Numele elevului:_____

Prenumele elevului:_____

Patronimicul elevului:_____

Instituția de învățământ:_____

_____

_____

Localitatea:_____

Raionul / Municipiul:_____

MINISTERUL EDUCAȚIEI, CUTURII ȘI CERCETĂRII AL REPUBLICII MOLDOVA

Agenția Națională pentru Curriculum și Evaluare

MATEMATICA (ÎN LIMBA ENGLEZĂ)

EXAMEN NAȚIONAL DE ABSOLVIRE A GIMNAZIULUI
SESIUNEA SUPLIMENTARĂ / REPETATĂ

03 iulie 2019
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:_____
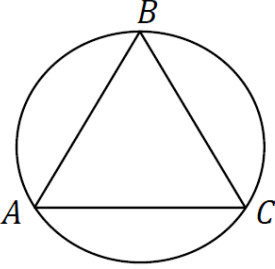
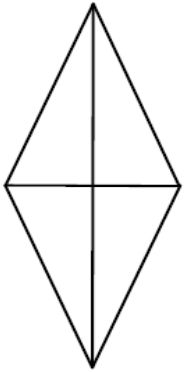## Annex

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

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

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

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

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

Nr.	Items	Score
1.	Fill in the box so that the statement becomes true. "If $a = \dfrac{1}{2} : \dfrac{1}{4}$ and $b = -3 - 2$, then the value of the product $a \cdot b$ is the number [＿＿＿] ."	L 0 3
2.	On the picture, the points A, B and C lie on a circle, so that the triangle ABC is equilateral. Write in the box the measure in degrees of the minor arc AB. $m(\overset{\frown}{AB}) = $ [＿＿＿] .	L 0 3
3.	Consider the function $f: \mathbb{R} \to \mathbb{R}, \ f(x) = -x + 7$. Write in the box one of the expressions "*strictly increasing*" or "*strictly decreasing*", so that the statement becomes true. "The function f is [＿＿＿＿＿＿＿＿＿＿＿＿＿＿]. "	L 0 3
4.	A farmer has to harvest the wheat from a 10 hectare land. From the first 4 hectares he harvested 22 tons of wheat. Determine how many tons of wheat will harvest the farmer from the whole land. *Solution:* *Answer:*＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿.	L 0 1 2 3 4

5.	Calculate the value of the expression: $\dfrac{4}{2-\sqrt{2}} + 5 - \sqrt{8}$. *Solution:* *Answer:*_____.	L 0 1 2 3 4
6.	Determine the smallest solution of the equation: $8x^2 + 6x + 1 = 0$. *Solution:* *Answer:*_____.	L 0 1 2 3 4
7.	In a rhombus, the short diagonal is 2 cm and the long diagonal is 3 times the short one. Determine the perimeter of the rhombus. *Solution:* *Answer:*_____.	L 0 1 2 3 4 5

8.	In April an office supply store sold a total of 115 pens and copybooks. In May a half of the number of copybooks sold in April and twice as many pens as in April have been sold. In May a total of 170 pens and copybooks have been sold. Determine how many pens and how many copybooks the store sold in April. *Solution:* *Answer:* _____.	L 0 1 2 3 4 5
9.	Consider the function $f\colon \mathbb{R} \to \mathbb{R}$, $f(x) = -2x + 1$. Determine the greatest integer value of x, for which the value of the function f is not less than 2. *Solution:* *Answer:* $x =$ _____.	L 0 1 2 3 4 5
10.	A tank is shaped like a right circular cylinder with the radius of the base of 1 m and the height of 3 m. Determine if water from 5 full tanks of this type will fit into a basin shaped like a right parallelepiped with dimensions 5 m, 5 m and 2 m. *Solution:* *Answer:*_____.	L 0 1 2 3 4

11.	Show that the value of the expression $E(X) = \left(\frac{X^2+7X-10}{X^2-25} - \frac{2}{X+5}\right) : \frac{X}{4X-20}$ is a positive integer, for each $X \in \mathbb{R} \setminus \{-5; 0; 5\}$.	L 0 1 2 3 4 5 6
	Solution:	

12.	Consider the function $f : \mathbb{R} \to \mathbb{R}$, $f(x) = ax^2 + 4x + a$, $a \neq 0$. Determine all real values of a, for which the function f has an unique zero and parabola, which represents the graph of the function f, opens downwards.	L 0 1 2 3 4
	Solution:	
	*Answer:*_____.	