Reteaching 9-3

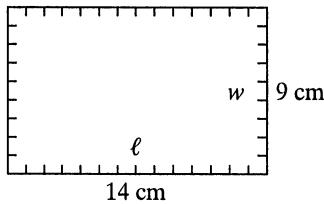**Perimeters and Areas of Rectangles**

Perimeter

The *perimeter* of a figure is the sum of the lengths of its sides. Opposite sides of a rectangle are equal. To find the perimeter, add the 2 lengths (ℓ) and the 2 widths (w).

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

Find the perimeter.

w $\rbrack$ 9 cm
ℓ
14 cm

$$\begin{aligned} P &= 2\ell + 2w \\ &= 2(14) + 2(9) \\ &= 28 + 18 = 46 \end{aligned}$$
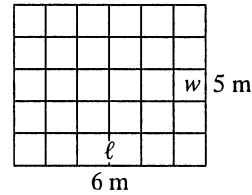
The perimeter is 46 centimeters.

Area

The *area* of a figure is the number of square units needed to cover the figure. To find the area of a rectangle, multiply the length (ℓ) and the width (w).

$$A = \ell \times w$$

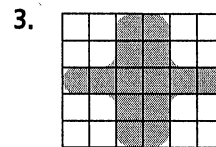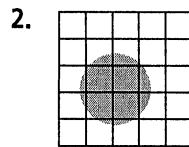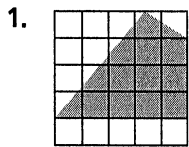Find the area.

w 5 m
ℓ
6 m

$$\begin{aligned} A &= \ell \times w \\ &= 6 \times 5 \\ &= 30 \end{aligned}$$

The area is 30 square meters.

Estimate the area of each figure. Each square represents 1 square inch.

1.

_____

2.

_____

3.

_____

Find the perimeter and area of each rectangle or square.

4. $\ell = 12$ cm, $w = 2$ cm

_____

5. $\ell = 9$ ft, $w = 7.5$ ft

_____

6. $\ell = 2.5$ m, $w = 2.5$ m

_____

7. $\ell = 5.5$ in., $w = 5.5$ in.

_____

8. $\ell = 6.2$ in., $w = 3.4$ in.

_____

9. $\ell = 4.5$ ft, $w = 0.75$ ft

_____

10. What is the area of a square with a perimeter of 60 meters?
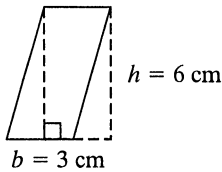
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Reteaching 9-4

Areas of Parallelograms and Triangles

Parallelogram

To find the area of a parallelogram, multiply base times height.

$$A = b \times h$$

Find the area of the parallelogram.

$h = 6$ cm
$b = 3$ cm

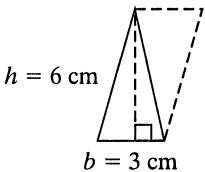$$\begin{aligned} A &= b \times h \\ &= 3 \times 6 \\ &= 18 \end{aligned}$$

The area is 18 square centimeters.

Triangle

The area of a triangle is $\frac{1}{2}$ times the base times the height.

$$A = \frac{1}{2}b \times h$$

Find the area of the triangle.

$h = 6$ cm
$b = 3$ cm

$$\begin{aligned} A &= \frac{1}{2} \times b \times h \\ &= \frac{1}{2} \times 3 \times 6 \\ &= 9 \end{aligned}$$

The area is 9 square centimeters.

Find the area of each parallelogram.

1. $b = 6$ ft, $h = 8$ ft

2. $b = 12$ in., $h = 9$ in.

3. $b = 6$ yd, $h = 12$ yd

4. $b = 2.8$ in., $h = 3.4$ in.

5. $b = 31$ yd, $h = 19$ yd

6. $b = 4.5$ m, $h = 4.5$ m

7. $b = 15$ cm, $h = 7$ cm

8. $b = 8.3$ ft, $h = 11.7$ ft

9. $b = 14.4$ m, $h = 6.5$ m

Find the area of each triangle.

10. $b = 8$ cm, $h = 14$ cm

11. $b = 7$ in., $h = 18$ in.

12. $b = 11$ m, $h = 4.6$ m

13. $b = 6.4$ ft, $h = 3.5$ ft

14. $b = 104$ in., $h = 55$ in.

15. $b = 5.9$ cm, $h = 4.2$ cm

16. $b = 1.7$ m, $h = 3.3$ m

17. $b = 5.8$ yd, $h = 5.8$ yd

18. $b = 8.6$ in., $h = 0.8$ in.