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Turma: CTII 348

Prontuário: CB1990209

Disciplina: Matemática

IFSP - Câmpus Cubatão

Tarefa Básica 01
Área de Polígono

(Fotos nas páginas seguintes)

Exercício 1:

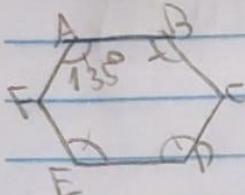
D S T Q Q S S

4º Binário

Materia 1 - Área de Polígonos

Soma Básica

$$1 \rightarrow l = 5 \text{ cm} \quad | \quad A, B, D, E = 135^\circ$$

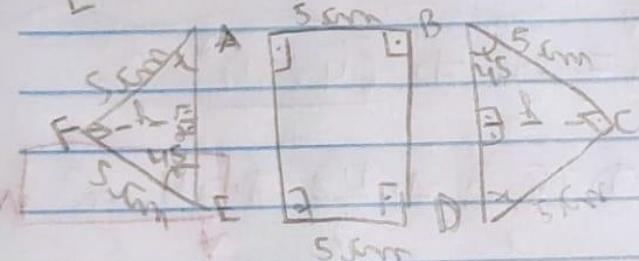


Soma

$$= (n-2) \cdot 180^\circ \quad (A+B+D+E = 540^\circ)$$

$$\text{ângulos internos} = (6-2) \cdot 180^\circ \quad F+C = 180^\circ$$

$$= 720^\circ$$



$$AE^2 = 5^2 + 5^2$$

$$AE = \sqrt{50}$$

$$AE = \sqrt{2 \cdot 5^2} \Rightarrow AE = 5\sqrt{2}$$

$$S_{ABE} = 5\sqrt{2} \cdot 5\sqrt{2}$$

$$S_{ABDE} = 25\sqrt{2} \text{ cm}^2$$

$$S_{AEF} = (5\sqrt{2}) \cdot \left(\frac{5\sqrt{2}}{2}\right)$$

$$270^\circ \cdot 45^\circ = \frac{l}{5}$$

$$\frac{\sqrt{2}}{2} \cdot \frac{l}{5} \Rightarrow 2l = 5\sqrt{2}$$

$$R = \frac{5\sqrt{2}}{2}$$

$$S_{AEF} = \frac{5\sqrt{2}}{2} \Rightarrow S_{AEF} = 25 \text{ cm}^2$$

$$S_{ABCDEF} = 25\sqrt{2} + 2 \cdot (25)$$

$$= 25\sqrt{2} + 50$$

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

4º Binário E.

A antiga

Exercícios 2 e 3:

2-1) d do \triangle equilátero = diagonal do \square

Área do \square = $16\sqrt{3}$ m². $\boxed{d = \text{Diagonal do } \square}$

$$S_{\square} = \frac{d^2 \sqrt{3}}{4} \Rightarrow 16\sqrt{3} = \frac{d^2 \sqrt{3}}{4} \Rightarrow 64\sqrt{3} = d^2 \cdot \sqrt{3} \therefore$$

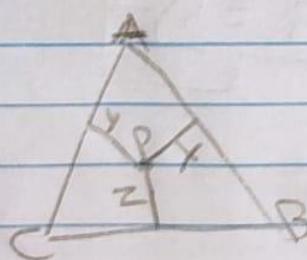
$$\therefore \Rightarrow \frac{64\sqrt{3}}{\cancel{4}} = d^2 \Rightarrow d^2 = 64 \Rightarrow d = \sqrt{64} \Rightarrow d = 8 \quad \text{(-1)}$$

$$d_{\square} = \frac{d\sqrt{3}}{2} \Rightarrow d = 8\sqrt{3} \Rightarrow (4\sqrt{3})$$

$$d = r \Rightarrow (d = 4\sqrt{3}) \quad \left\{ \begin{array}{l} S_{\square} = \frac{d^2}{2} \Rightarrow \frac{(4\sqrt{3})^2}{2} \therefore \\ \therefore \Rightarrow \frac{16 \cdot 3}{2} \Rightarrow \frac{48}{2} \Rightarrow \boxed{24 \text{ m}^2} \end{array} \right.$$

