

Lesson 3-7

Example 1 Use the Distance Formula

TRAVEL A car travels at a rate of 55 miles per hour and covers a distance of 385 miles. How many hours did this trip take?

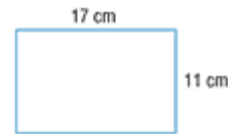
$$\begin{array}{ll} d = rt & \text{Write the formula.} \\ 385 = 55 \cdot t & \text{Replace } d \text{ with 385 and } r \text{ with 55.} \\ \frac{385}{55} = \frac{55t}{55} & \text{Divide each side by 55.} \\ 7 = t & \text{Simplify.} \end{array}$$

The car traveled for 7 hours.

Example 2 Find the Perimeter of a Rectangle

Find the perimeter of the rectangle.

$$\begin{array}{ll} P = 2(\lambda + w) & \text{Write the formula.} \\ P = 2(17 + 11) & \text{Replace } \lambda \text{ with 17 and } w \text{ with 11.} \\ P = 2(28) & \text{Add 17 and 11.} \\ P = 56 & \text{Simplify.} \end{array}$$



The perimeter is 56 centimeters.

Example 3 Find a Missing Length

The perimeter of a rectangle is 42 feet. Its width is 8 feet. Find the length.

$$\begin{array}{ll} P = 2(\lambda + w) & \text{Write the formula.} \\ P = 2\lambda + 2w & \text{Distributive Property} \\ 42 = 2\lambda + 2(8) & \text{Replace } P \text{ with 42 and } w \text{ with 8.} \\ 42 = 2\lambda + 16 & \text{Simplify.} \\ 42 - 16 = 2\lambda + 16 - 16 & \text{Subtract 16 from each side.} \\ 26 = 2\lambda & \text{Simplify.} \\ 13 = \lambda & \text{Mentally divide each side by 2.} \end{array}$$

The length is 13 feet.

Example 4 Find the Area of a Rectangle

Find the area of a rectangle with length 9 inches and width 5 inches.

$$\begin{array}{ll} A = \lambda w & \text{Write the formula.} \\ A = 9 \cdot 5 & \text{Replace } \lambda \text{ with 9 and } w \text{ with 5.} \\ A = 45 & \text{Simplify.} \end{array}$$



The area is 45 square inches.

Example 5 Find a Missing Width

The area of a rectangle is 104 square meters. Its length is 13 meters. Find its width.

$A = \lambda w$ Write the formula.

$104 = 13w$ Replace A with 104 and λ with 13.

$8 = w$ Divide each side by 13.

The width is 8 meters.