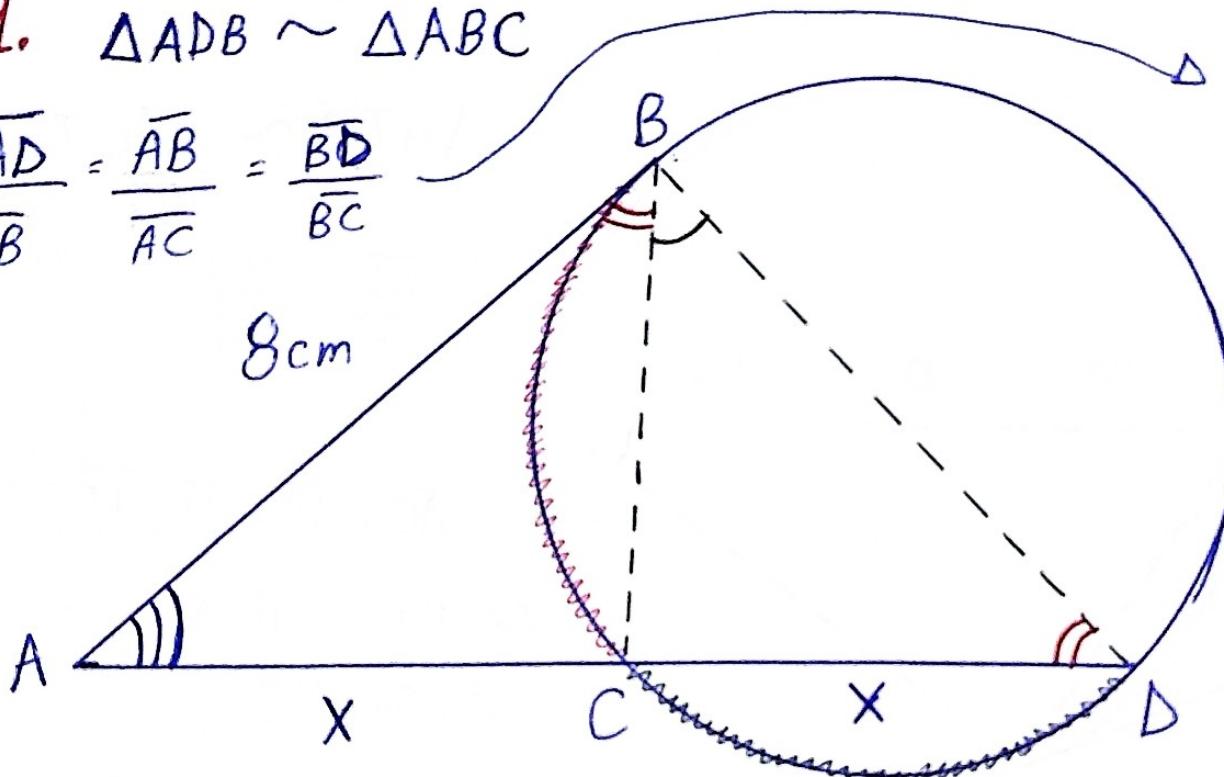


1.  $\Delta ADB \sim \Delta ABC$

$$\frac{\overline{AD}}{\overline{AB}} = \frac{\overline{AB}}{\overline{AC}} = \frac{\overline{BD}}{\overline{BC}}$$



