

Specification of the test on Mathematical literacy for Unified National Testing and Complex Testing

(Approved for use in the Unified National Testing and Complex Testing from 2018)

The document was developed in accordance with the State Educational Standards of secondary education, educational programs in general subjects.

Test tasks, developed on mathematical literacy, are aimed at assessing the ability to apply mathematics in life situations, formulate, apply and interpret mathematics in various contexts. It includes mathematical thinking and the use of mathematical concepts, procedures, knowledge and tools that describe, explain and predict phenomena. This helps people recognize the role that mathematics plays in the world, form conscious points of view and make well-thought-out decisions necessary for constructive, interested and thinking citizens.

The content of test assignments aimed at assessing the mathematical literacy of entrants corresponds to the content of assignments used in international comparative studies in the field of education (PISA, TIMSS, etc.).

1. The purpose of the development of the test: Determination of preparedness level of entrants for mathematical literacy to admit to higher educational institutions of the Republic of Kazakhstan.

2. The content of the test: The test consists of 20 test items. There are 3 difficulty levels, which are presented as follows: first level - 10, second level - 5, third level - 5.

№	Chapter	№	Topic	№	Subtopic
01	Quantitative reasoning	01	Quantitative reasoning	01	Tasks for application
				02	Assignments for analysis
				03	Assignments for synthesis
				04	Mixed tasks
02	Uncertainty	02	Uncertainty	01	Tasks for application
				02	Assignments for analysis
				03	Assignments for synthesis
				04	Mixed tasks
03	Change and dependencies	03	Change and dependencies	01	Tasks for application
				02	Assignments for analysis
				03	Assignments for synthesis
				04	Mixed tasks
04	Space and form	04	Space and form	01	Tasks for application
				02	Assignments for analysis
				03	Assignments for synthesis
				04	Mixed tasks

3. Characteristics of the content of test items:

Section	Checked knowledge and skills
Quantitative reasoning	Ability to solve examples of calculation. Ability to solve text problems. Ability to calculate tasks on%. Ability to solve equations. Ability to find the values of numeric and literal expressions. Determine the numerical characteristics of circular and bar charts
Uncertainty	The ability to calculate problems on the theory of probability. Ability to calculate tasks for mathematical statistics
Change and dependencies	Ability to solve problems on functional dependence. Ability to solve problems by graphic depiction of dependence. Ability to solve problems

	on the dependencies depicted in the diagrams. Ability to calculate tasks for changing one value depending on another. The ability to calculate tasks on a sequence. Ability to analyze data in a table
Space and form	The ability to solve text problems with geometric content. Ability to apply area formulas, perimeter of geometric shapes. Ability to apply formulas of volume and surface area of geometric bodies. Ability to calculate problems on the dependence of measurements of geometric figures and bodies. Ability to solve non-standard problems with geometric content

4. Forms of test items:

The test consists of test items with the choice of one correct answer from 5 proposed.

5. Assessment of the test item and the whole test:

For the correct answer of each test item, a test-taker gets 1 point, for an incorrect answer - 0 points. If the test-taker answers correctly to 20 test items, he gets 20 points.