

Lista de Exercícios - Aula 27

Lista de Exercícios

1- Área da sala: 36 m^2 / Área de 1 peça: $x^2 \text{ m}^2$ ($\square x$) \rightarrow 400 peças

a) Área de cada peça em m^2

$$400 x^2 = 36$$

$$x^2 = \frac{36}{400}$$

$$x^2 = \frac{9}{100} \rightarrow x^2 = 0,09 \text{ m}^2$$

b) Perímetro: ($4x \rightarrow x+x+x+x$)

$$x^2 = \frac{9}{100} \rightarrow x = \frac{\sqrt{9}}{\sqrt{100}}$$

$$x = \sqrt{\frac{9}{100}} \rightarrow x = \frac{3}{10}$$

Perímetro = $4x$
 Perímetro = $4 \cdot \frac{3}{10}$
 Perímetro = $1,2 \text{ m}$

2- $\square x \rightarrow \square y$ } 2. Área $\square x = \text{Área } \square y$

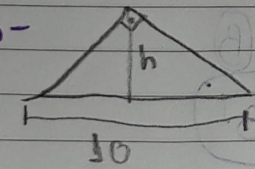
$$2x^2 = y^2$$

$$y = \sqrt{2 \cdot x^2}$$

$$y = \sqrt{2} \cdot x$$

Alternativa D

3-




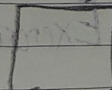
$A = \frac{b \cdot h}{2}$

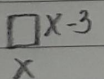
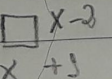
$$15 = \frac{10 \cdot h}{2}$$

$$5h = 15$$

$$h = \frac{15}{5}$$

$h = 3$ Alternativa D

4-  $x-3$ Ampliação:  $x-3+1 = (x-2)$

Área  $x-3 = x \cdot (x-3)$ } Área  $x-2 = (x \cdot (x-3)) + 16$

$$(x+1) \cdot (x-2) = (x \cdot (x-3)) + 16$$

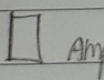
$$x^2 - 2x + x - 2 = x^2 - 3x + 16$$

$$x^2 - x^2 - x + 3x = 16 + 2$$

$$2x = 18$$

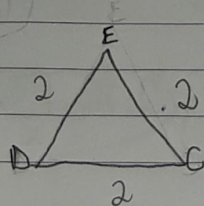
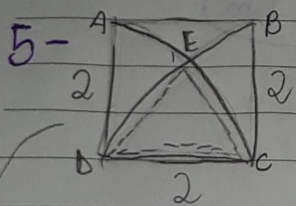
$$x = \frac{18}{2}$$

$$x = 9 \text{ m}$$

Área do  Ampliado $\rightarrow (x-2) \cdot (x+1)$

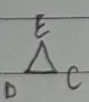
$$(9-2) \cdot (9+1)$$

$$7 \cdot 10 \rightarrow 70 \text{ m}^2$$



\rightarrow triângulo equilateral

Os dois Arcos tem o raio igual a 2. Como \overline{DE} , \overline{CE} e \overline{CD} são raios dos Arcos, eles medem 2.

Área  $\rightarrow A\Delta = \frac{2^2 \cdot \sqrt{3}}{4}$

Alternativa B

$$A\Delta = \frac{4 \cdot \sqrt{3}}{4}$$

$\rightarrow A = \sqrt{3}$

6-

$A_{\text{Total}} = A_1 + A_2 + A_3$
 $A_1 = 6 \cdot 2,5$
 $A_1 = 15$

$A_2 = 4,8 \cdot 3$
 $A_2 = 14,4$

$A_3 = 4 \cdot 5,6$
 $A_3 = 22,4$

$A_{\text{Total}} = A_1 + A_2 + A_3$
 $= 15 + 14,4 + 22,4 \rightarrow A_{\text{Total}} = 51,8 \text{ m}^2$

Alternative (E)

7-

$AB = 2CD$
 $AB = 2x$
 $CD = x$

$\text{Area} = 36 \text{ cm}^2$
 $\frac{(B+b) \cdot h}{2} = 36 \text{ cm}^2$
 $\frac{(2x+x) \cdot h}{2} = 36 \text{ cm}^2$

$\frac{3x \cdot h}{2} = 36 \text{ cm}^2$
 $x \cdot h = \frac{36 \cdot 2}{3}$
 $x \cdot h = 24$

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

Alternative (E)

$\text{Area} \square = b \cdot h = \text{Area} \square = x \cdot h$

8-

Razão entre a Área do losango FGHS e do triângulo ABS:

$$\frac{A_{\text{Losango}}}{A_{\text{Triângulo}}} = \frac{6 \cdot 2}{8} \div \frac{6 \cdot 4}{8} = \frac{2}{4} \div 2 = \frac{1}{2}$$

Alternativa D

9-

Área $\square = 48$ / $b \cdot h = 48$

Área Quadrilátero = $A_{\square} - A_{\triangle 1} - A_{\triangle 2}$

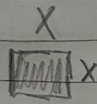
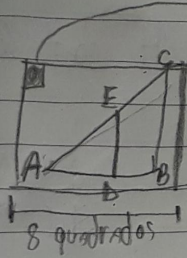
$$\text{Área Q.} = 48 - \frac{3}{4} b \cdot \frac{h}{2} - b \cdot \frac{h}{2} \cdot \frac{1}{2}$$

$$\text{Área Q.} = 48 - \frac{3}{8} \cdot 48 - \frac{48}{6}$$

Área Q = $48 - 18 - 8$

Área Q = 22 Alternativa E

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$$ADE \sim ABC$$

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

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

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

$$2AD^2 = 64$$

$$AD^2 = \frac{64}{2}$$

$$AD^2 = 32$$

$$AD = \sqrt{32}$$

$$AD = \sqrt{2^3 \cdot 2^2 \cdot 2}$$

$$32 \overline{) 2}$$

$$16 \overline{) 0}$$

$$8 \overline{) 2}$$

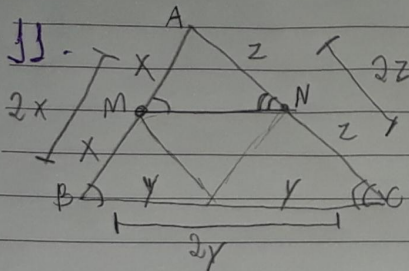
$$4 \overline{) 2}$$

$$2 \overline{) 2}$$

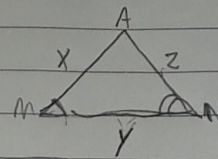
$$1 \overline{) 2^3 \cdot 2^2 \cdot 2}$$

$$AD = \boxed{4\sqrt{2}} \text{ Alternativa (A)}$$

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AMN e ABC são semelhantes, com razão $\frac{1}{2}$



Área do $\triangle ABC$
é de 96m^2

$$\frac{\text{Área } \triangle AMN}{\text{Área } \triangle ABC} = \left(\frac{1}{2}\right)^2$$

$$\text{Área } \triangle AMN = \frac{96}{4}$$

$$\text{Área } \triangle AMN = \frac{1}{4} \cdot \text{Área } \triangle ABC$$

$$\text{Área } \triangle AMN = 24\text{m}^2$$

$$\text{Área Quadrilátero (BMNC)} = 96 - 24$$

$$\text{Área Q.} = \boxed{72\text{m}^2}$$