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

$$8 \cdot 8 = x \cdot (x+x)$$

$$64 = x^2 + x^2$$

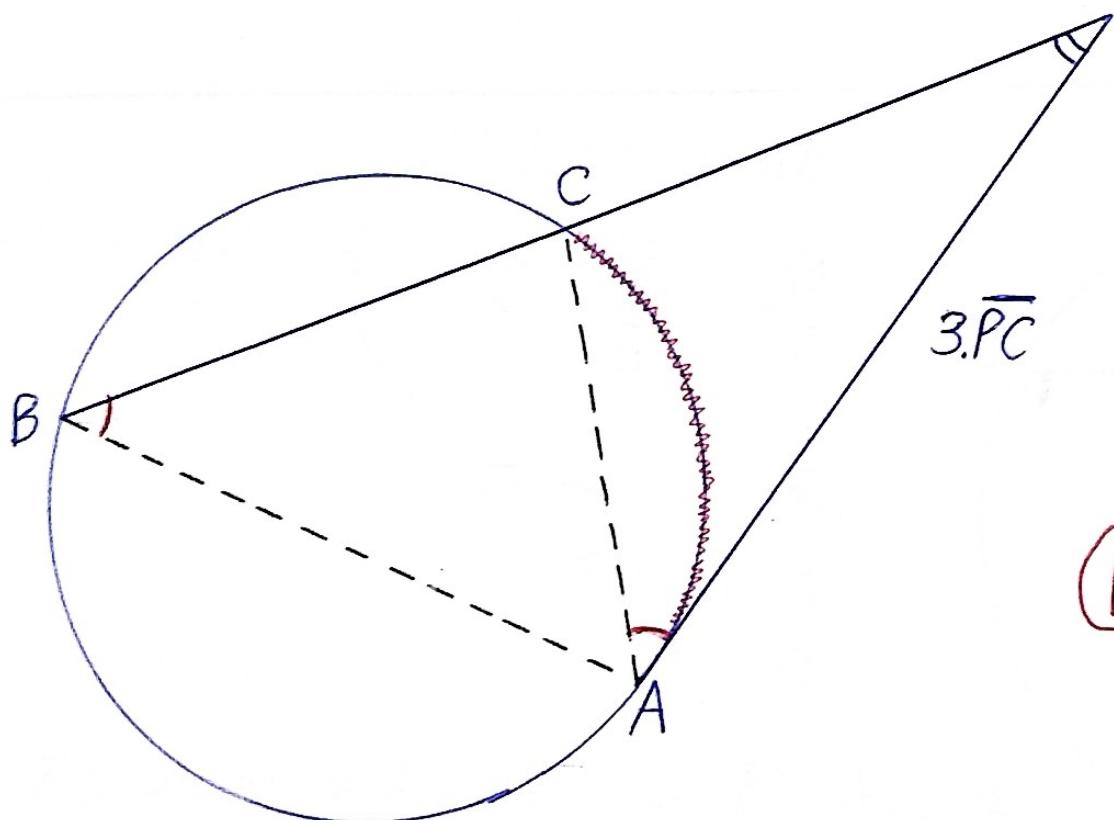
$$2x^2 = 64$$

$$x = \sqrt{32} = \sqrt{8 \cdot 4} = \sqrt{24 \cdot 4}$$

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

(E)

2.



$$\Delta PBA \sim \Delta PAC$$

$$\frac{\overline{PB}}{\overline{PA}} = \frac{\overline{BA}}{\overline{AC}} = \frac{\overline{PA}}{\overline{PC}}$$



$$\frac{\overline{PB}}{\overline{PA}} = \frac{\overline{PA}}{\overline{PC}} \Rightarrow \frac{\overline{PB}}{3\overline{PC}} = \frac{3\overline{PC}}{\overline{PC}}$$

