MINISTERUL EDUCAȚIEI, CULTURII ȘI CERCETĂRII AL REPUBLICII MOLDOVA



Numele:
Prenumele:
Patronimicul:
Instituția de învățământ:
Localitatea:
Raionul / Municipiul:

MATEMATICA (ÎN LIMBA ENGLEZĂ)

EXAMEN NAȚIONAL DE ABSOLVIRE A GIMNAZIULUI SESIUNEA DE BAZĂ

07 iunie 2018 Timp alocat – 120 de minute

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

Instrucțiuni pentru candidat:

- Citește cu atenție fiecare item și efectuează operațiile solicitate.
- Lucrează independent.

Îți dorim mult succes!

Numele și prenumele evaluatorului:	Punctaj total:	_

Annex

$$(a-b)(a+b) = a^2 - b^2$$
$$(a-b)^2 = a^2 - 2ab + b^2$$
$$(a+b)^2 = a^2 + 2ab + b^2$$
$$\mathcal{A}_{sphere} = 4\pi R^2$$

$$\mathcal{A}_{square} = a^2$$

Nr.	Items	Score
1.	Fill in the box so that the statement becomes true. "If $a=-5+3$ and $b=\frac{21}{5}:\frac{7}{10}$, then the value of the product $a\cdot b$ is the number $\boxed{}$."	L 0 3
2.	On the picture, the parallelogram $ABCD$ is represented. Write in the box the measure in degrees of the angle B , if $m(\angle A) = 45^{\circ}$. $m(\angle B) = \boxed{\qquad}$	L 0 3
3.	On the picture, the graph of the function $f: \mathbb{R} \to \mathbb{R}$, $f(x) = ax + b$, $a \ne 0$, is represented. Using the picture, fill in the box with one of the symbols "<", ">" or "=", so that the statement becomes true. $f(1)$ $f(3)$.	L 0 3
4.	From 3 liters of milk 600 grams of cheese are obtained. Determine how many kilograms of cheese will be obtained from 5 liters of milk. Solution: Answer:	L 0 1 2 3 4

5. Calculate the value of the expression: $\sqrt{75} - \sqrt{12} - \frac{9}{\sqrt{3}}$. Answer: Answer: 6. Determine the absolute value of the difference of the real solutions of the equation $x^2 - 7x + 12 = 0$. Solution: 7. The line segment joining the midpoints of two sides of an equilateral triangle is 3 cm. Determine the height of triangle. Solution: Answer: Answer: Answer:			
Determine the absolute value of the difference of the real solutions of the equation $x^2 - 7x + 12 = 0$. Solution: Answer: The line segment joining the midpoints of two sides of an equilateral triangle is 3 cm. Determine the height of triangle. Solution: L 0 1 2 3 4 4	5.		0 1
$x^{2} - 7x + 12 = 0.$ Solution: Answer: The line segment joining the midpoints of two sides of an equilateral triangle is 3 cm. Determine the height of triangle. Solution: $x^{2} - 7x + 12 = 0.$ $x^{3} + 4$ $x^{4} - 7x + 12 = 0.$ $x^{2} - 7x + 12 = 0.$ $x^{3} + 4$		Answer:	
7. The line segment joining the midpoints of two sides of an equilateral triangle is 3 cm. Determine the height of triangle. Solution: L 0 1 2 3 4 5	6.	$x^2 - 7x + 12 = 0.$	0 1 2 3
Determine the height of triangle. Solution: L 0 1 2 3 4 5		Answer:	
	7.	Determine the height of triangle.	0

8.	The sum of two numbers is 3 times the smallest of these numbers. Determine the numbers if it is known that one of them is 11 more than another. <i>Solution:</i> Answer:	L 0 1 2 3 4 5
	Determine the domain of the function $f: D \to \mathbb{R}$, $f(x) = \sqrt{7 - 2x}$.	
9.		L
	Solution:	0
		1 2 3 4
		4 5
	$Answer: D = \underline{\hspace{1cm}}.$	
10.	Peter painted the surface of a cube with the edge of 4 dm. Maria painted a sphere with a radius of 3 dm. Determine which one of them has painted a larger surface area. <i>Solution:</i>	L 0 1 2 3 4
	Answer:	

11.	Prove that for every $X \in \mathbb{N}$ the value of the expression $E(X) = \frac{X^3 + 2X^2 - 4X - 8}{X^2 + 4X + 4}$ is an integer. <i>Solution:</i>	L 0 1 2 3 4 5 6
12.	Consider the function $f: \mathbb{R} \to \mathbb{R}$, $f(x) = x^2 - 2$. Determine all real values of m , for which the point $A(m,1)$ belongs to the graph of the function f and is located in the first quadrant. <i>Solution:</i>	L 0 1 2 3 4

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