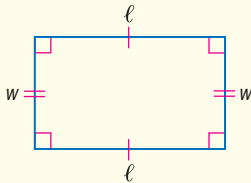
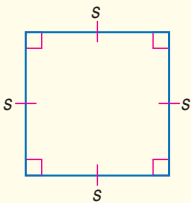
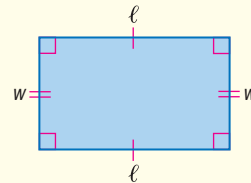
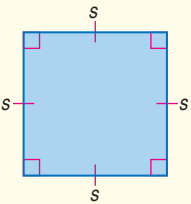


Perimeter and Area of Rectangles and Squares

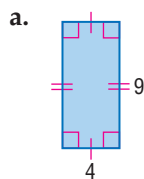
Perimeter is the distance around a figure whose sides are segments. Perimeter is measured in linear units.

Perimeter of a Rectangle	Perimeter of a Square
<p>Words Multiply two times the sum of the length and width.</p> <p>Formula $P = 2(\ell + w)$</p> 	<p>Words Multiply 4 times the length of a side.</p> <p>Formula $P = 4s$</p> 

Area is the number of square units needed to cover a surface. Area is measured in square units.

Area of a Rectangle	Area of a Square
<p>Words Multiply the length and width.</p> <p>Formula $A = \ell w$</p> 	<p>Words Square the length of a side.</p> <p>Formula $A = s^2$</p> 

Example 1 Find the perimeter and area of each rectangle.



$$\begin{aligned}
 P &= 2(\ell + w) && \text{Perimeter formula} \\
 &= 2(4 + 9) && \text{Replace } \ell \text{ with 4 and } w \text{ with 9.} \\
 &= 26 && \text{Simplify.}
 \end{aligned}$$

$$\begin{aligned}
 A &= \ell w && \text{Area formula} \\
 &= 4 \cdot 9 && \text{Replace } \ell \text{ with 4 and } w \text{ with 9.} \\
 &= 36 && \text{Multiply.}
 \end{aligned}$$

The perimeter is 26 units, and the area is 36 square units.

b. a rectangle with length 8 units and width 3 units.

$$\begin{aligned}P &= 2(\ell + w) && \text{Perimeter formula} \\&= 2(8 + 3) && \text{Replace } \ell \text{ with 8 and } w \text{ with 3.} \\&= 22 && \text{Simplify.} \\A &= \ell \cdot w && \text{Area formula} \\&= 8 \cdot 3 && \text{Replace } \ell \text{ with 8 and } w \text{ with 3.} \\&= 24 && \text{Multiply}\end{aligned}$$

The perimeter is 22 units, and the area is 24 square units.

Example 2

Find the perimeter and area of a square that has a side of length 14 feet.

$$\begin{aligned}P &= 4s && \text{Perimeter formula} \\&= 4(14) && s = 14 \\&= 56 && \text{Multiply.} \\A &= s^2 && \text{Area formula} \\&= 14^2 && s = 14 \\&= 196 && \text{Multiply.}\end{aligned}$$

The perimeter is 56 feet, and the area is 196 square feet.