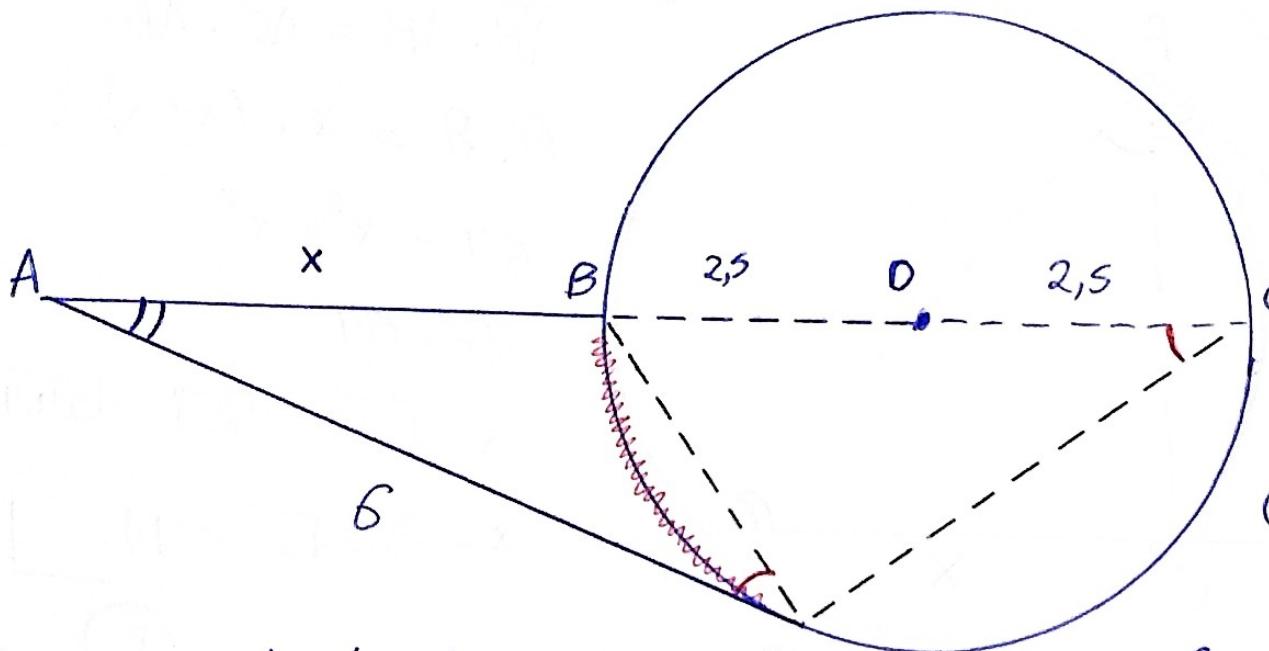


(B)

$$\overline{PB} \cdot \overline{PC} = 9 \overline{PC}^2$$

$$\overline{PB} = \underline{9 \overline{PC}}$$

3.



$$\Delta ATB \sim \Delta ACT$$

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

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

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

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

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

$$x = \frac{-5 \pm \sqrt{25+144}}{2} = \frac{-5+13}{2} = \underline{\underline{4}}$$

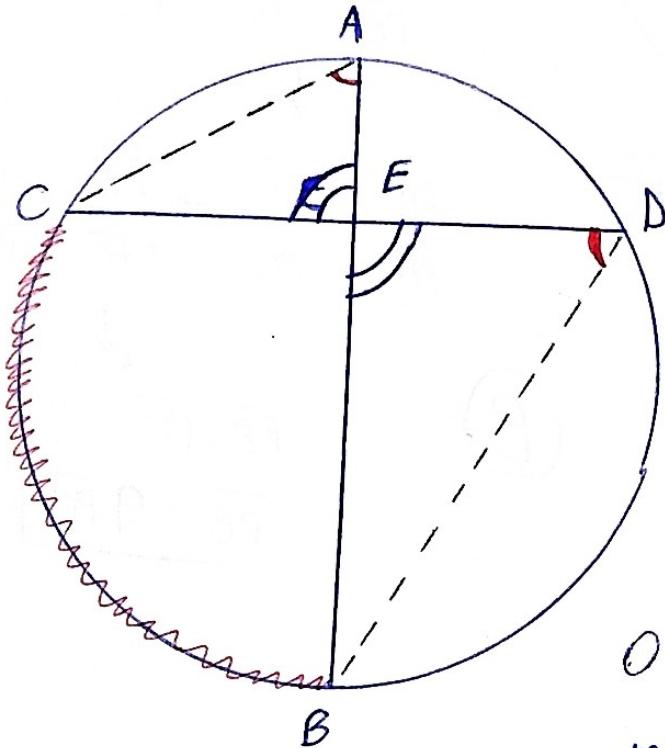
$$\frac{-5-13}{2} = -9$$

Como se trata de medidas,  
então  $\underline{\underline{x=4}}$

(E)

4.

