1-

$\overline{AC} \cdot \overline{AD} = (AB)^2$

$x \cdot 2x = 8^2$

$2x^2 = 64$

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

$x = \sqrt{32}$

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

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

$x = 4\sqrt{2}$

Alternativa E

2- $\overline{PA} = 3\overline{PC}$

$\overline{PC} \cdot \overline{PB} = (\overline{PA})^2$

$\overline{PC} \cdot \overline{PB} = (3\overline{PC})^2$

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

$\overline{PB} = \frac{9 \cdot \overline{PC} \cdot \overline{PC}}{\overline{PC}}$

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

Alternativa B

3-

$\overline{AB} \cdot \overline{AC} = (\overline{AT})^2$

$x \cdot (x+5) = 6^2$

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

$\Delta = 5^2 - 4 \cdot 1 \cdot (-36)$

$\Delta = 25 + 144$

$\Delta = 169$

$\sqrt{\Delta}$

$x = \frac{-(5) \pm \sqrt{169}}{2 \cdot 1}$

$x = \frac{-5 \pm 13}{2}$

$x_1 = \frac{-5-13}{2}$

$x_1 = \frac{-18}{2}$

$x_1 = -9$ não convém

$x_2 = \frac{-5+13}{2}$

$x_2 = \frac{8}{2} = x_2 = 4\,cm$

Alternativa E

4-

$\overline{AE} \cdot \overline{EB} = 3$ / $\overline{CD} = ?$

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

$3 = x \cdot x$

$x^2 = 3$

$x = \sqrt{3}$

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

$\overline{CD} = \sqrt{3} + \sqrt{3}$

$\overline{CD} = 2\sqrt{3}$ Alternativa B

5-

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

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

$16 + 8x = 8 \cdot 18$

$8x = 144 - 16$

$x = \frac{128}{8}$

$x = 16$ cm

$\overline{AOC} = \overline{CO} + \overline{AO} + \overline{AC}$

$1^o = 16 + (16 + 4) + (8 + 10)$

$1^o = 16 + 20 + 18$

Perímetro = 54 cm

Alternativa E