Suma B.

$$3-1) l=2 \quad S_{\triangle} = \sqrt{3}$$

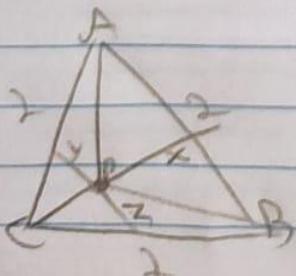


$$S_{APB} + S_{BPC} + S_{APC} = S_{ABC} = \sqrt{3}$$

$$S_{APB} = \frac{2x}{2}$$

$$S_{BPC} = \frac{2z}{2}$$

$$S_{APC} = \frac{2y}{2}$$

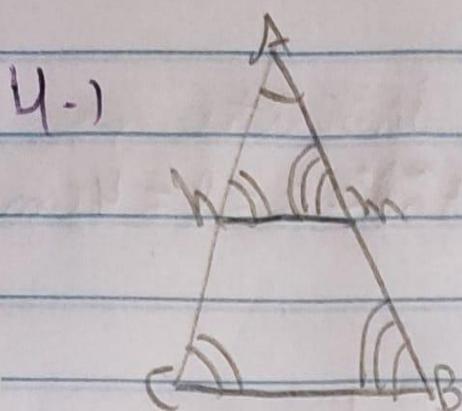


$$\frac{x}{2} + \frac{y}{2} + \frac{z}{2} = \sqrt{3}$$

$$\boxed{x + y + z = \sqrt{3}} \quad \text{m}$$

Solução B.

Exercícios 4 e 5:



$$S_{ABC} = 96 \text{ mm}^2$$

$$m_A = \frac{1}{2} BC$$

$$\Delta ABC \sim \Delta Amn$$

$$\frac{S_{Amn}}{S_{ABC}} = \frac{1}{4}$$

$$S_{BmnC} = S_{ABC} - S_{Amn}$$

$$S_{BmnC} = 96 - \frac{1}{4} \cdot 96$$

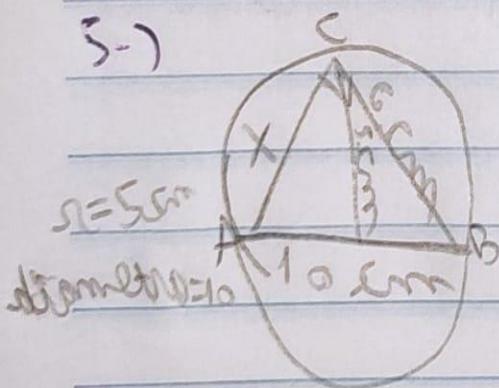
$$S_{Amn} = \frac{1}{4} S_{ABC}$$

$$S_{BmnC} = 96 - 24$$

$$S_{Amn} = \frac{1}{4} \cdot 96 \text{ mm}^2$$

$$S_{BmnC} = 72 \text{ mm}^2$$

5-)



$$10^2 = 6^2 + x^2 \quad \left\{ \begin{array}{l} S_{ABC} = b \cdot h \\ \end{array} \right.$$

$$100 = 36 + x^2$$

$$x^2 = 64$$

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

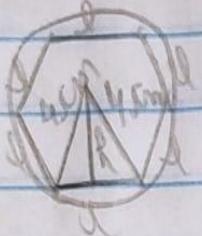
$$S_{ABC} = \frac{8 \cdot 6}{2}$$

$$S_{ABC} = \frac{48}{2} \Rightarrow 24 \text{ cm}^2$$

Setor A - $\boxed{S_{ABC} = 24 \text{ cm}^2}$

Exercício 6:

6 -



Hexágono regular inscrito na
circunferência, em t: $r = l = 4\text{cm}$
 $a = \sqrt{3}r$

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

$$S_D = \frac{a \cdot l}{2} \Rightarrow 4 \cdot \frac{(2\sqrt{3})}{2} \Rightarrow 2(2\sqrt{3}) \Rightarrow S_D = 4\sqrt{3}$$

$$\square: (4\sqrt{3})^2 = 16 \cdot 3 \Rightarrow 48$$