Practice 2
Working with foreign sources

✍ **Task 1.** ***Open the link*** **https://www.geogebra.org/,** ***choose one of the proposed resources, complete the test, and get ready to answer the questions, connected with the terminology.***

- ***Select the Algebra resource***
- ***Explore and practice one of the proposed topic for High school (Function)***
- ***Practice domain and range piecewise functions***

✍ ***Task 2. Read and translate the given text from English***.

- Describe the main idea of the text (or suggest a text name);
- List the basic terms;
- Are there multi-word terms? Translate them.

Text 1.

The results of the scientific study are in effect meaningless if they cannot be replicated. The significant part (up to 5%) of the conducted experiments failed to replicate. Even the top-tier journals publish the results of the experiments, which cannot be replicated. The experts have found the effective technique for the verification of the results. Given tokens, each with a nominal value of 50 cents, the experts were invited to trade on the outcome of the re-run experiments. They bought the «shares» and made the stakes. Some of the specialists «became richer» due to the inkling ahead of time of which of the studies would not replicate. Their shares were worth nothing. The experts should reject the studies that cannot be replicated and adopt only the reliable studies.

Text 2.

The School of Informatics in collaboration with recognized state universities in England and the US, offers high-end studies with an emphasis on practical application. Both studies in Engineering and Informatics are in high demand in today's labour market, which is constantly looking for leading executives who will be able to respond to rapid developments in the sector.

Optimization applications in Business Processes through Information Systems in all business sectors, are the main driver of competitive advantage. Combined with the lack of properly trained executives with a degree in Informatics in the Greek and international market, they create a strong demand for professionals with good practical and theoretical knowledge of their specialty. In response to this demand and confirming its reputation as one of the leading colleges in Greece, New York College offers Bachelor's and Master's degrees in

cutting-edge technology specialties in the fields of Computer Science, Computer Networks and Internet and Web Applications.

Text 3.

In the same direction, NYC has been certified by Cisco Systems as Cisco Networking Academy and offers its students the ability to perfect their network management and security skills.

The Student's Club has an active interest in creating projects related to the IT industry. Students are encouraged by the Department of Student Affairs to participate in these groups and gain experience and useful skills for their personal and professional development.

Graduates with Computer studies can work in areas of computer systems programming, software engineering, network support and management, database design and management, system analysis and control, web page design and more.

Text 4.

The Quantitative Reasoning measure assesses your:

- basic mathematical skills;
- understanding of elementary mathematical concepts;
- ability to reason quantitatively and to model and solve problems with quantitative methods.

Some of the questions in the measure are posed in real-life settings, while others are posed in purely mathematical settings.

The skills, concepts, and abilities are tested in the four content areas below:

- arithmetic topics include properties and types of integers, such as divisibility, factorization, prime numbers, remainders, and odd and even integers; arithmetic operations, exponents, and roots; and concepts such as estimation, percent, ratio, rate, absolute value, the number line, decimal representation and sequences of numbers;
- algebra topics include operations with exponents; factoring and simplifying algebraic expressions; relations, functions, equations and inequalities; solving linear and quadratic equations and inequalities; solving simultaneous equations and inequalities; setting up equations to solve word problems; and coordinate geometry, including graphs of functions, equations, and inequalities, intercepts, and slopes of lines;
- geometry topics include parallel and perpendicular lines, circles, triangles − including isosceles, equilateral, and 30°-60°-90° triangles − quadrilaterals, other polygons, congruent and similar volume, the Pythagorean theorem and angle measurement in degrees. The ability to construct proofs is not tested;
- data analysis topics include basic descriptive statistics, such as mean, median, mode, range, standard deviation, interquartile range, quartiles, and percentiles; interpretation of data in tables and graphs, such as line graphs, bar

graphs, circle graphs, boxplots, scatterplots and frequency distributions; elementary probability, such as probabilities of compound events and independent events; random variables and probability distributions, including normal distributions; and counting methods, such as combinations, permutations, and Venn diagrams.

Text 5.

These topics are typically taught in high school algebra courses or introductory statistics courses. Inferential statistics is not tested. The content in these areas includes high school mathematics and statistics at a level that is generally no higher than a second course in algebra; it does not include trigonometry, calculus, or other higher-level mathematics. The publication Math Review, which is available at www.ets.org/gre/prepare, provides detailed information about the content of the Quantitative Reasoning measure. The mathematical symbols, terminology, and conventions used in the Quantitative Reasoning measure are those that are standard at the high school level. For example, the positive direction of a number line is to the right, distances are nonnegative, and prime numbers are greater than 1. Whenever nonstandard notation is used in a question, it is explicitly introduced in the question. In addition to conventions, there are some assumptions about numbers and geometric figures that are used in the Quantitative Reasoning measure. Two of these assumptions are (1) all numbers used are real numbers and (2) geometric figures are not necessarily drawn to scale. More about conventions and assumptions appears in the publication Mathematical Conventions, which is available at www.ets.org/gre/prepare.

