

2.23.16

New Khan Academy Due Saturday.

The width of a rectangle is one-fourth its length. If its perimeter is 40 cm, what is its area? Put the appropriate markings on the rectangle below.

$$P = 2l + 2w \quad A = l \cdot w$$

$$w = \frac{1}{4} l \quad \boxed{w = 4\text{cm}}$$

$$l = \boxed{l = 16\text{cm}}$$

$$P = 40\text{cm}$$

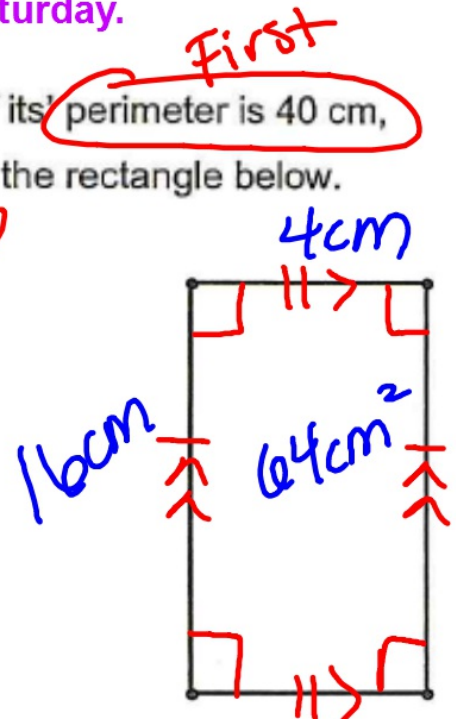
$$40 = 2l + 2\left(\frac{1}{4}l\right)$$

$$(40 = 2l + \frac{1}{2}l) \cdot 2$$

$$80 = 4l + l$$

$$\frac{80}{5} = \frac{5l}{5}$$

$$\boxed{16 = l}$$



$$A = l \cdot w$$

$$A = 16 \cdot 4$$

$$\boxed{A = 64\text{cm}^2}$$