

Nome: Luiz Felipe Ciantela Machado

Turma: CTII 348

Prontuário: CB1990209

Disciplina: Matemática

IFSP - Câmpus Cubatão

Tarefa Básica 09

Área de Quadriláteros e Triângulos (Fotos nas páginas seguintes)

Exercícios 1, 2, 3 e 4:

Matéria 1 - Círculos de Quadriláteros e Triângulos


Solução Básica

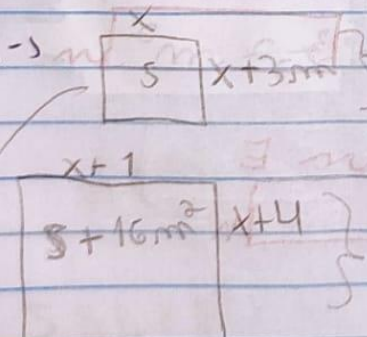
1-) 400 peças | Área = 36 m^2 | peça em formato de quadrado.

A-) $\frac{36}{400} = 0,09 \text{ m}^2$ B-) $0,09 = l^2$
 $l = \sqrt{0,09} = 0,3$

$\sim 11 \text{ p} = 0,3 \cdot 4 \Rightarrow 1,2 \text{ m}$

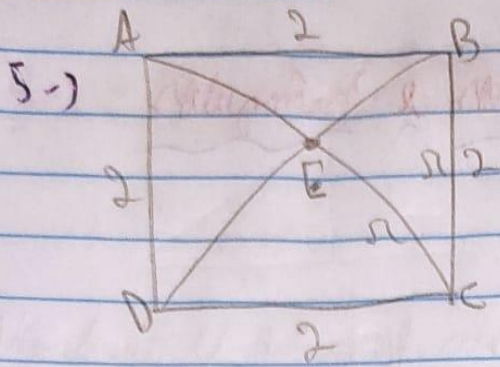
2-) $S = x^2$ $\left\{ \begin{array}{l} x^2 = \frac{y^2}{2} \\ 25 = y^2 \\ \Rightarrow S = \frac{y^2}{2} \end{array} \right.$ $\Rightarrow y = \sqrt{2x^2}$
 $2x^2 = y^2$
 $y = \sqrt{2x^2}$
 $y = \sqrt{2} \cdot x$

3-)  $15 = \frac{10 \cdot h}{2} \Rightarrow 10h = 30$
 $h = 3$

4-)  $S = x \cdot (x+3)$
 $S = x^2 + 3x$
 $S+16 = (x+1) \cdot (x+4)$
 $S+16 = x^2 + 4x + x + 4$
 $S = x^2 + 5x - 12$
 $x^2 + 3x = x^2 + 5x - 12$
 $3x = 5x - 12$
 $-2x = -12 \quad (-1)$
 $x = 6$

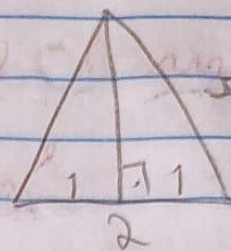
$\Rightarrow S = 6^2 + 3 \cdot 6$
 $S = 36 + 18$
 $S = 54$
 $S+16$
 $54+16$
 70 m^2

Exercícios 5 e 6:



$$l = 2$$

$$n = 2$$



$$2^2 = 1^2 + h^2$$

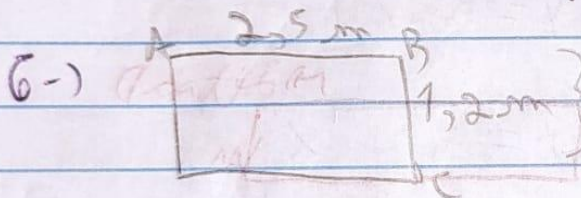
$$h^2 = 4 - 1$$

$$h = \sqrt{3}$$

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

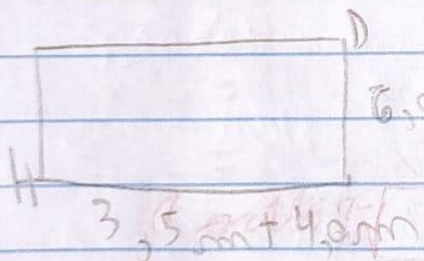
~ 1,73

Área B $4 \cdot \sqrt{3} \text{ m}$



$$A = l \cdot h$$

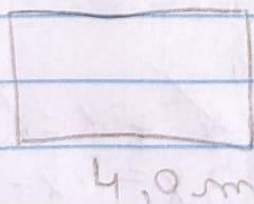
$$2,5 \cdot 1,2 = 3 \text{ m}^2$$



$$A = l \cdot h$$

$$(3,5 + 4) \cdot (6 - 1,2)$$

$$7,5 \cdot 4,8 = 36 \text{ m}^2$$



$$0,8 \text{ m}$$

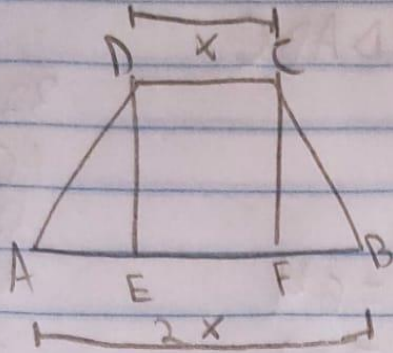
$$A = l \cdot h$$

$$4 \cdot 0,8 = 3,2 \text{ m}^2$$

Área total = $3 + 36 + 3,2 = 42,2 \text{ m}^2$

Exercícios 7, 8 e 9:

