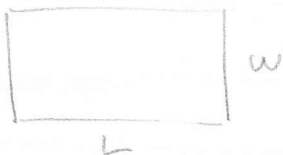


2. Review. 106 The width of a rectangle is 2 inches less than one-half the length. Find the length and the width of the rectangle if the perimeter of the rectangle is 44 inches.

The measure of the length is 16 inches.

The measure of the width is  inches.

YOU ANSWERED: 30



"Width is 2" less than  $\frac{1}{2}$  length"

$$W = \frac{1}{2}L - 2$$

Perimeter is 44 inches

$$P = 2L + 2W$$

$$44 = 2L + 2W$$

$$44 = 2L + 2\left(\frac{1}{2}L - 2\right)$$

$$44 = 2L + 2 \cdot \frac{1}{2}L - 2 \cdot 2$$

$$44 = 2L + L - 4$$

$$44 = 3L - 4$$

$$\begin{array}{r} 44 \\ +4 \\ \hline \end{array} \quad \begin{array}{r} 3L - 4 \\ +4 \\ \hline \end{array}$$

$$\frac{48}{3} = \frac{3L}{3}$$

$$\boxed{L = 16 \text{ inches}}$$

$$W = \frac{1}{2}L - 2$$

$$= \frac{1}{2}(16) - 2$$

$$= 8 - 2$$

$$\boxed{W = 6 \text{ inches}}$$

step 1: write formula

step 2: substitute known numbers.

step 3: directly translate  
(see above)

step 4: substitute direct translation.

step 5: solve.

dist

combine

isolate

subst back