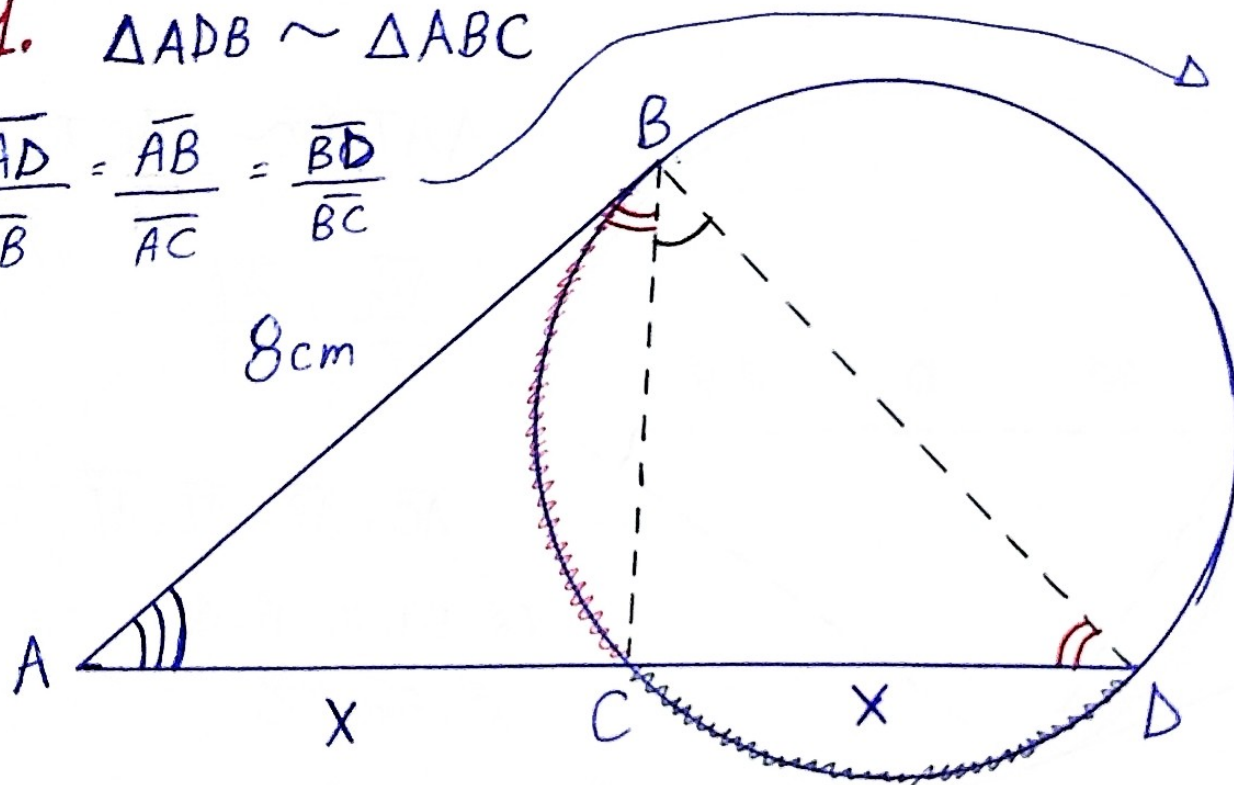


1.  $\triangle ADB \sim \triangle ABC$

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

8cm



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

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

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

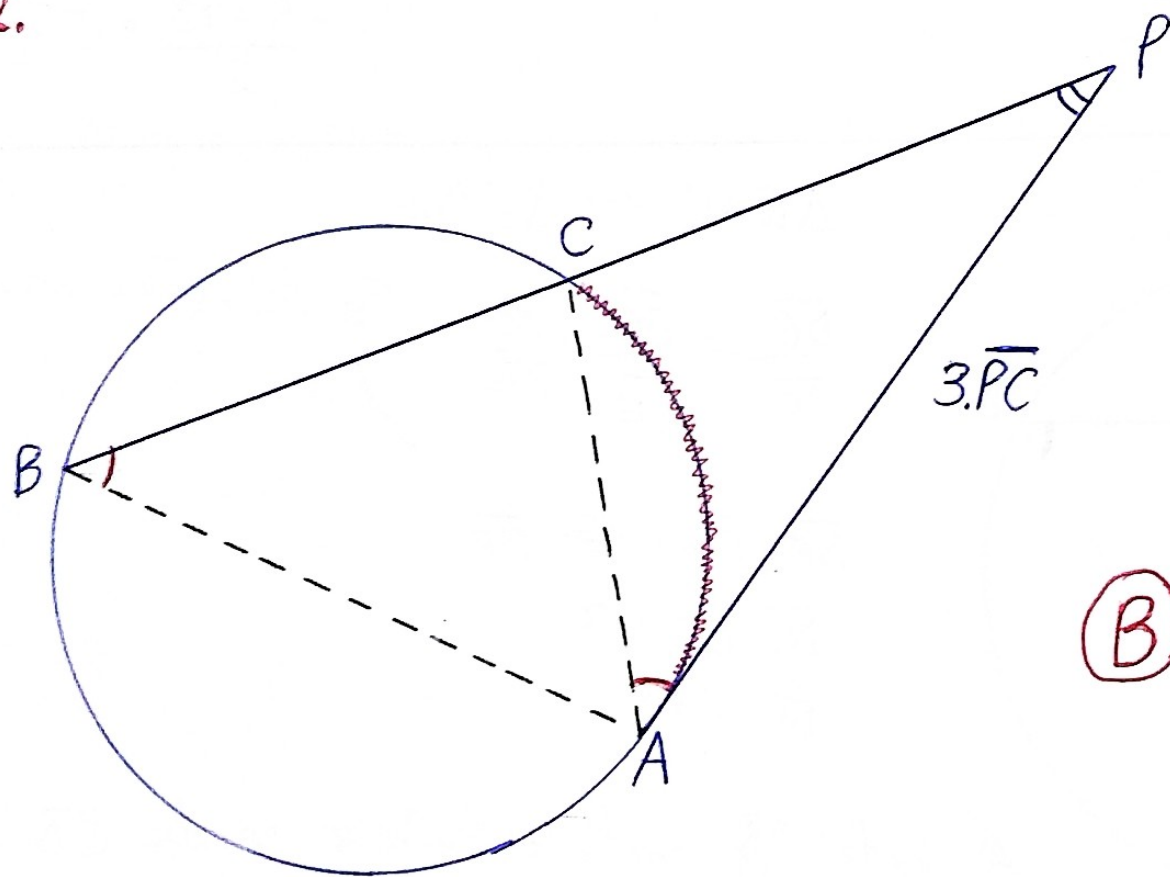
$$2x^2 = 64$$

$$x = \sqrt{32} = \sqrt{8 \cdot 4} = \sqrt{2 \cdot 4 \cdot 4}$$

