.1.verb to express all active and passive perfect forms

78.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.

78.5. Choose the variant to fill the gaps «They…. two years soon» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 79

79.1.Translate the sentence and transform it into passive voice: He prepared the foreground photo

79.2. Propose a range of adverbial modifiers to be used in p.1 sentence.

79.3. Change the basic p.1.verb to express all active and passive perfect forms

79.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.

79.5. Choose the variant to fill the gaps «They…. two years already» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 80

80.1.Translate the sentence and transform it into passive voice: Geopilot has probvided aerial visual observations.

80.2. Propose a range of adverbial modifiers to be used in p.1 sentence.

80.3. Change the basic p.1.verb to express all active and passive perfect forms

80.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.

80.5. Choose the variant to fill the gaps « You…. now» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 81

81.1.Translate the sentence and transform it into passive voice: He has been dealing with aerial shooting since his graduation

81.2. Propose a range of adverbial modifiers to be used in p.1 sentence.

81.3. Change the basic p.1.verb to express all active and passive perfect forms

81.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.

81.5. Choose the variant to fill the gaps «You…. recently» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 82

82.1. Translate the sentence and transform it into passive voice: He can notice faulties on the foreground photo

82.2. Propose a range of adverbial modifiers to be used in p.1 sentence.

82.3. Change the basic p.1.verb to express all active and passive perfect forms

82.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.

82.5. Choose the variant to fill the gaps «You …. since your childhood» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 83

83.1. Translate the sentence and transform it into passive voice: Drone is spreading remote sensing

83.2. Propose a range of adverbial modifiers to be used in p.1 sentence.

83.3. Change the basic p.1.verb to express all active and passive perfect forms

83.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.

83.5. Choose the variant to fill the gaps «You…. in two years » (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 84

84.1.Translate the sentence and transform it into passive voice: Antenna ground plane has protected GPS signals.

84.2. Propose a range of adverbial modifiers to be used in p.1 sentence.

84.3. Change the basic p.1.verb to express all active and passive perfect forms

84.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.

84.5. Choose the variant to fill the gaps « I…. every week» (A was working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 85

85.1.Translate the sentence and transform it into passive voice: I always review general global space data

85.2. Propose a range of adverbial modifiers to be used in p.1 sentence.

85.3. Change the basic p.1.verb to express all active and passive perfect forms

85.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.

85.5. Choose the variant to fill the gaps «I…. tomorrow» (A was working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 86

86.1.Translate the sentence and transform it into passive voice: Tellurometer uses radio signals.

86.2. Propose a range of adverbial modifiers to be used in p.1 sentence.

86.3. Change the basic p.1.verb to express all active and passive perfect forms

86.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.

86.5. Choose the variant to fill the gaps «I …. yesterday at 5 o'clock» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 87

87.1. Translate the sentence and transform it into passive voice: We name drone as geopilot.

87.2. Propose a range of adverbial modifiers to be used in p.1 sentence.

87.3. Change the basic p.1.verb to express all active and passive perfect forms

87.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.

87.5. Choose the variant to fill the gaps «I…. yesterday » (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 88

88.1.Translate the sentence and transform it into passive voice: He has been sending reports about aerial visual observation for a long time.

88.2. Propose a range of adverbial modifiers to be used in p.1 sentence.

88.3. Change the basic p.1.verb to express all active and passive perfect forms

88.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.

88.5. Choose the variant to fill the gaps «She…. at that moment» (Awas working B were working C.had been working D worked E will work F has worked) and continue

Correctional task № 89

89.1.Translate the sentence and transform it into passive voice: He is spreading new GPS(Global Positioning System).

89.2. Propose a range of adverbial modifiers to be used in p.1 sentence.

89.3. Change the basic p.1.verb to express all active and passive perfect forms

89.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.

89.5. Choose the variant to fill the gaps «She …. two years ago» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 90

90.1.Translate the sentence and transform it into passive voice: They provide remote zoning.

90.2. Propose a range of adverbial modifiers to be used in p.1 sentence.

90.3. Change the basic p.1.verb to express all active and passive perfect forms

90.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.

