MINISTERUL EDUCAŢIEI ŞI CERCETĂRII AL REPUBLICII MOLDOVA

Agenţia Națională pentru Curriculum și Evaluare

Numele elevului:_____

Prenumele elevului:_____

Patronimicul elevului:_____

Instituția de învățământ:_____

_____

_____

Localitatea:_____

Raionul / Municipiul:_____

MATEMATICA (ÎN LIMBA ENGLEZĂ)

EXAMEN NAȚIONAL DE ABSOLVIRE A GIMNAZIULUI
SESIUNEA DE BAZĂ

06 iunie 2022
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.

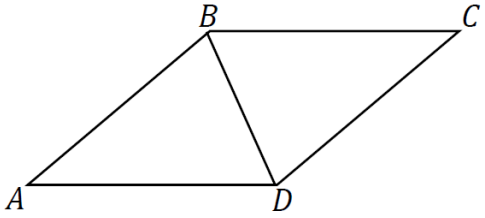
Îţi dorim mult succes!

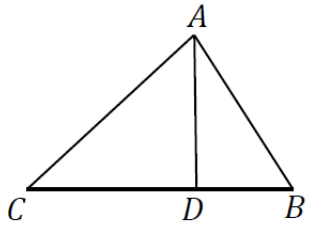
Numele şi prenumele evaluatorului: _____ Punctaj total:_____

Annex

$$\mathcal{V}_{cylinder} = \pi R^2 H$$

$$1\ \mathrm{l} = 1\ \mathrm{dm}^3$$

Nr.	Items	Score
1.	Let $a = \frac{27}{2} \cdot \frac{8}{3}$ and $b = -5 + 1$. Fill in the boxes with integer numbers, so that the statement becomes true. "$a =$ ☐ , $b =$ ☐ , $\frac{a}{b} =$ ☐ ."	L 0 1 2 3
2.	On the picture, the rhombus $ABCD$ is represented, where $m(\angle BAD) = 40^{\circ}$. Write in the box the measure in degrees of the angle CBD. $m(\angle CBD) =$ ☐ . 	L 0 3
3.	Consider the function $f: \mathbb{R} \to \mathbb{R}$, $f(x) = 2x - 5$. Write in the box one of the expressions „*positive*" or „*negative*", so that the statement becomes true. „The zero of the function f is a real ☐ number."	L 0 3
4.	For a concert, 1200 tickets were put up for sale. 45% of the tickets were sold. Determine how many tickets remain unsold. *Solution:* *Answer:*_____.	L 0 1 2 3 4
5.	Calculate the value of the expression $\frac{2\sqrt{3}+9}{\sqrt{3}} - \sqrt{27}$. *Solution:* *Answer:*_____.	L 0 1 2 3 4

6.	Determine the largest real solution of the equation $6x^2 + 7x + 2 = 0$. *Solution:* *Answer:*_____.	L 0 1 2 3 4
7.	In the triangle ABC, the altitude AD has the length equal to 4 cm, and $m(\angle ACB) = 45^\circ$. Determine the perimeter of the triangle ABC, if it is known that $BD = 3$ cm.  *Solution:* *Answer:*_____.	L 0 1 2 3 4 5

8.	Teams of 6 athletes and teams of 4 athletes participated in a sports competition. A total of 23 teams and 104 athletes participated. Determine how many teams of 6 athletes and how many teams of 4 athletes participated in the competition. *Solution:* *Answer:*_____.	L 0 1 2 3 4 5
9.	Consider the function $f: \mathbb{R} \to \mathbb{R},\ f(x) = -3x + 8$. Determine the real values of x, for which $f(x) - f(1) \leq 2x$. *Solution:* *Answer:* $x \in$ _____.	L 0 1 2 3 4 5
10.	A container in the shape of a right circular cylinder with the radius of the base of 3 dm and the height of 5 dm is full of milk. Determine if the milk from the container is enough to fill 150 bottles with the capacity of 0.9 liters. *Solution:* *Answer:*_____.	L 0 1 2 3 4

11.	Solve in the set $\mathbb{R}$ the equation $\frac{x^2+5x-9}{5x+15}-\frac{x}{x+3}=1$. *Solution:* *Answer:*_____.	L 0 1 2 3 4 5 6
12.	Consider the function $f:\mathbb{R}\to\mathbb{R},\ f(x)=mx^2+2x+m,\ m\neq 0$. Determine the real values of m, such that the parabola representing the graph of the function f opens downward and its vertex lies on the axis of abscissas. *Solution:* *Answer:*_____.	L 0 1 2 3 4