

**CONCURSUL JUDEȚEAN „POEZIA MINȚII”
 BAREM DE CORECTARE
 clasa a VIII-a**

Barem de corectare

Subiectul I 1) C 2) B 3) D 4) C

Rezolvări

Subiectul II

Problema 1

$$\sqrt{20} = \sqrt{4 \cdot 5}; \sqrt{30} = \sqrt{5 \cdot 6}; \sqrt{42} = \sqrt{6 \cdot 7}; \dots; \sqrt{4098600} = \sqrt{2024 \cdot 2025} \dots\dots\dots 2p$$

$$a = \frac{\sqrt{5} - \sqrt{4}}{\sqrt{4 \cdot 5}} + \frac{\sqrt{6} - \sqrt{5}}{\sqrt{5 \cdot 6}} + \frac{\sqrt{7} - \sqrt{6}}{\sqrt{6 \cdot 7}} + \dots + \frac{\sqrt{2025} - \sqrt{2024}}{\sqrt{2024 \cdot 2025}} \Rightarrow$$

$$a = \frac{\sqrt{5}}{\sqrt{4 \cdot 5}} - \frac{\sqrt{4}}{\sqrt{4 \cdot 5}} + \frac{\sqrt{6}}{\sqrt{5 \cdot 6}} - \frac{\sqrt{5}}{\sqrt{5 \cdot 6}} + \frac{\sqrt{7}}{\sqrt{6 \cdot 7}} - \frac{\sqrt{6}}{\sqrt{6 \cdot 7}} \dots + \frac{\sqrt{2025}}{\sqrt{2024 \cdot 2025}} - \frac{\sqrt{2024}}{\sqrt{2024 \cdot 2025}} \dots\dots\dots 3p$$

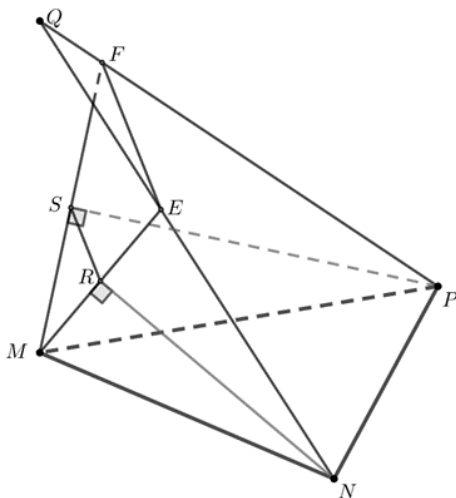
după simplificare obținem:

$$a = \frac{1}{\sqrt{4}} - \frac{1}{\sqrt{5}} + \frac{1}{\sqrt{5}} - \frac{1}{\sqrt{6}} + \frac{1}{\sqrt{6}} - \frac{1}{\sqrt{7}} \dots + \frac{1}{\sqrt{2024}} - \frac{1}{\sqrt{2025}}$$

$$a = \frac{1}{\sqrt{4}} - \frac{1}{\sqrt{2025}} \Rightarrow a = \frac{1}{2} - \frac{1}{45} \Rightarrow a = \frac{43}{90} \dots\dots\dots 5p$$

$$\frac{7\sqrt{15}}{60} < \frac{43}{90} < \frac{7\sqrt{10}}{45} \Leftrightarrow 21\sqrt{15} < 86 < 28\sqrt{10} \Leftrightarrow \sqrt{6615} < \sqrt{7396} < \sqrt{7840} \text{ (A)} \dots\dots\dots 5p$$

Problema 2



Ip: MNP un triunghi oarecare

$Q \notin (MNP)$

C: $RS \parallel (NPQ)$

D: Desen corect: 2p

Fie $MR \cap NQ = \{E\}$ și $MS \cap PQ = \{F\}$

În ΔMNE :

$\left. \begin{array}{l} NR \perp ME \\ NR \text{ bisectoarea } \sphericalangle MNE \end{array} \right\} \Rightarrow \Delta MNE \text{ este isoscel}$

$\Rightarrow MR \equiv RE$ 4p

În ΔMPF :

$\left. \begin{array}{l} PS \perp MF \\ PS \text{ bisectoarea } \sphericalangle MPF \end{array} \right\} \Rightarrow \Delta MPF \text{ este isoscel}$

$\Rightarrow MS \equiv SF$ 4p

În ΔMEF :

$\left. \begin{array}{l} MR \equiv RE \\ MS \equiv SF \end{array} \right\} \Rightarrow RS \text{ linie mijlocie} \Rightarrow RS \parallel EF, \text{ dar } EF \subset (NPQ) \Rightarrow RS \parallel (NPQ) \dots\dots\dots 5p$