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

(E)

2.



$$\triangle PBA \sim \triangle PAC$$

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

↓

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

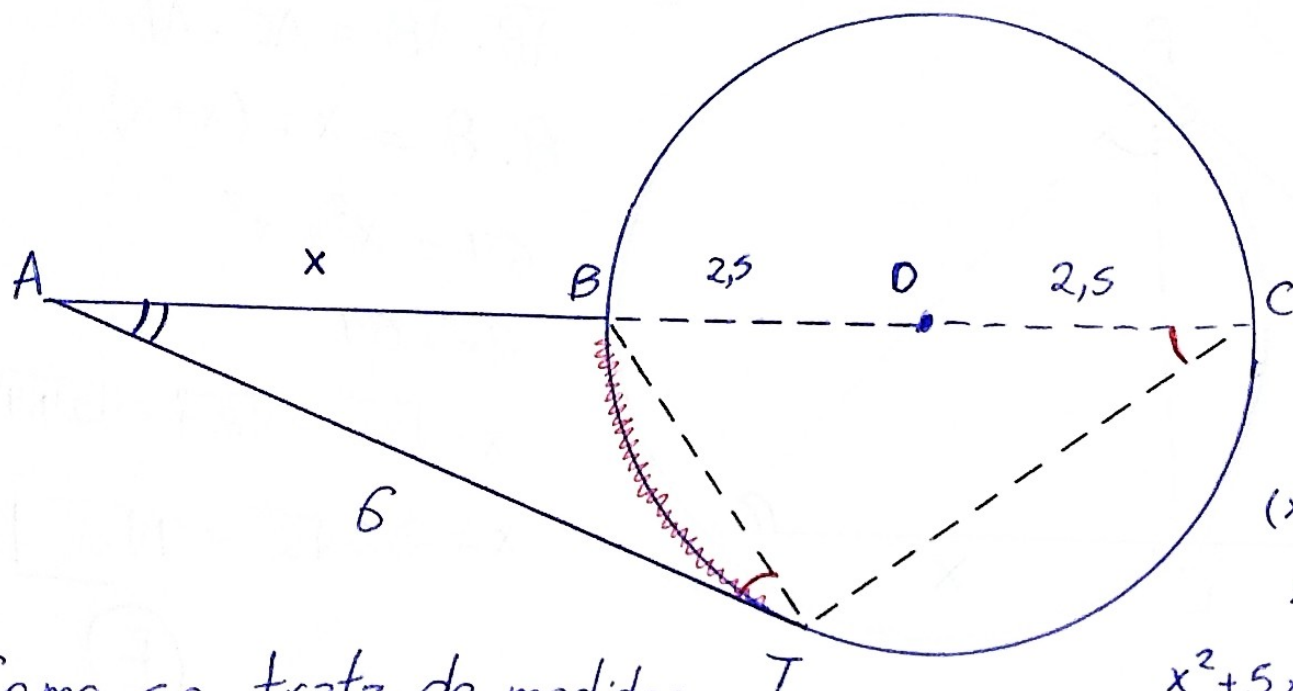
↓

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

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

(B)

3.



