

S.S.M.R - FILIALA MURES Clasa a VI-a BAREM DE EVALUARE

Subiectul 1.

1p din oficiu

$$7 \cdot 3^{x+2} + 5 \cdot 3^{x+1} - 77 \cdot 3^x =$$

$$= 3^x \cdot (7 \cdot 3^2 + 5 \cdot 3 - 77) = \quad (2p)$$

$$= 3^x \cdot 1 = \quad (1p)$$

$$= 3^x : 9 \text{ si } x \text{ minim} \quad (2p)$$

deci $x=2$. (1p)

Subiectul 2.

1p din oficiu

a). notăm $x=m(\angle AOB)$. Atunci $m(\angle BOC)=3x$, $m(\angle COD)=2x$, (1p)

$$\Rightarrow x+3x+2x=180^\circ \Rightarrow x=30^\circ \quad (1p)$$

$$\Rightarrow m(\angle AOB)=30^\circ, m(\angle BOC)=90^\circ, m(\angle COD)=60^\circ \quad (1p)$$

b). Avem $m(\angle AOE)=m(\angle EOC)=60^\circ, \Rightarrow m(\angle AOF)=150^\circ$, (1p)

$$\Rightarrow m(\angle DOF)=m(\angle COF)=30^\circ, \Rightarrow [OF \text{ bisectoarea unghiului } COD. \quad (1p)$$

Apoi $m(\angle COE)=m(\angle COD)=60^\circ, \Rightarrow [OC \text{ bisectoarea unghiului } DOE \quad (1p)$

Subiectul 3.

1p din oficiu

$$\frac{1}{1 \cdot 2} + \frac{1}{2 \cdot 3} + \frac{1}{3 \cdot 4} + \dots + \frac{1}{n \cdot (n+1)} = \frac{2010}{2011} \quad (1p)$$

$$\frac{1}{1} - \frac{1}{2} + \frac{1}{2} - \frac{1}{3} + \dots + \frac{1}{n} - \frac{1}{n+1} = \frac{2010}{2011} \quad (2p)$$

$$1 - \frac{1}{n+1} = \frac{2010}{2011} \quad (1p)$$

$$\Leftrightarrow \frac{n+1-1}{n+1} = \frac{2010}{2011} \quad (1p)$$

$$\Leftrightarrow n = 2010 \quad (1p)$$

Subiectul 4.

1p din oficiu

Fie $a_1, a_2, a_3, \dots, a_{11}$ cele 11 numere1p

$$a_1 + a_2 + \dots + a_{11} \leq \frac{11 \cdot 19}{3} \dots\dots\dots 1p$$

$$a_1 + a_2 + \dots + a_{11} \geq \frac{10 \cdot 25}{4} \dots\dots\dots 1p$$

$$\frac{11 \cdot 25}{4} \leq a_1 + a_2 + \dots + a_{11} \leq \frac{11 \cdot 19}{3} \dots\dots\dots 1p$$

$$68,75 \leq a_1 + a_2 + \dots + a_{11} \leq 69,6 \dots\dots\dots 1p$$

$$a_1 + a_2 + \dots + a_{11} = 69 \dots\dots\dots 1p$$