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Turma: CTII 348

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Disciplina: Matemática

IFSP - Câmpus Cubatão

Tarefa Básica 08

Potência de Ponto

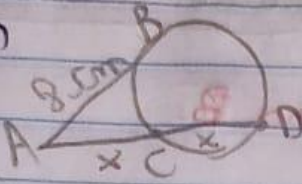
(Fotos nas páginas seguintes)

Exercícios 1, 2 e 3:

matéria 8- Potência de um ponto

Barra Básica

1-)



$$\overline{AC} \cdot \overline{AD} = \overline{AB} \cdot \overline{AB}$$

$$x \cdot 2x = 8 \cdot 8 \Rightarrow x^2 = 32$$

$$2x^2 = 64$$

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

$$x = \sqrt{32}$$

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

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

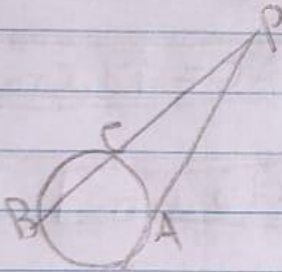
$$x = 4\sqrt{2}$$

↳ Solução E

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

~ 11 ~

2-)



$$\overline{PA} \cdot \overline{PA} = \overline{PB} \cdot \overline{PC}$$

$$3 \cdot 3 \cdot 3 = \overline{PB} \cdot \overline{PC}$$

$$9 \cdot 3 = \overline{PB} \cdot \overline{PC} \Rightarrow \overline{PB} = \overline{PC}$$

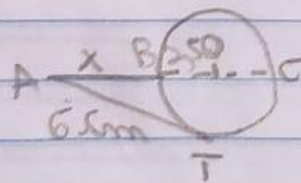
$$9 \cdot 3 = \overline{PB}$$

$$\overline{PB} = 9 \cdot 3 \text{ setna B.}$$

$$\overline{PB} = 27$$

~ 11 ~

3-)



$$\overline{AB} \cdot \overline{AC} = \overline{AT} \cdot \overline{AT}$$

$$x \cdot (x+5) = 6 \cdot 6$$

$$x^2 + 5x - 36 = 0$$

$$\Delta = \frac{-9}{-9} + \frac{4}{4} = -5 \quad x = -9 \text{ não convém, então, } x = 4$$

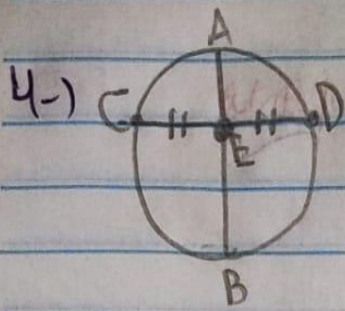
$$\frac{-9}{x'} \cdot \frac{4}{x''} = -36$$

$$x' \quad x''$$

$$x = AB = 4 \text{ cm}$$

↳ Solução E

Exercícios 4 e 5:



$$\overline{AE} \cdot \overline{EB} = \overline{CE} \cdot \overline{ED}$$

$$3 = \overline{CE} \cdot \overline{CE}$$

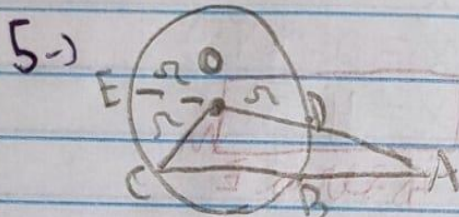
$$3 = \overline{CE}^2$$

$$\overline{CE} = \sqrt{3}$$

$$\overline{CD} = 2\overline{CE} \Rightarrow \boxed{\overline{CD} = 2\sqrt{3}} \rightarrow \text{Solução B}$$

~||~

$\overline{CE} = \overline{ED}$, pois o diâmetro AB corta uma corda CD, e é perpendicular.



$$\overline{AB} = 8 \text{ cm}$$

$$\overline{BC} = 10 \text{ cm}$$

$$\overline{AD} = 4 \text{ cm}$$

$$\overline{DO} = \text{Raio} = r$$

$$\overline{AE} \cdot \overline{AD} = \overline{AC} \cdot \overline{AB}$$

$$(2r+4) \cdot 4 = 18 \cdot 8$$

$$\overline{AO} = 4+r$$

$$\overline{AO} = 4+r \Rightarrow \boxed{\overline{AO} = 20 \text{ cm}}$$

$$8r+16 = 144$$

$$8r = 144 - 16$$

$$8r = 128$$

$$r = 128 \div 8 \Rightarrow \boxed{r = 16}$$

$$\overline{AC} = 10+8 \Rightarrow \boxed{\overline{AC} = 18 \text{ cm}}$$

$$\overline{CO} = r \Rightarrow \boxed{\overline{CO} = 16 \text{ cm}}$$

$$P = 20 + 18 + 16$$

$$\boxed{P = 54 \text{ cm}}$$

~||~ Solução E.