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CTII348

Área de Polígono

data

S T Q Q S S D

①

Suma de los Angulos = $(n-2) \cdot 180$
 $(6-2) \cdot 180$
 720°

$A+B+D+E = 540^\circ$
 $F+C = 180$

$AE^2 = 5^2 + 5^2$
 $AE^2 = 25 + 25$
 $AE^2 = 50$
 $AE = \sqrt{2} \cdot 5$
 $AE = 5\sqrt{2}$

$50 \overline{) 2}$
 $25 \overline{) 5}$
 $5 \overline{) 3}$
1

$t_{FAE} = t_{CBD}$

$AAEDF = b \cdot h$
 $AAEDF = 5\sqrt{2} \cdot 5$
 $AAEDF = 25\sqrt{2}$

$\sin 45^\circ = \frac{h}{5} \Rightarrow 2h = 5\sqrt{2}$
 $h = 5\sqrt{2}$

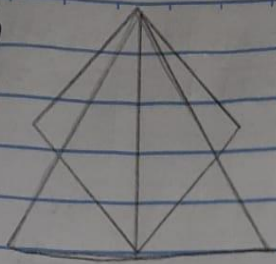
$AAEDF = \frac{b \cdot h}{2} \Rightarrow \frac{(5\sqrt{2} \cdot 5\sqrt{2})}{2} \Rightarrow \frac{(25 \cdot 2)}{2} \Rightarrow 25$

$\therefore \frac{50}{2} \Rightarrow AAEDF = 25 \text{ cm}^2$ $t_{FAD} = t_{CBD}$

$AAEDF = 25\sqrt{2} + (25/2) + (25/2)$
 $AAEDF = 25\sqrt{2} + 25$
 $AAEDF = 25(\sqrt{2} + 1) \text{ cm}^2$

(E)

②



$$h = \frac{\sqrt{3}}{2} l$$

$$A_t = 16\sqrt{3} \text{ cm}^2$$

$$A_{\text{eq}} = \frac{l^2 \sqrt{3}}{4} \Rightarrow 16\sqrt{3} = \frac{l^2 \sqrt{3}}{4} \Rightarrow 16 \cdot 4 \sqrt{3} = l^2 \cdot \sqrt{3} \therefore$$

$$64\sqrt{3} = l^2 \cdot \sqrt{3} \Rightarrow \frac{64\sqrt{3}}{\sqrt{3}} = l^2 \Rightarrow l^2 = 64 \Rightarrow l = \sqrt{64} \therefore$$

$$l = 8 \text{ m}$$

$$h = \frac{l \sqrt{3}}{2} \Rightarrow h = \frac{8 \sqrt{3}}{2} \Rightarrow h = 4\sqrt{3}$$

$$d = \frac{\sqrt{3}}{2} l$$

$$h = d \Rightarrow d = \frac{l \sqrt{3}}{2}$$

$$4\sqrt{3} = \frac{l \sqrt{3}}{2} \Rightarrow \frac{4\sqrt{3}}{\sqrt{3}} = \frac{l}{2} \Rightarrow l = \frac{4\sqrt{3} \cdot 2}{\sqrt{3} \cdot \sqrt{3}} \Rightarrow l = \frac{4\sqrt{6}}{2}$$

$$l = 2\sqrt{6}$$

$$A_Q = l^2$$

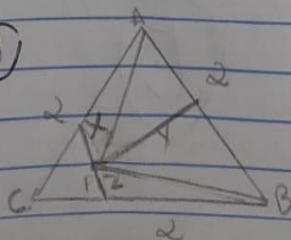
$$A_Q = (2\sqrt{6})^2$$

$$A_Q = 4 \cdot 6$$

$$A_Q = 24 \text{ m}^2$$

③

③



$$A_{APB} + A_{BPC} + A_{APC} = A_{ABC} = \sqrt{3}$$

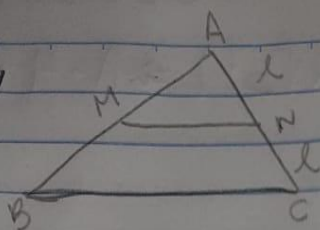
$$A_{APB} = \frac{2 \cdot y}{2} \quad A_{BPC} = \frac{2 \cdot z}{2} \quad A_{APC} = \frac{2 \cdot x}{2}$$

$$\frac{2 \cdot y}{2} + \frac{2 \cdot z}{2} + \frac{2 \cdot x}{2} = \sqrt{3}$$

③

$$y + z + x = \sqrt{3}$$

④



$$A_{ABC} = 96 \text{ m}^2$$

$$K = \frac{x}{2x}$$

$$K = \frac{1}{2}$$

$$K^2 = \frac{1}{4}$$

$$A_{BMNC} = A_{ABC} - A_{AMN}$$

$$A_{BMNC} = 96 - A_{AMN}$$

$$\frac{A_{AMN}}{96} = \frac{1}{4}$$

$$A_{BMNC} = A_{ABC} - A_{AMN}$$

$$A_{BMNC} = 96 - 24$$

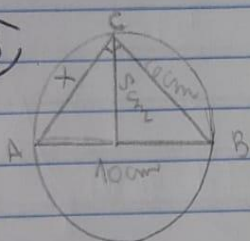
$$A_{BMNC} = 72 \text{ m}^2$$

$$4 \cdot A_{AMN} = 96$$

$$A_{AMN} = 96/4$$

$$A_{AMN} = 24 \text{ m}^2$$

⑤



$$10^2 = 6^2 + x^2$$

$$100 = 36 + x^2$$

$$100 - 36 = x^2$$

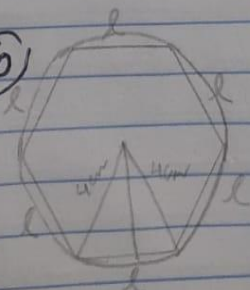
$$x^2 = 64$$

$$x = 8 \text{ cm}$$

①

$$A_{ABC} = \frac{b \cdot h}{2} \Rightarrow \frac{8 \cdot 6}{2} \Rightarrow 4 \cdot 6 \Rightarrow A_{ABC} = 24 \text{ cm}^2$$

⑥



$$R = 4 \text{ cm}$$

$$R = l$$

$$l = 4$$

$$a_{pt} = \frac{r \sqrt{3}}{2} \Rightarrow \frac{4 \sqrt{3}}{2} = 2 \sqrt{3}$$

$$A = \frac{b \cdot h}{2} \Rightarrow \frac{4 \cdot (2\sqrt{3})}{2} \Rightarrow 2 \cdot (2\sqrt{3}) \Rightarrow A = 4\sqrt{3}$$

$$\text{QUADRADO DA ÁREA} = (4\sqrt{3})^2$$

$$\text{QUADRADO DA ÁREA} = 16 \cdot 3$$

$$\text{QUADRADO DA ÁREA} = 48$$