4.



$$\triangle EAC \sim \triangle EDB$$

$$\frac{\overline{DE}}{\overline{AE}} = \frac{\overline{BE}}{\overline{CE}} = \frac{\overline{AC}}{\overline{BD}}$$

Se  $\overline{AE} \cdot \overline{EB} = 3$ , então

$$\overline{DE} \cdot \overline{CE} = \overline{AE} \cdot \overline{BE}$$

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

O diametro corta ~~diretamente~~ a corda  $\overline{CD}$  ao meio, então  $\overline{CE} = \overline{ED}$

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

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

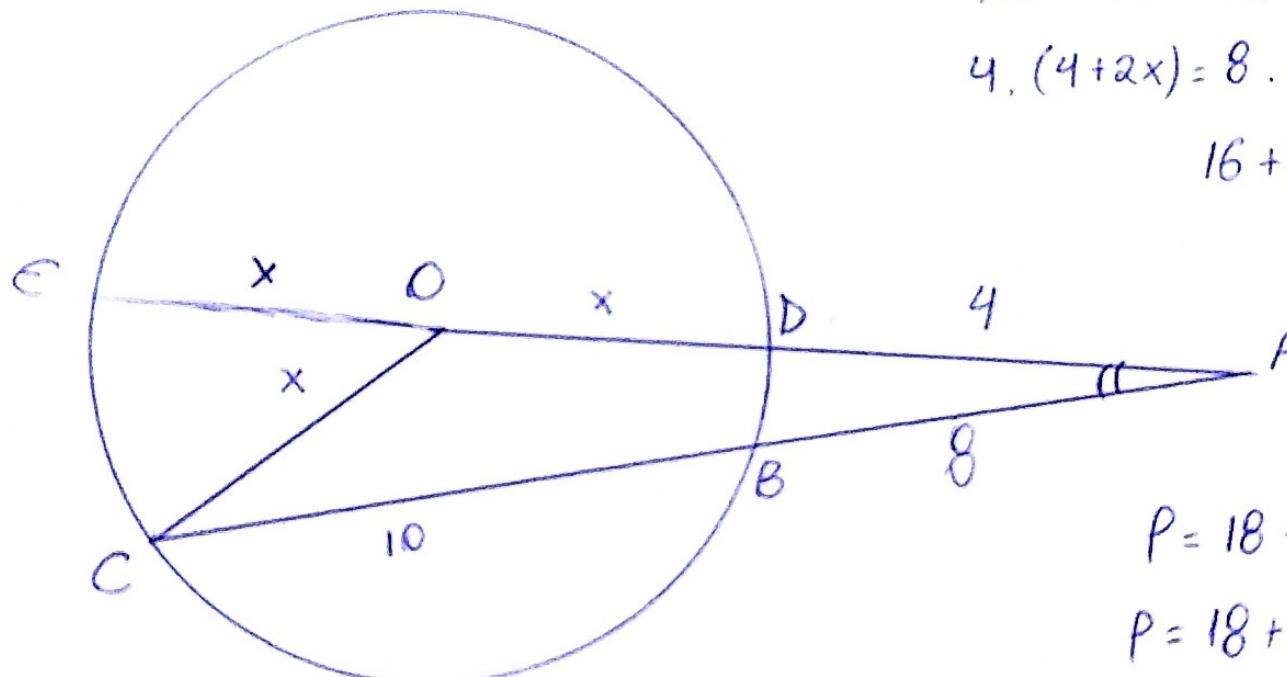
$$\overline{CE}^2 = 3$$

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

$$\overline{CE} + \overline{ED} = \overline{CD}$$

$$\sqrt{3} + \sqrt{3} = 2\sqrt{3}$$

5.



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

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

$$16 + 8x = 144$$

$$8x = 128$$

$$x = 16$$

$$P = 18 + 4 + 2x$$

$$P = 18 + 4 + 32$$

$$P = 54 \quad \textcircled{E}$$