MINISTERUL EDUCAŢIEI
ŞI CERCETĂRII
AL REPUBLICII MOLDOVA

Agenţia Națională pentru
Curriculum și Evaluare

MATEMATICA (ÎN LIMBA ENGLEZĂ)

EXAMEN NAȚIONAL DE ABSOLVIRE A GIMNAZIULUI
SESIUNEA SUPLIMENTARĂ / REPETATĂ

09 iulie 2025
Timp alocat – 120 de minute

Rechizite şi materiale permise: *pix cu cerneală albastră, creion, riglă, radieră.*

Instrucţiuni pentru candidat:

- Citeşte cu atenţie fiecare item şi efectuează operațiile solicitate.
- Lucrează independent.

Îţi dorim mult succes!

Annex

$$x^m \cdot x^n = x^{m+n}$$

$$(x^m)^n = x^{m \cdot n}$$

$$x^m : x^n = x^{m-n}$$

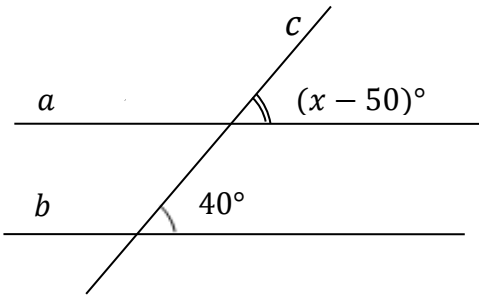
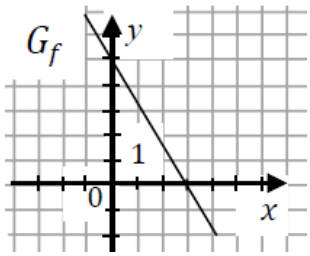
$$(a-b)(a+b) = a^2 - b^2$$

$$\mathcal{A}_\Delta = \frac{1}{2} a\, h_a$$

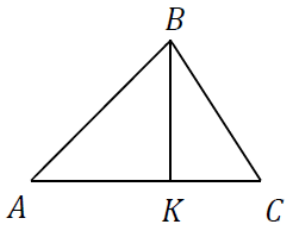
$$\mathcal{V}_{\text{parallelepiped}} = abc$$

$$\mathcal{V}_{cube} = a^3$$

$$V\left(-\frac{b}{2a}; -\frac{\Delta}{4a}\right)$$

Nr.	Items	Score
1.	Let $a = 7 - 10$ and $b = \frac{6}{5} \cdot \frac{10}{3}$. Fill in the boxes with integers, which represent the values of the expressions: "$a =$ ☐, $b =$ ☐, $a \cdot b =$ ☐."	1|L|0|1| 2|3
2.	On the picture, the straight lines a and b are parallel, and c is a transversal. a) Using the picture, write in the box one of the symbols „<", „>" or „=", such that the statement becomes true. $x - 50$ ☐ 40. b) Write in the box the value of x. $x =$ ☐. 	2|L|0|1| 2
3.	On the picture, the graph of the function $f: \mathbb{R} \to \mathbb{R}$, $f(x) = ax + b$, $a \neq 0$, is represented. Write in the box an integer, so that the statement becomes true. The zero of the function f is equal to ☐ 	3|L|0|2

4.	In 2010, into the world ocean 8 million tons of plastic were thrown, but in 2020, the quantity of 9,2 million tons of plastic was thrown. Determine what percentage the amount of plastic thrown into the ocean in 2020 increased comparing to 2010. *Solution:* *Answer:*_____.	4|L|0|1| 2|3|4|5
5.	Calculate the value of the expression $\frac{5^{27}\cdot 125^{-8}}{25}$. *Solution:* *Answer:*_____.	5|L|0|1| 2|3|4|5
6.	Determine the absolute value of the difference of the real solutions of the equation $x^2 + 3x + 2 = 0$. *Solution:* *Answer:*_____.	6|L|0|1| 2|3|4

7.	Consider the acute-angled triangle ABC, where BK is an altitude. Determine the area of the triangle ABC, if it is known that $BK = 8$ cm, $BC = 10$ cm, $m(\angle A) = 45°$. *Solution:*  *Answer:*_____.	7|L|0|1| 2|3|4|5
8.	Radu read a book of 300 pages in one week. In some days he read 40 pages per day, and while in other days he read 50 pages per day. Determine how many days he read 40 pages per day and how many days – 50 pages per day. *Solution:* *Answer:*_____.	8|L|0|1| 2|3|4|5

9.	Consider the function $f: \mathbb{R} \to \mathbb{R}$, $f(x) = -3x + 18$. Determine the non-negative values of x, so that the corresponding values of f are positive. *Solution:* *Answer:* $x \in$_____.	9|L|0|1|2|3|4|5
10.	A child made a cube from two pieces of plasticine in the shape of a rectangular parallelepiped with dimensions of 2 cm, 2 cm, 8 cm. Determine the length of the edge of the obtained cube. *Solution:* *Answer:*_____.	10|L|0|1|2|3|4

11.	Consider the expression $$E(x) = \left(1 + \frac{1}{x-1}\right) \cdot \frac{x^2 - 1}{x + 3}.$$ Determine the values of $x \in \mathbb{R} \setminus \{-3;\ 1\}$, such that $2E(x) = 1$. *Solution:* *Answer:*_____.	11|L|0|1|2|3|4|5|6
12.	Consider the function $f: \mathbb{R} \to \mathbb{R}$, $f(x) = x^2 + mx + m^2 + 1$, $m \in \mathbb{R}$. Abscissa of the vertex of the parabola, representing the graph of the function f, is equal to 1. Determine the minimum value of the function f. *Solution:* *Answer:*_____.	12|L|0|1|2|3|4