

**MINISTERUL EDUCAȚIEI  
AL REPUBLICII MOLDOVA**



Agenția Națională pentru  
Curriculum și Evaluare

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

**MATEMATICA (ÎN LIMBA ENGLEZĂ)**

**EXAMEN NAȚIONAL DE ABSOLVIRE A GIMNAZIULUI  
SESIUNEA SUPLIMENTARĂ / REPETATĂ**

04 iulie 2017

Timp alocat – 120 de minute

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

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Instrucțiuni pentru candidat:

- Citește cu atenție fiecare item și efectuează operațiile solicitate.
  - Lucrează independent.
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***Îți dorim mult succes!***

Numele și prenumele evaluatorului: \_\_\_\_\_ Punctaj total: \_\_\_\_\_

### **Annex**

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

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

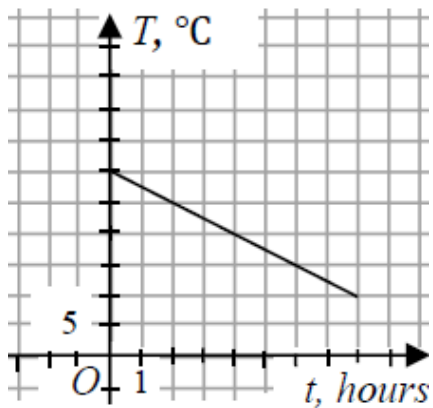
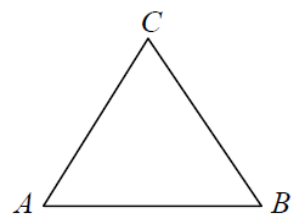
$$(a + b)^2 = a^2 + 2ab + b^2$$

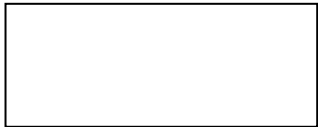
$$\mathcal{A}_{rectangle} = a \cdot b$$

$$\mathcal{V}_{sph.ball} = \frac{4}{3}\pi R^3$$

$$V\left(-\frac{b}{2a}; -\frac{\Delta}{4a}\right)$$

No.	Items	Score
1.	Fill in the box so that the statement becomes true. “If $a = -7 + 6$ and $b = \frac{21}{2} : \frac{3}{4}$ , then the value of the product $a \cdot b$ is the number <input type="text"/> .”	L 0 3
2.	On the picture, the triangle $ABC$ is represented, where $m(\angle A) = m(\angle B) = 60^\circ$ and $BC = 5$ cm. Write in the box the perimeter of the triangle $ABC$ . $P_{ABC} = \text{ cm.}$	L 0 3
3.	There is an air conditioner in a room. On the picture the graph of the functional dependency between temperature $T$ (in $^\circ\text{C}$ ) of the air in the room and time $t$ (in hours) of work of the air conditioner, is represented. Using the picture, fill in the box with a natural number so that the statement becomes true. “The temperature of the air in the room will be $20^\circ\text{C}$ after <input type="text"/> hours of work of the air conditioner.”	L 0 3
4.	A child needs 800 mg of calcium per day. A cup of milk contains 280 mg of calcium. Determine how many percent of the recommended daily amount is the calcium from a cup of milk. <i>Solution:</i>           <i>Answer:</i> _____	L 0 1 2 3 4



5.	<p>Show that the value of the expression <math>\frac{\sqrt{5}}{3-\sqrt{5}} - \frac{\sqrt{5}}{3+\sqrt{5}}</math> is a rational number.</p> <p><i>Solution:</i></p> <p><i>Answer:</i> _____.</p>	L 0 1 2 3 4
6.	<p>Let <math>A</math> be the set of real solutions of the equation <math>3x^2 + 5x - 2 = 0</math>. Determine the set <math>A \setminus \left\{-3; \frac{1}{3}\right\}</math>.</p> <p><i>Solution:</i></p> <p><i>Answer:</i> _____.</p>	L 0 1 2 3 4
7.	<p>The diagonal of a rectangle is 6 cm and forms with one of the sides an angle of <math>30^\circ</math>. Determine the area of the rectangle.</p> <p><i>Solution:</i></p> <div data-bbox="1066 1370 1385 1496" style="text-align: center; border: 1px solid black; width: 200px; height: 56px; margin: 0 auto 20px auto;">  </div> <p><i>Answer:</i> _____.</p>	L 0 1 2 3 4 5

8.	<p>In a basket there are 3 times less pears than apples and the difference between the number of apples and the number of pears is equal to 16. Determine how many apples and how many pears there are in the basket.</p> <p><i>Solution:</i></p>          <p><i>Answer:</i>_____.</p>	L 0 1 2 3 4 5
9.	<p>Consider the function <math>f: \mathbb{R} \rightarrow \mathbb{R}</math>, <math>f(x) = -5x + 6</math>. Determine all positive integers <math>x</math>, for which the value of the function <math>f</math> is greater than <math>-4</math>.</p> <p><i>Solution:</i></p>          <p><i>Answer:</i> <math>x \in</math> _____.</p>	L 0 1 2 3 4 5
10.	<p>Eight metallic spherical balls with the radius of 3 cm are melted and recast into a single spherical ball. Determine the length of the radius of the obtained ball.</p> <p><i>Solution:</i></p>          <p><i>Answer:</i>_____.</p>	L 0 1 2 3 4

