***MINISTERUL EDUCAŢIEI
ŞI CERCETĂRII
AL REPUBLICII MOLDOVA***

Agenţia Naţională pentru
Curriculum și Evaluare

Numele elevului:_____

Prenumele elevului:_____

Patronimicul elevului:_____

Instituţia de învăţământ:_____

_____

_____

Localitatea:_____

Raionul / Municipiul:_____

MATEMATICA (ÎN LIMBA ENGLEZĂ)

EXAMEN NAŢIONAL DE ABSOLVIRE A GIMNAZIULUI
SESIUNEA SUPLIMENTARĂ / REPETATĂ

02 iulie 2024
Timp alocat – 120 de minute

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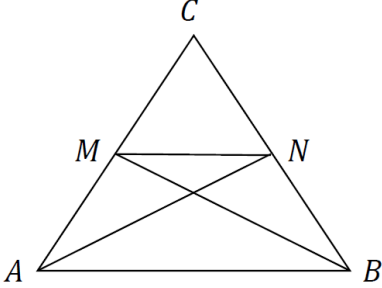
Instrucţiuni pentru candidat:

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

Îţi dorim mult succes!

Annex

$$\mathcal{V}_{sphere} = \frac{4}{3}\pi R^3$$

$$ax^2 + bx + c = a(x - x_1)(x - x_2)$$

Nr.	Items	Score
1.	Let $a = 0,4 \cdot 5$ and $b = -7 + 3$. Fill in the boxes with real numbers, which represent the values of the expressions: $$a = \boxed{} \ , \quad b = \boxed{} \ , \quad \frac{b}{a} = \boxed{} \ .$$	L 0 1 2 3
2.	In the equilateral triangle ABC, AN and BM are medians, and $MN = 2$ cm. Write in the boxes the length of the side AB and the length of the line segment CM. a) $AB = \boxed{}$ cm; b) $CM = \boxed{}$ cm.	L 0 1 2
3.	The graph of the function $f : \mathbb{R} \to \mathbb{R}$, $f(x) = ax^2 + bx + c$, $a \neq 0$, intersects the $Ox-$ axis in a single point. Write in the box one of the symbols "<", ">" or "=", so that the statement becomes true. $$\Delta = b^2 - 4ac \ \boxed{} \ 0.$$	L 0 2
4.	When drying, apples lose 60% of their weight. Determine how many kilograms of dried apples are obtained from 25 kilograms of fresh apples. *Solution:* *Answer:*_____.	L 0 1 2 3 4 5
5.	Calculate the value of the expression: $\sqrt{2}\left(\sqrt{8} + 5\right) - \sqrt{50} - \left(\sqrt{2}\right)^2.$ *Solution:* *Answer:*_____.	L 0 1 2 3 4 5

6. Determine the smallest real solution of the equation $6x^2 + 13x + 6 = 0.$
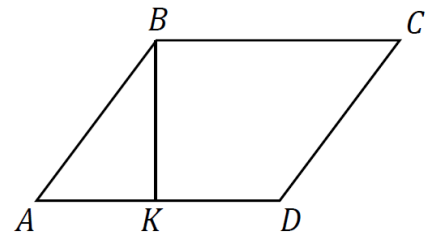
Solution:

L
0
1
2
3
4

Answer: _____.

7. In the parallelogram $ABCD$ the altitude BK divides the side AD in two congruent line segments and forms with the side AB an angle of $45°$. Determine the perimeter of the parallelogram, if it is known that $AD = 6$ cm.

Solution:

L
0
1
2
3
4
5

Answer: _____.

8.	In 2022, a farmer had sales of wheat and corn of 100 thousand lei. In 2023, the value of wheat sales decreased twice, and the value of corn sales increased twice. In total, in 2023, the value of sales was 110 thousand lei. Determine the value of wheat sales and the value of corn sales in 2022. *Solution:* *Answer:*_____.	L 0 1 2 3 4 5
9.	Consider the function $f: D \to \mathbb{R},\ f(x) = \sqrt{-9x - 18}$. Determine the real values of x, which are greater than -5 and belong to the domain of the function f. *Solution:* *Answer:* $x \in$ _____.	L 0 1 2 3 4 5
10.	The volume of a metallic ball is equal to 36π cm^3. Determine if the ball will fit in a box in the form of a cube with the edge of 7 cm. *Solution:* *Answer:*_____.	L 0 1 2 3 4

11. Consider $E(x) = \dfrac{x^3+x^2-6x}{-x^2-3x}$. Show that for every $x \in \mathbb{N}^*$, the value of $E(x)$ is an integer.

Solution:

L
0
1
2
3
4
5
6

12. Consider the function $f: \mathbb{R} \to \mathbb{R}$, $f(x) = 3x + m - 5$, $m \in \mathbb{R}$, whose graph passes through the point $A(-1;\ -6)$. Determine the abscissa of the point of intersection of the graph of the function f with $Ox-$ axis.

Solution:

L
0
1
2
3
4

Answer: _____ .