7-)



$$ABCD = 36 \text{ cm}^2$$

$$AB = 2 \cdot CD$$

$$CDEF = ? \text{ cm}^2$$

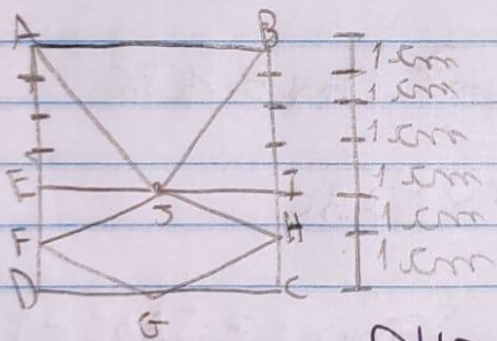
$$S_{ABCD} = \frac{(B+b) \cdot h}{2} \Rightarrow 36 = \frac{(2x+x) \cdot h}{2} \Rightarrow \therefore$$

$$\Rightarrow h = 3x \cdot h \Rightarrow x \cdot h = 24$$

$$x \cdot h = S_{CDEF} = 24 \text{ cm}^2$$

111

8-)



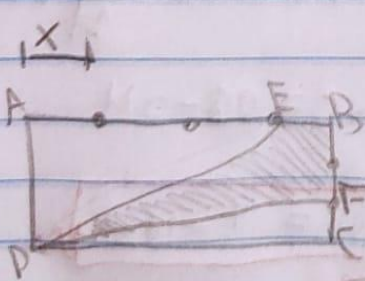
$$S_{ABJ} = \frac{6 \cdot 4}{2} = 12 \text{ cm}^2$$

$$S_{FGHI} = \frac{6 \cdot 2}{2} = 6 \text{ cm}^2$$

$$\frac{S_{FGHI}}{S_{ABJ}} = \frac{6 \cdot 6}{12 \cdot 6} \Rightarrow 1$$

$$S_{ABJ} = 12$$

9-)



$$S_{ABCD} = 4x \cdot 3x$$

$$48 = 12x^2$$

$$x^2 = 4$$

$$x = 2$$

$$S_{ADE} = \frac{(2 \cdot 3) \cdot (2 \cdot 3)}{2}$$

$$S_{ADE} = 18$$

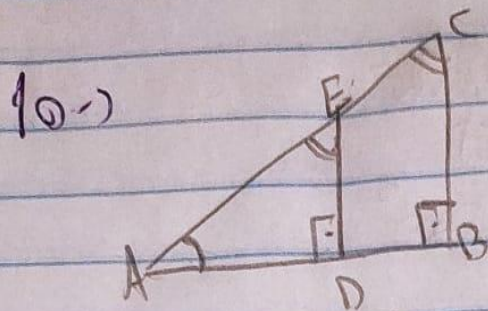
$$S_{CDF} = \frac{(2 \cdot 4) \cdot 2}{2}$$

$$S_{CDF} = 8$$

$$S_{BEFD} = 48 - 18 - 8$$

$$S_{BEFD} = 22 \rightarrow \text{Alternativa E}$$

Exercícios 10 e 11:



$$\triangle ADE \sim \triangle ABC$$

$$\left(\frac{AD}{AB}\right)^2 = \frac{S_{ADE}}{S_{ABC}}$$

$$\left(\frac{AD}{8}\right)^2 = \frac{\frac{1}{2} \cdot S_{ABC}}{S_{ABC}}$$

$$\frac{AD^2}{64} \times \frac{1}{2}$$

N/A

$$2AD^2 = 64$$

$$AD^2 = 32$$

$$AD = \sqrt{32}$$

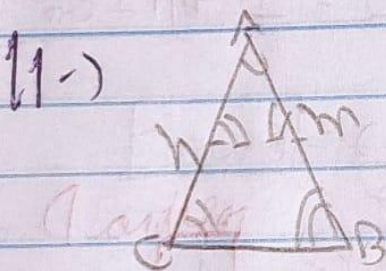
$$AD = \sqrt{2^2 \cdot 2^2 \cdot 2}$$

$$AD = 2 \cdot 2\sqrt{2}$$

~~Resposta A~~

$$AD = 4\sqrt{2} \text{ m}$$

$$\begin{array}{r|l} 32 & 2 \\ \hline 16 & 2 \\ 8 & 2 \\ 4 & 2 \\ 2 & 2 \\ \hline 1 & \end{array}$$



$$S_{ABC} = 96 \text{ m}^2 \quad | \quad MN = \frac{1}{2} BC$$

$$\triangle AMN \sim \triangle ABC$$

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

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

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

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

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

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

~~Resposta~~