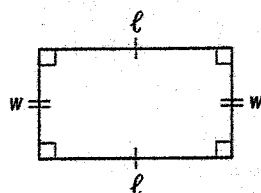


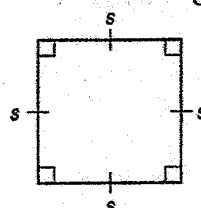
6 Perimeter and Area of Squares and Rectangles

Perimeter is the distance around a geometric figure. Perimeter is measured in linear units.

- To find the perimeter of a rectangle, multiply two times the sum of the length and width, or $2(\ell + w)$.
- To find the perimeter of a square, multiply four times the length of a side, or $4s$.



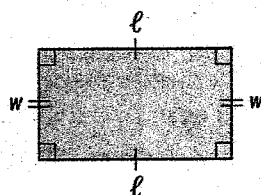
$$P = 2(\ell + w) \text{ or } 2\ell + 2w$$



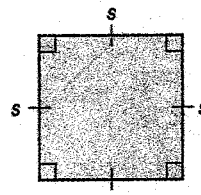
$$P = 4s$$

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

- To find the area of a rectangle, multiply the length times the width, or $\ell \cdot w$.
- To find the area of a square, find the square of the length of a side, or s^2 .



$$A = \ell w$$



$$A = s^2$$

Exercises Find the perimeter and area of each figure.

1. $\ell = 3 \text{ cm}$, $w = 2 \text{ cm}$
 perimeter = $2\ell + 2w$
 $= 2(3) + 2(2)$
 $10 \text{ or } 9$
 Area = $\ell \cdot w$
 $= 3 \cdot 2$
 $6 \text{ or } 5$

$s = 1 \text{ in.}$
 perimeter = $4s$
 $= 4(1)$
 $5 \text{ or } 4$
 Area = s^2
 $= (1)^2$
 $16 \text{ or } 6$

3. $\ell = 7 \text{ yd}$, $w = 1 \text{ yd}$
 perimeter = $2\ell + 2w$
 $= 2(7) + 2(1)$
 $14 \text{ or } 16$
 Area = $\ell \cdot w$
 $= 7 \cdot 1$
 $7 \text{ or } 8$

$s = 7 \text{ km}$
 perimeter = $4s$
 $= 4(7)$
 $11 \text{ or } 28$
 Area = s^2
 $= 7^2$
 $40 \text{ or } 49$

5. a rectangle with length 6 feet and width 4 feet

$\ell = 6 \text{ ft}$, $w = 4 \text{ ft}$
 perimeter = $2\ell + 2w$
 $= 2(6) + 2(4)$
 $28 \text{ or } 16$

Area = $\ell \cdot w$
 $= 6 \cdot 4$
 $10 \text{ or } 24$

6. a rectangle with length 12 centimeters and width 9 centimeters

$\ell = 12 \text{ cm}$, $w = 9 \text{ cm}$
 perimeter = $2\ell + 2w$
 $= 2(12) + 2(9)$
 $23 \text{ or } 42$

Area = $\ell \cdot w$
 $= 12 \cdot 9$
 $108 \text{ or } 102$

7. a square with length 3 meters

$s = 3 \text{ m}$
 perimeter = $4s$
 $= 4(3)$
 $12 \text{ or } 7$

Area = s^2
 $= (3)^2$
 $9 \text{ or } 6$

8. a square with length 15 inches

$s = 15 \text{ in.}$
 perimeter = $4s$
 $= 4(15)$
 $60 \text{ or } 40$

Area = s^2
 $= (15)^2$
 $205 \text{ or } 225$