BAREM DE EVALUARE ŞI DE NOTARE

Varianta 164 Prof: Iuliana Traşcă

SUBIECTUL I		(30 de puncte)
1.	2	5p
2.	12	5p
3.	18	5p
4.	(9x-11y)(9x+11y)	5p
5.	6	5p
6.	$\frac{5}{8}$	5p
SUBIECTUL II		(30 de puncte)
1.	Desenarea şi notarea corectă a cubului ABCDMNPQ Desenarea diagonalei	4p 1p
2.	$\frac{x}{8}=\frac{y}{10}$, 6y=5z, x+y+z=30 Finalizare x=8, y=10, z=12	3p 2p
3.	$NS^2=MS\cdot SP \Leftrightarrow SP$=5cm MP =50 cm Finalizare $A_{MNPQ}=MP\cdot SN=750$ cm^2	2p 1p 2p
4.	a) $f\left(\frac{3\lvert a-2\rvert+7}{5}\right)=\frac{5\lvert a-2\rvert+11}{2}$ $\lvert a-2\rvert=1$ Finalizare $a\in\{1,3\}$	2p 2p 1p
	b) $f^2(n)=25n^2-20n+4$, $8\cdot f(n+1)=40n+24$	2p

www.mateinfo.ro

	$25n^2+20n-21=0 \Leftrightarrow (5n-3)\cdot(5n+7)=0$ Finalizare $n=\frac{3}{5}$	2p 1p
5	$\left\|10^{93}-11^{62}\right\|=10^{93}-11^{62}$, $\left\|19^{34}-10^{51}\right\|=10^{51}-19^{34}$ $a=1+\frac{7}{x-2}\in\mathbb{Z}$ $x\in\{-5,1,3,9\}$	2p 1p 2p
	SUBIECTUL III	(30 de puncte)
1.	a)) BN=MC=1 m BC= 13m AD=11 m AF= 3 m	1p 2p 1p 1p
	b) $DM=\frac{60}{13}$ m. $A_{ABCD}=\frac{720}{13}$ m^2. $A_{BDC}=30m^2$, $A_{ABD}=A_{ABCD}-A_{BDC}, A_{ABD}=\frac{330}{13}$ m^2	1p 2p 2p
	c) $A_{ABDEF}=\frac{330}{13}+33=\frac{759}{13}$ m^2 23 pungi	2p 3p
2.	a) VA=10 cm AO=OB=OC=R=6 cm $a_b=\frac{R}{2}=3$ cm, $BM=R+a_b \Leftrightarrow BM=9$ cm.	2p 1p 2p
	b) $R=\frac{AB\sqrt{3}}{3}\Leftrightarrow AB=6\sqrt{3}$ cm $A_{_}=27\sqrt{3}$ cm^2	1p 1p

www.mateinfo.ro

	$a_p = \sqrt{73}$ cm $A_l = 9\sqrt{219}$ cm^2	2p 1p
	c) Fie h înălţimea piramidei mici, V volumul piramidei iniţiale şi v volumul piramidei mici $V = \frac{A_b \cdot VO}{3} = 72\sqrt{3}$ cm^3 $v = 9\sqrt{3}$ cm^3 $\frac{V}{v} = \left(\frac{VO}{h}\right)^3 \Leftrightarrow 8 = \left(\frac{8}{h}\right)^3 \Leftrightarrow h = 4$ cm	2p 1p 2p

www.mateinfo.ro