

2.18.16

The width of a rectangle is one-half its length. If its area is 450 cm^2 , what is its perimeter? Put the appropriate markings on the rectangle below.

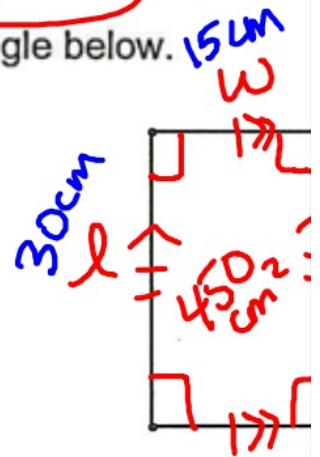
1. What are my formulas for perimeter and area?

2. width =

3. length =

4. Area =

5. Perimeter =



$$\textcircled{1} P = 2l + 2w \quad A = l \cdot w$$

$$\textcircled{2} w = \frac{1}{2}l = \frac{1}{2}(30) = \boxed{15 \text{ cm}}$$

$$\textcircled{3} l = \boxed{30 \text{ cm}}$$

$$\textcircled{4} A = 450 \text{ cm}^2$$

$$450 = l \cdot \left(\frac{1}{2}l\right) \quad \frac{450}{\left(\frac{1}{2}\right)} = \frac{\frac{1}{2}l^2}{\left(\frac{1}{2}\right)}$$

$$\sqrt{900} = \sqrt{l^2}$$

$$30_{\text{cm}} = l$$

$$\textcircled{5} P = 2(30) + 2(15) \quad \boxed{P = 90 \text{ cm}}$$