

































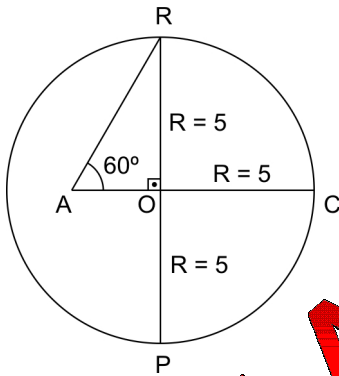




b)  $5(11 + \sqrt{2})$

d)  $5\left(9 + \frac{5}{\sqrt{3}}\right)$

**RESOLUÇÃO:**



$E = x + \overline{PO} + \overline{OR} + \overline{RA} + \overline{AC} + y + z$

- $\overline{PO} = \overline{OR} = \overline{OC} = R = 5 \text{ cm}$

- No  $\triangle AOR$ :

$\text{tg } 30^\circ = \frac{5}{\overline{RA}} \Rightarrow \overline{RA} = \frac{10\sqrt{3}}{3} \text{ cm}$

$\text{tg } 60^\circ = \frac{5}{\overline{OA}} \Rightarrow \overline{OA} = \frac{5\sqrt{3}}{3} \text{ cm}$

- O arco  $\widehat{RP}$  mede  $180^\circ$  e seu comprimento é

$C = \frac{2\pi R}{2} = 5\pi = 5 \cdot 3 = 15 \text{ cm}$

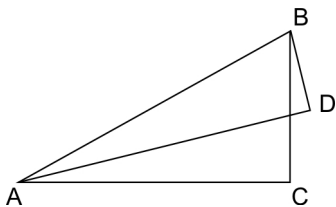
- O arco  $(\widehat{PC} + \widehat{CR})$  mede  $180^\circ$ , logo  $x + y = 15 \text{ cm}$

$E = 15 + 15 + (3 \cdot 5) + \frac{10\sqrt{3}}{3} + \frac{5\sqrt{3}}{3}$

$E = 15\left(3 + \frac{1}{\sqrt{3}}\right)$

**Resposta: opção a**

48 - Em relação à figura abaixo, tem-se  $\widehat{CAD} = 30^\circ$ ,  $\overline{AC} = 2 \text{ cm}$  e  $\overline{BC} = 4 \text{ cm}$



Se  $AC \perp CB$  e  $AD \perp DB$ , então,  $\overline{BD}$ , em cm, é igual a

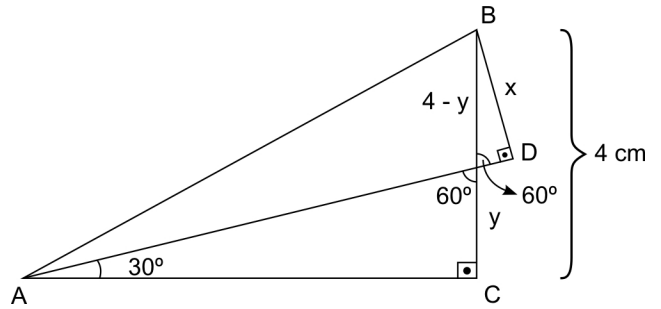
a)  $\frac{6 - \sqrt{3}}{3}$

c)  $2\sqrt{3} - 1$

b)  $6\sqrt{3} - 3$

d)  $\frac{4 - \sqrt{3}}{2}$

**RESOLUÇÃO:**



$\text{tg } 30^\circ = \frac{y}{2} \Rightarrow y = \frac{2\sqrt{3}}{3}$

$\text{sen } 60^\circ = \frac{x}{4 - y} \Rightarrow \frac{\sqrt{3}}{2} = \frac{x}{4 - \frac{2\sqrt{3}}{3}}$

$x = (2\sqrt{3} - 1) \text{ cm}$

**Resposta: opção c**