

BAREM DE EVALUARE ȘI DE NOTARE

Varianta 36

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SUBIECTUL I		(30 de puncte)
1.	10101	5p
2.	3	5p
3.	14	5p
4.	121	5p
5.	90°	5p
6.	7	5p
SUBIECTUL II		(30 de puncte)
1.	Desenează piramida	4p
	Notează piramida	1p
2.	$12 \cdot 3 = 36$	2p
	$(30 - 12) \cdot 0,75 = 18 \cdot 0,75 = 13,5$	2p
	$10 + 36 - 13,5 = 32,5$	1p
3.	$m_g = \sqrt{a \cdot b} \quad a > 0, b > 0$	1p
	$m_g = \sqrt{(4\sqrt{3} + \sqrt{23})(4\sqrt{3} - \sqrt{23})} = \sqrt{16 \cdot 3 - 23}$	2p
	$m_g = \sqrt{48 - 23} = \sqrt{25} = 5$	2p
4.	a) $x^2 - 4 = (x - 2)(x + 2)$	1p
	$\frac{x^2 - 2x - 3x - 6 + 12}{(x - 2)(x + 2)} = \frac{x^2 - 5x + 6}{(x - 2)(x + 2)}$	2p

	$\frac{(x-2)(x-3)}{(x-2)(x+2)} = \frac{x-3}{x+2}$	2p
	<p>b) $\frac{x-3}{x+2} \in \mathbb{Z} \Leftrightarrow (x+2) \mid (x-3) \quad x \in \mathbb{Z} - \{-3; -2; 0; 2; 3\}$</p> <p>$(x+2) \mid (x-3) \mid \Rightarrow (x+2) \mid (x+2-x+3) \Rightarrow (x+2) \mid 5$</p> <p>$A = \{-7; -1\}$</p>	<p>1p</p> <p>2p</p> <p>2p</p>
5	<p>$A = 7 \cdot 3^{2n+1} \cdot 2^{2n} + 3^{2n+2} \cdot 2^{2n+3}$</p> <p>$A = 3^{2n+1} \cdot 2^{2n} \cdot (7 + 3 \cdot 2^3)$</p> <p>$A = 3^{2n+1} \cdot 2^{2n} \cdot 31 : 31$</p>	<p>2p</p> <p>2p</p> <p>1p</p>
SUBIECTUL III		(30 de puncte)
1.	<p>a) $V_{\text{cutie}} = a \cdot b \cdot c$</p> <p>$V_{\text{cutie}} = 2\text{cm} \cdot 4\text{cm} \cdot 6\text{cm} = 48\text{ cm}^3$</p>	<p>2p</p> <p>3p</p>
	<p>b) $V_{\text{cub}} = l^3$</p> <p>$V_{\text{cub}} = 2^3 = 8\text{ (cm}^3\text{)}$</p> <p>$48 : 8 = 6$ bucățele zahăr cubic</p>	<p>1p</p> <p>2p</p> <p>2p</p>
	<p>c) După 4 zile Ioana consumă 2 bucățele de zahăr cubic</p> <p>$6 - 2 = 4$ bucățele de zahăr cubic i-au rămas</p> <p>$\frac{p}{100} \cdot 6 = 4 \Rightarrow p = 66, (6)\%$</p>	<p>1p</p> <p>2p</p> <p>2p</p>
2.	<p>a) $P = 2 \cdot L + 2 \cdot l$</p> <p>$EF = 2R = 2 \cdot 2\text{ cm} = 4\text{ cm}$</p> <p>$DE = 3 \cdot 2R = 3 \cdot 2 \cdot 2\text{ cm} = 12\text{ cm}$</p>	<p>1p</p> <p>1p</p> <p>1p</p>

	$P_{DEFG} = 2 \cdot 4 \text{ cm} + 2 \cdot 12 \text{ cm} = 8 \text{ cm} + 24 \text{ cm} = 32 \text{ cm}$	2p
	<p>b) $A_{\triangle ADB} = \frac{AB \cdot DH}{2} = \frac{AD \cdot DB \cdot \sin \angle ADB}{2}$ unde $AB \cap DG = \{H\}$</p> <p>din $\triangle ADH$ cu $m(\angle AHD) = 90^\circ \Rightarrow AD = 2\sqrt{2}$</p> <p>din $\triangle BDH$ cu $m(\angle BHD) = 90^\circ \Rightarrow BD = 2\sqrt{10}$</p> <p>$\sin \angle ADB = \frac{\sqrt{5}}{5}$</p>	<p>2p</p> <p>1p</p> <p>1p</p> <p>1p</p>
	<p>c) $A_{\text{carton ramas}} = A_{DEFG} - 3 \cdot A_{\text{disc}}$</p> <p>$A_{DEFG} = L \cdot l = 4 \cdot 12 = 48 \text{ (cm}^2\text{)}$</p> <p>$A_{\text{disc}} = \pi R^2 = 4\pi \text{ cm}^2$</p> <p>$A_{\text{carton ramas}} = 48 - 3 \cdot 4\pi = 48 - 12\pi \approx 10 \text{ cm}^2$</p>	<p>1p</p> <p>1p</p> <p>1p</p> <p>2p</p>