$$\triangle ATB \sim \triangle ACT$$

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

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

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

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

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

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

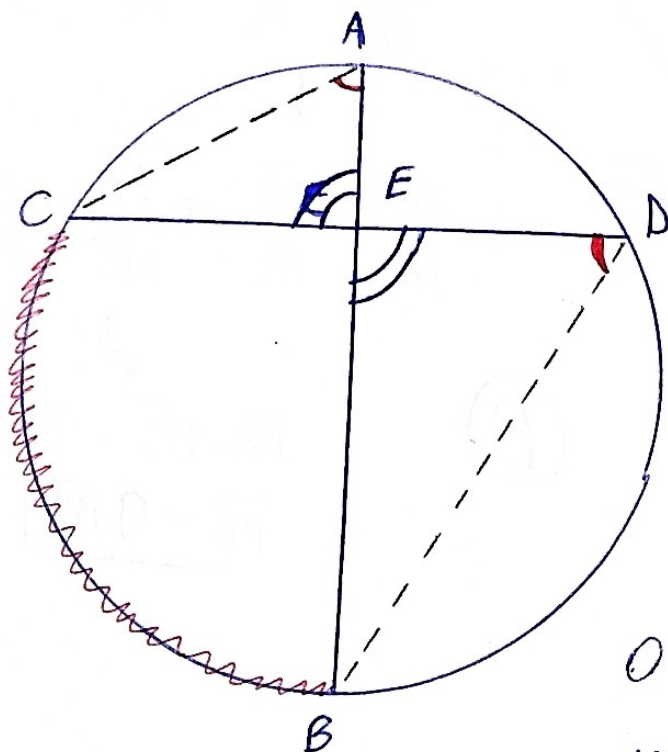
$$\frac{-5 - 13}{2} = -9$$

Como se trata de medidas,  
 então  $x = 4$  (E)

4.



4.



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

$$\frac{\overline{DE}}{\overline{AE}} = \frac{\overline{BE}}{\overline{CE}} = \frac{\overline{AC}}{\overline{BD}} \quad \text{Se } \overline{AE} \cdot \overline{EB} = 3, \text{ então}$$

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

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

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

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

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

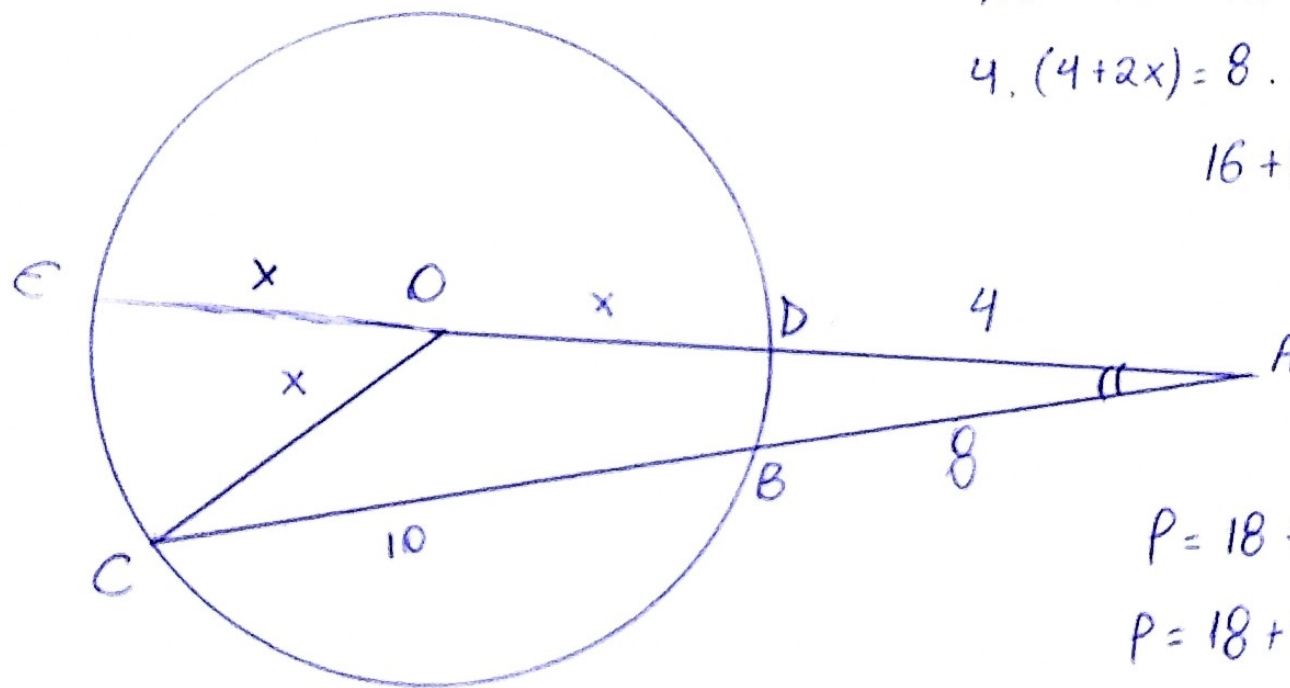
$$\overline{CE}^2 = 3$$

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

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

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

5.



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

$$4 \cdot (4 + 2x) = 8 \cdot 10$$

$$16 + 8x = 144$$

$$8x = 128$$

$$x = 16$$

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

$$P = 18 + 4 + 32$$

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