Text 6.

The Quantitative Reasoning measure has four types of questions:

- quantitative Comparison questions;
- multiple-choice questions – Select One Answer Choice;
- multiple-choice questions – Select One or More Answer Choices;
- numeric Entry questions.

Each question appears either independently as a discrete question or as part of a set of questions called a Data Interpretation set. All of the questions in a Data Interpretation set are based on the same data presented. For the paper-based test, you are allowed to use a basic handheld calculator on the Quantitative Reasoning measure. The calculator will be provided to you at the test site, and you may keep it when you are finished with the test. Information about using the calculator to help you answer questions appears later.

Quantitative Comparison Questions

Questions of this type ask you to compare two quantities – Quantity A and Quantity B – and then determine which of the following statements describes the comparison:

- quantity A is greater;
- quantity B is greater;
- the two quantities are equal;
- the relationship cannot be determined from the information given.

✍ ***Task 3. Analyze the list of skills and link them with types of thinking: creative thinking, systemic thinking, thinking outside the box.***

- Identify the properties of objects (essential and non-essential);
- Transition from the particular to the general;
- Transition from objects to relationships;
- Find innovative, original solution to problems and formulate hypotheses;
- Distinguish between necessary and sufficient features of objects;
- Transition from linear to non-linear thinking;
- Provide logical arguments for reasoning;
- Identify common and distinctive properties of objects

✍ ***Task 4. On your point of view what skills are needed to have a chance of getting a job in the 21st century?***

Digital literacy, analytical thinking, critical thinking, emotional intelligence, creativity, cooperation, flexibility, leadership skills, time management, curiosity and continuous learning

Homework 2

✍ ***Task* 1. *Open the link* https://www.geogebra.org/, *choose one of the proposed resources, complete the test, and get ready to answer the questions, connected with the terminology.***

The task is interactive. It involves navigating an English-language information resource, which can be accessed at https://www.geogebra.org/. To complete this task, we suggest the following plan:

- select one of the resources from the “Resources” window;
- select material for which tasks are graded on a scale of 9-12 points;
- read the explanations and complete the proposed tasks;
- when defending your task, demonstrate the correct use of mathematical terms;
- in the report, provide several scans of the test tasks you have completed after they have been checked.

Pay special attention to the construction of terminological phrases.

✍ ***Task 2. Give one example to demonstrate that the student has (does not have) a particular skill from task 4.***

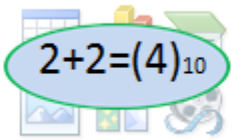
Example. Skill – thinking outside the box

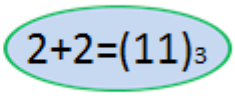
Imagine the next educational situation: one student writes out an equality 2+2*3=7, other student insists that equality must has form 2+2*3=12. Class exclaims "second variant is also wrong". The teacher suggests converting the second equality into a correct one (but without changing the numbers and symbols of arithmetic operations) or explaining in which case it is correct.

What can you help your students to cope with this situation?

Think outside the box

Prompt: there are different number systems





✍ ***Task 3.***

For questions **9-16**, read the text below and think of the word which best fits each gap. Use only **one** word in each gap. There is an example at the beginning **(0)**.

Write your answers **IN CAPITAL LETTERS on the separate answer sheet.**

Example: | **0** | S | U | C | H | | | | | | | | | | | | | | | |

The Computer Mouse

PCs and Laptops have become **(0)** ..... a normal part of every day life at home and work that the little gadget known as the mouse is everywhere. But it has come a long way since it first appeared when PCs started to become popular in ordinary homes.

The first computer mouse, for instance, had wheels that made contact **(9)** ..... the working surface. The name 'mouse' **(10)** ..... adopted because all the earlier models had a long cord and this, **(11)** ..... with the shape, made it look something **(12)** ..... the small furry animal of the same name.

The person who invented the mouse and who was responsible **(13)** ..... changing how computers worked was an American **(14)** ..... Douglas Engelbart. His first attempt at producing a mouse was in 1964 but it was large, heavy and difficult to move. A few years later, in 1968, his improved mouse made **(15)** ..... first public appearance and rapidly became **(16)** ..... huge success. The rest, as they say, is history.