BAREM DE EVALUARE ŞI DE NOTARE

Varianta 131 *Prof.Oláh Csaba*

SUBIECTUL I		(30 de puncte)
1.	16	5p
2.	5	5p
3.	0	5p
4.	1	5p
5.	3	5p
6.	$\frac{2}{3}$	5p
SUBIECTUL II		(30 de puncte)
1.	$10a+b-18=10b+a$ $a-b=2$ $a=7, b=5$, numărul este 75	1p 2p 2p
2.	mediana care porneşte din unghiul drept este jumătate din ipotenuză lungimea catetei - $8cm$ aria triunghiului - $24cm^2$	1p 2p 2p
3.	$\frac{6}{\sqrt{3}}=2\sqrt{3}$, $2\sqrt{3}=\sqrt{12}$, $3\sqrt{2}=\sqrt{18}$ $3\sqrt{2}>\frac{6}{\sqrt{3}}$	1p 2p 2p
4.	a)trasarea sistemului cartezian	2p

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	reprezentarea grafică a funcţiei	3p
	b) $-3x+2=2x-3$ $x=1$	3p 2p
5	$A_{ABCD}=8A_{DQP}=8A$, $\frac{A_{AMNCPQ}}{A_{ABCD}}=\frac{8A-2A}{8A}=$ $=\frac{3}{4}$	2p 2p 1p
	SUBIECTUL III	(30 de puncte)
1.	a) $\frac{1}{\sqrt{2}+1}=\sqrt{2}-1, \frac{1}{\sqrt{3}+\sqrt{2}}=\sqrt{3}-\sqrt{2},..., \frac{1}{\sqrt{10}+\sqrt{9}}=\sqrt{10}-\sqrt{9}$ $S_1=\sqrt{2}-1+\sqrt{3}-\sqrt{2}+...+\sqrt{10}-\sqrt{9}=$ $=\sqrt{10}-1$	2p 1p 2p
	b) $\frac{1-\sqrt{2}}{\sqrt{2}}=\frac{1}{\sqrt{2}}-1, \frac{\sqrt{2}-\sqrt{3}}{\sqrt{6}}=\frac{1}{\sqrt{3}}-\frac{1}{\sqrt{2}},..., \frac{\sqrt{9}-\sqrt{10}}{\sqrt{90}}=\frac{1}{\sqrt{10}}-\frac{1}{\sqrt{9}}$ $S_2=\frac{1}{\sqrt{2}}-1+\frac{1}{\sqrt{3}}-\frac{1}{\sqrt{2}}+...+\frac{1}{\sqrt{10}}-\frac{1}{\sqrt{9}}=$ $=\frac{1}{\sqrt{10}}-1$	2p 1p 2p
	c) $-\frac{9}{10}=\frac{1}{\sqrt{100}}-1=\frac{1}{\sqrt{2}}-1+\frac{1}{\sqrt{3}}-\frac{1}{\sqrt{2}}+...+\frac{1}{\sqrt{100}}-\frac{1}{\sqrt{99}}=$ $=\frac{1-\sqrt{2}}{\sqrt{2}}+\frac{\sqrt{2}-\sqrt{3}}{\sqrt{6}}+...+\frac{\sqrt{99}-\sqrt{100}}{\sqrt{9900}}$, S_2 are 99 membri.	2p 2p 1p

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2.	a) $BU = 2R \Rightarrow BM = R\sqrt{3}$ $BC = 2R\left(\sqrt{3}+1\right) = 12$ $R = 3\left(\sqrt{3}-1\right)cm$	2p 2p 1p
	b) $BM = R\sqrt{3} =$ $= (9-3\sqrt{3})cm$	3p 2p
	c) $A_{UVW} = \dfrac{(2R)^2\sqrt{3}}{4} = R^2\sqrt{3}$ $A_{ABC} = \dfrac{\left[2R\left(\sqrt{3}+1\right)\right]^2\sqrt{3}}{4} = R^2\left(\sqrt{3}+1\right)^2\sqrt{3}$ $\dfrac{A_{UVW}}{A_{ABC}} = \dfrac{R^2\sqrt{3}}{R^2\left(\sqrt{3}+1\right)^2\sqrt{3}} = \dfrac{1}{\left(\sqrt{3}+1\right)^2} = \dfrac{1}{4+2\sqrt{3}} = \dfrac{2-\sqrt{3}}{2}$	2p 2p 1p

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