90.5. Choose the variant to fill the gaps «She …. two years soon» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 91

91.1. Translate the sentence and transform it into passive voice: He sends signals about remote sensing .

91.2. Propose a range of adverbial modifiers to be used in p.1 sentence.

91.3. Change the basic p.1.verb to express all active and passive perfect forms

91.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.
91.5. Choose the variant to fill the gaps «She .... two years already» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 92

92.1.Translate the sentence and transform it into passive voice: GPS has determined the geopilot.
92.2. Propose a range of adverbial modifiers to be used in p.1 sentence.
92.3. Change the basic p.1.verb to express all active and passive perfect forms
92.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.
92.5. Choose the variant to fill the gaps «He.... always» (Awas working B were working C had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 93

93.1.Translate the sentence and transform it into passive voice: He studies the remote sensing techniques.
93.2. Propose a range of adverbial modifiers to be used in p.1 sentence.
93.3. Change the basic p.1.verb to express all active and passive perfect forms
93.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.
93.5. Choose the variant to fill the gaps « He.... already» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 94

94.1.Translate the sentence and transform it into passive voice: They get new signals from DWP (digital photogramettic stations).
94.2. Propose a range of adverbial modifiers to be used in p.1 sentence.
94.3. Change the basic p.1.verb to express all active and passive perfect forms
94.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.
94.5. Choose the variant to fill the gaps «He .... for a long time» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 95

95.1.Translate the sentence and transform it into passive voice: They are applying aerial visual observation.
95.2. Propose a range of adverbial modifiers to be used in p.1 sentence.
95.3. Change the basic p.1.verb to express all active and passive perfect forms
95.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.
95.5. Choose the variant to fill the gaps «Look! He .... » (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words

Correctional task № 96

96.1.Translate the sentence and transform it into passive voice: I bring tellurometer.
96.2. Propose a range of adverbial modifiers to be used in p.1 sentence.
96.3. Change the basic p.1.verb to express all active and passive perfect forms
96.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.
96.5.Choose the variant to fill the gaps «She .... next year» (Awas working B were working

C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 97

97.1.Translate the sentence and transform it into passive voice: Aerial shooting demands drone application.
97.2. Propose a range of adverbial modifiers to be used in p.1 sentence.
97.3. Change the basic p.1.verb to express all active and passive perfect forms
97.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.
97.5 .Choose the variant to fill the gaps «She ....at 3 o'clock» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 98

98.1.Translate the sentence and transform it into passive voice: He has got the drone report.
98.2. Propose a range of adverbial modifiers to be used in p.1 sentence.
98.3. Change the basic p.1.verb to express all active and passive perfect forms
98.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.
98.5.Choose the variant to fill the gaps «She .... by 3 o'clock» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 99

99.1. Translate the sentence and transform it into passive voice: She will study new GIS (geographical information systems).
99.2. Propose a range of adverbial modifiers to be used in p.1 sentence.
99.3. Change the basic p.1.verb to express all active and passive perfect forms
99.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.
99.5. Choose the variant to fill the gaps «She .... two years ago» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words

Correctional task № 100

100.1. Translate the sentence and transform it into passive voice: The drone was sending all necessary data.
100.2. Propose a range of adverbial modifiers to be used in p.1 sentence.
100.3. Change the basic p.1.verb to express all active and passive perfect forms
100.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.
100.5. Choose the variant to fill the gaps «She .... for two hours» (A was working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words

Correctional task №101

101.1.Translate the sentence and transform it into passive voice: We can elaborate new DWP (digital photogramettic stations
101.2. Propose a range of adverbial modifiers to be used in p.1 sentence.
101.3. Change the basic p.1.verb to express all active and passive perfect forms.
101.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.
101.5. Choose the variant to fill the gaps «They.... at that moment» (A was working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task №102

102.1.Translate the sentence and transform it into passive voice: They are installing antenna ground plane now.

102.2. Propose a range of adverbial modifiers to be used in p.1 sentence.

102.3. Change the basic p.1.verb to express all active and passive perfect forms

102.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.

102.5. Choose the variant to fill the gaps «They…. two years ago» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 103

103.1.Translate the sentence and transform it into passive voice: Remote sensing deals with DWP (digital photogramettic stations)-

103.2. Propose a range of adverbial modifiers to be used in p.1 sentence.

103.3. Change the basic p.1.verb to express all active and passive perfect forms

103.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.

103.5. Choose the variant to fill the gaps «They…. two years soon» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 104

104.1.Translate the sentence and transform it into passive voice: He prepared the foreground photo

104.2. Propose a range of adverbial modifiers to be used in p.1 sentence.

104.3. Change the basic p.1.verb to express all active and passive perfect forms

104.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.

104.5. Choose the variant to fill the gaps «They…. two years already» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 105

105.1.Translate the sentence and transform it into passive voice: Geopilot has probvided aerial visual observations.

105.2. Propose a range of adverbial modifiers to be used in p.1 sentence.

105.3. Change the basic p.1.verb to express all active and passive perfect forms

105.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.

105.5. Choose the variant to fill the gaps « You…. now» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 106

106.1.Translate the sentence and transform it into passive voice: He has been dealing with aerial shooting since his graduation

106.2. Propose a range of adverbial modifiers to be used in p.1 sentence.

106.3. Change the basic p.1.verb to express all active and passive perfect forms

106.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.

