

Name \_\_\_\_\_ Date \_\_\_\_\_

## Perimeter and Area (Pages 38–42)

The **perimeter** of a geometric figure is the sum of the measures of all its sides. The **area** of a geometric figure is the measure of the surface enclosed by the figure.

### EXAMPLES

- A** Find the perimeter ( $P$ ) of a rectangle with a width of 5 centimeters and a length of 12 centimeters.

$$P = 2\ell + 2w \quad \ell = \text{length and } w = \text{width}$$

$$P = 2(12) + 2(5) \quad \text{Substitute the values for } \ell \text{ and } w.$$

$$P = 24 + 10 \quad \text{Multiply.}$$

$$P = 34 \text{ cm}$$

- B** Find the area ( $A$ ) of a parallelogram with a base of 7 meters and a height of 3 meters.

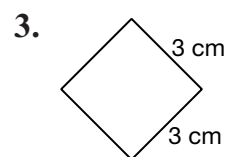
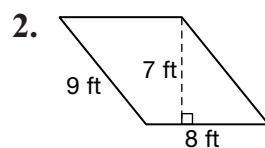
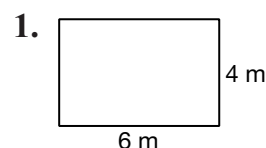
$$A = bh \quad b = \text{base and } h = \text{height}$$

$$A = 7(3) \quad \text{Substitute the values for } b \text{ and } h.$$

$$A = 21 \text{ m}^2 \quad \text{Multiply.}$$

### PRACTICE

Find the perimeter and area of each figure.



4. The area of a rectangle is 36 square centimeters. If the length of the rectangle is 9 centimeters, how wide is the rectangle?
5. Write an expression for the area of a parallelogram whose base is 4 times its height.
6. **Hobbies** Abby and Jonathan are helping their mother make a quilt. The quilt will be 10 squares wide and 15 squares long. If each square has a side of 1 foot, what will be the area of the quilt?



7. **Standardized Test Practice** In American football, the field is 120 yards long and about 53 yards wide. What is the approximate perimeter of a football field?

**A** 346 yd

**B** 173 yd

**C** 6,360 yd

**D** 4,256 yd

Answers: 1. 20 m, 24 m<sup>2</sup> 2. 34 ft, 56 ft<sup>2</sup> 3. 12 cm, 9 cm<sup>2</sup> 4. 4 cm 5.  $A = 4h \times h$  6. 150 ft<sup>2</sup> 7. A