MINISTERUL EDUCAȚIEI AL REPUBLICII MOLDOVA



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

MATEMATICA (ÎN LIMBA ENGLEZĂ)

EXAMEN DE ABSOLVIRE A GIMNAZIULUI SESIUNEA SUPLIMENTARĂ / REPETATĂ

02 iulie 2015 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!

Annex

$$V_{sphere} = \frac{4\pi}{3}R^3$$

$$\mathcal{A}_{rectangle} = a \cdot b$$

Nr.	Item	Score
1.	Fill in the box with a number so that the statement becomes true. "If $a = -4 + 18$ and $b = \frac{14}{5} \cdot \frac{5}{2}$, then $\frac{a}{b} = \boxed{}$."	L 0 3
2.	On the picture, the isosceles triangle ABC is represented, where $[AB] \equiv [BC]$, BD is an altitude and $m(\angle BAC) = 50^\circ$. Write in the box the measure of the angle DBC . $m(\angle DBC) = \circ.$	L 0 3
3.	On the picture, the graph of the function $f: \mathbb{R} \to \mathbb{R}$, $f(x) = ax^2 + bx + c$, $a \ne 0$, is represented. Using the picture, fill in the box so that the statement becomes true. "The number of zeros of the function f is equal to f ."	L 0 3
4.	A mobile phone costs 2480 lei. Determine the amount saved when purchasing the phone with a 15% reduction. Solution:	L 0 1 2 3 4
	Answer:	

5.	Calculate: $\frac{125 \cdot 5^5}{25^4}$. Solution: Answer:	L 0 1 2 3 4
6.	Let A be the set of real solutions of the equation $3x^2 - 5x - 2 = 0$. Determine the set $A \setminus \mathbb{Z}$. Solution:	L 0 1 2 3 4
7.	Let $ABCD$ be a rectangle, where $AB = 6$ cm and $AC = \frac{5}{4}BC$. Determine the area of the rectangle. Solution: Answer:	L 0 1 2 3 4

8.	During the holidays Ion and Maria planted saplings. Ion planted twice as many saplings as Maria. 36 saplings were planted. Determine the number of saplings planted by each of them. Solution: Answer:	L 0 1 2 3 4 5
9.	Determine the domain of the function $f: D \to \mathbb{R}$, $f(x) = \sqrt{2 - 3x} + 2$. <i>Solution:</i>	L 0 1 2 3 4 5
	Answer: $D = $	
10.	A metal sphere with the radius of 5 cm is melted into spheres with the radius of 5 mm. Determine the number of obtained after melting spheres. Solution: Answer:	L 0 1 2 3 4

11.	Find all real values of x , for which the respective values of algebraic fractions $\frac{x^2+4x+3}{x+1}$ and $\frac{5x-3}{2}$ are equal. Solution:	L 0 1 2 3 4 5 6
	Answer:	
12.	Consider the function $f: \mathbb{R} \to \mathbb{R}$, $f(x) = ax + 3$. Determine all real values of a , such that the point $A(1, a^2 + 1)$ belongs to the graph of the function f and the zero of the function f is a positive number. Solution:	L 0 1 2 3 4 5