106.5. Choose the variant to fill the gaps «You…. recently» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 107

107.1. Translate the sentence and transform it into passive voice: He can notice faulties on the foreground photo

107.2. Propose a range of adverbial modifiers to be used in p.1 sentence.

107.3. Change the basic p.1.verb to express all active and passive perfect forms

107.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.

107.5. Choose the variant to fill the gaps «You .... since your childhood» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 108

108.1. Translate the sentence and transform it into passive voice: Drone is spreading remote sensing

108.2. Propose a range of adverbial modifiers to be used in p.1 sentence.

108.3. Change the basic p.1.verb to express all active and passive perfect forms

108.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.

108.5. Choose the variant to fill the gaps «You.... in two years » (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 109

109.1.Translate the sentence and transform it into passive voice: Antenna ground plane has protected GPS signals.

109.2. Propose a range of adverbial modifiers to be used in p.1 sentence.

109.3. Change the basic p.1.verb to express all active and passive perfect forms

109.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.

109.5. Choose the variant to fill the gaps « I.... every week» (A was working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 110

110.1.Translate the sentence and transform it into passive voice: I always review general global space data

110.2. Propose a range of adverbial modifiers to be used in p.1 sentence.

110.3. Change the basic p.1.verb to express all active and passive perfect forms

110.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.

110.5. Choose the variant to fill the gaps «I.... tomorrow» (A was working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 111

111.1.Translate the sentence and transform it into passive voice: Tellurometer uses radio signals.

111.2. Propose a range of adverbial modifiers to be used in p.1 sentence.

111.3. Change the basic p.1.verb to express all active and passive perfect forms

111.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.

111.5. Choose the variant to fill the gaps «I .... yesterday at 5 o'clock» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task №112

112.1. Translate the sentence and transform it into passive voice: We name drone as geopilot.
112.2. Propose a range of adverbial modifiers to be used in p.1 sentence.
112.3. Change the basic p.1.verb to express all active and passive perfect forms
112.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.
112.5. Choose the variant to fill the gaps «I…. yesterday » (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 113

113.1.Translate the sentence and transform it into passive voice: He has been sending reports about aerial visual observation for a long time.
113.2. Propose a range of adverbial modifiers to be used in p.1 sentence.
113.3. Change the basic p.1.verb to express all active and passive perfect forms
113.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.
113.5. Choose the variant to fill the gaps «She…. at that moment» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 114

114.1.Translate the sentence and transform it into passive voice: He is spreading new GPS(Global Positioning System).
114.2. Propose a range of adverbial modifiers to be used in p.1 sentence.
114.3. Change the basic p.1.verb to express all active and passive perfect forms
114.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.
114.5. Choose the variant to fill the gaps «She …. two years ago» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task №115

115.1.Translate the sentence and transform it into passive voice: They provide remote zoning.
115.2. Propose a range of adverbial modifiers to be used in p.1 sentence.
115.3. Change the basic p.1.verb to express all active and passive perfect forms
115.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.
115.5. Choose the variant to fill the gaps «She …. two years soon» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task №116

116.1. Translate the sentence and transform it into passive voice: He sends signals about remote sensing .
116.2. Propose a range of adverbial modifiers to be used in p.1 sentence.
116.3. Change the basic p.1.verb to express all active and passive perfect forms
116.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.
116.5. Choose the variant to fill the gaps «She …. two years already» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task №117

117.1.Translate the sentence and transform it into passive voice: GPS has determined the geopilot.

117.2. Propose a range of adverbial modifiers to be used in p.1 sentence.

117.3. Change the basic p.1.verb to express all active and passive perfect forms

117.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.

117.5. Choose the variant to fill the gaps «He…. always» (Awas working B were working C had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task №118

118.1.Translate the sentence and transform it into passive voice: He studies the remote sensing techniques.

118.2. Propose a range of adverbial modifiers to be used in p.1 sentence.

118.3. Change the basic p.1.verb to express all active and passive perfect forms

118.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.

118.5. Choose the variant to fill the gaps « He…. already» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task №119

119.1.Translate the sentence and transform it into passive voice: They get new signals from DWP (digital photogramettic stations).

119.2. Propose a range of adverbial modifiers to be used in p.1 sentence.

119.3. Change the basic p.1.verb to express all active and passive perfect forms

119.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.

119.5. Choose the variant to fill the gaps «He …. for a long time» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 120

120.1.Translate the sentence and transform it into passive voice: They are applying aerial visual observation.

120.2. Propose a range of adverbial modifiers to be used in p.1 sentence.

120.3. Change the basic p.1.verb to express all active and passive perfect forms

120.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.

120.5. Choose the variant to fill the gaps «Look! He …. » (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words

Correctional task № 121

121.1.Translate the sentence and transform it into passive voice: I bring tellurometer.

