BAREM DE CORECTARE

PARTEA ÎNTÂI

1.	2.	3.	4.	5.	6.	7.	8.	9.
D. 6	D.24	D.1	C. $\{-1\} \cup [\frac{1}{3}, +\infty)$	C.3	A.160	B. $\frac{(a^2+b^2)^2}{b^2}$	A.160	A. $80\sqrt{30}$

PARTEA A DOUA

1a.	a) $[-7{,}25] + \{-7, 25\} = -8 + 0{,}75 = -7\ 25$	**6p**
b.	$\left[\frac{3x-2}{7}\right] = x - 6 \Rightarrow x - 6 \leq \frac{3x-2}{7} < x - 5 \Rightarrow$ $7x - 42 \leq 3x - 2 < 7x - 35 \Rightarrow$ $x \in \{9{,}10\}$	**2p** **2p** **2p**
c.	$36^{[x]} + 6^{[x]+\{x\}} = 7 \cdot 6^{[x]} / 6^{[x]} \neq 0 \Rightarrow$ $6^{[x]} + 6^{\{x\}} = 7.$ Discuție Pentru $x < 0 \Rightarrow 6^{[x]} < 1$ $6^{\{x\}} < 6$ *nu convine* Pentru $x > 1$ $6^{[x]} + 6^{\{x\}} > 7$ nu convine Pentru $x \in (0,1)$ $6^{[x]} = 1$, $6^{\{x\}} < 6$ nu convine Pentru $x = 1$ avem 6 +1 = 7. Pentru x=0 avem 1+1=2 nu convime	**2p** **2p** **2p**
2a.	a) $BC^2 + AB^2 + A'A^2 = 289$ $AB^2 + BC^2 + A'A^2 - 2(8BC + 12AB + 9AA') = -289$ $BC^2 - 2 \cdot 8 \cdot BC + 64 + AB^2 - 2 \cdot 12AB + 144 + AA'^2 - 2 \cdot 9AA' + 81 = 0$ $(BC-8)^2 + (AB-12)^2 + (AA'-9)^2 = 0$ => BC = 8cm ; AB = 12cm ; AA' = 9cm Suma ariilor fețelor laterale = 2AB ⋅AA' + 2BC ⋅ AA' = 2 ⋅ 9 ⋅ 20 = 360 cm^2	**1p** **2p** **2p** **1p**
b.	a) AM = 2MB => MB = 12 : 3 = 4 cm BC = 2BN => BN = 8 : 2 = 4 cm =>ΔMBN = dreptunghic isoscel => ∡MNB = 45 ° A'D' || BC => (A'D' , MN) = $(\widehat{BC, MN}) = 45°$	**3p** **3p**
c.	a) D'C = $\sqrt{12^2 + 9^2} = \sqrt{225} = 15$ cm CN = 4 cm D'N = $\sqrt{15^2 + 16} = \sqrt{241}$ => D'N^2 = 241 D'M = $\sqrt{8^2 + 9^2 + 8^2} = \sqrt{209}$ => D'M^2 = 209 MN^2 = 32 $\measuredangle M = 90°$ => sin $(\widehat{MD'N}) = \frac{MN}{D'N} = \frac{4\sqrt{2}}{\sqrt{241}}$	**2p** **2p** **2p**