121.2. Propose a range of adverbial modifiers to be used in p.1 sentence.

121.3. Change the basic p.1.verb to express all active and passive perfect forms

121.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.

121.5.Choose the variant to fill the gaps «She …. next year» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 122

122.1.Translate the sentence and transform it into passive voice: Aerial shooting demands drone application.

122.2. Propose a range of adverbial modifiers to be used in p.1 sentence.

122.3. Change the basic p.1.verb to express all active and passive perfect forms
122.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.
122.5 .Choose the variant to fill the gaps «She ....at 3 o'clock» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Additional t individual task № 123

123.1.Translate the sentence and transform it into passive voice: He has got the drone report.
123.2. Propose a range of adverbial modifiers to be used in p.1 sentence.
123.3. Change the basic p.1.verb to express all active and passive perfect forms
123.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.
123.5.Choose the variant to fill the gaps «She .... by 3 o'clock» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words.

Correctional task № 124

124.1. Translate the sentence and transform it into passive voice: She will study new GIS (geographical information systems).
124.2. Propose a range of adverbial modifiers to be used in p.1 sentence.
124.3. Change the basic p.1.verb to express all active and passive perfect forms
124.4. Change the basic p.1.verb to express all active and passive continuous and simple forms.
124.5.Choose the variant to fill the gaps «She .... two years ago» (Awas working B were working C.had been working D worked E will work F has worked) and continue it using Unit 4 words

REFERENCES

5. Арлеанс , С.Г. та ін. Посібник з англійської мови для студентів зі спеціальності 6.070900 «Землевпорядкування та кадастр» . Київ : видавничий центр НАУ,2005. 215 с.

2. Гринда, Ю. І. Англійська мова за професійним спрямуванням : методичні вказівки для студентів курсу «Геодезія, картографія та землеустрій». Івано-Франківськ : ІФНТУНГ URL:: http://194.44.112.13/chytalna/ 1907/index.html, Англійська мова

3.Євсюков, Т.О. Faculty of Land Management. URL: https://nubip.edu.ua/node/5756

4. Мудра С.В., Волошина Г.Г., Поліщук, А.В.Англійська мова: навч. посіб. для підготовки фахівців ОКР «Бакалавр» вищих аграрних навчальних закладів освіти за напрямом підготовки «Геодезія, картографія та землеустрій». Київ.2014 : Комприн,2014.275 с.

5. Кісіль , Л.Р. Самостійне вивчення дисципліни «Іноземна мова » (англійська) за професійним спрямуванням для студентів ІІІ курсу спеціальності 5.08010102 «Землевпорядкування» URL:: https://drive.google.com/ file/d/0B6BmW7tnP_M8eUZVU1BUanpMdUE/view

6.Cartography URL: K_ACA&q=cartography+word+ meaning&oq=+cartography ++meaning&gs_ l=psy-ab.1.0.0i7i30i19l9j0i19.88920.92276..95086...0.0..0.182.328.0j2.....0....1j2..gws-wiz.....0i71j0i67j0j0i7i30.xkK73O5kfno

7. English for geodesy (Англійська мова для підготовки фахівців ОС « Бакалавр» зі спеціальності «Геодезія та землеустрій/укл. К.Г.Якушко.Київ: ДДП «Експо-Друк», 2019. 160с.

8. Geodesy. URL: https://www.munich-geocenter.org/research/geodesy/ geodesygeoinformation/GuG_Englisch.png/image_pr

9. Neil, O‟ Sullivan &James, D. Libbin.(2011) Agriculture. Express publishing

10. Walter de Gruyter GmbH & Co. KG(2003). Satellite geodesy. Berlin. Available at: http://www.geokniga.org/books/5192

11.Grid. URL: .https://www.google.com/search?ei=fqU7XLup MuTOrgTAxouYCg&q =grid+meaning&oq=grid+meaning&gs_l=psy-ab.3..0i7i30j0i7i10i30l2j0i7i30j0 i7i10i30j0i7i3 0l2j0j0i7i30l2.80656.83224..86184...0.0..0.180.332.0j2.....0....1j2..gws-wiz.....0i67.gzcxrzLTeAU

12. Landscape. URL: https://www.google.com/search?q=landscape+++meaning&ie=utf-8&oe=utf-8

13. Map frame. URL: https://www.google.com/search?ei=QKQ7 XJbrKsPNrgTJvpnIAw&q=map+frame+meaning&oq=map+frame+&gs_l=psy-ab.1.2.0i19l8j0i22i30i19l2.12476.15532..18156...1.0..0.346.732.0j1j1j1.....0....1..gws-wiz.....0j0i22i30j33i21.qFW-CaSdbcg