

Name _____ Date _____

Perimeter and Area (pages 145–148)

The **perimeter** (P) of a closed figure is the distance around the figure. You can find the perimeter by adding the measures of all the sides of the figure. The **area** (A) of a closed figure is the number of square units needed to cover its surface. You can use algebra to help you find the perimeter and area of a rectangle.

Perimeter of a Rectangle	The perimeter of a rectangle is two times the length (ℓ) plus two times the width (w), or $P = 2\ell + 2w$.	
Area of a Rectangle	The area of a rectangle is the product of its length (ℓ) and width (w), or $A = \ell \cdot w$.	

EXAMPLES

A Find the perimeter of a rectangle with a length of 12.3 ft and a width of 6 ft.

$$P = 2\ell + 2w$$

$$P = 2(12.3) + 2(6) \quad \ell = 12.3 \text{ and } w = 6$$

$$P = 24.6 + 12$$

$$P = 36.6$$

The perimeter is 36.6 ft.

B Find the area of a rectangle with a length of 12.3 ft and a width of 6 ft.

$$A = \ell \cdot w$$

$$A = 12.3 \cdot 6 \quad \ell = 12.3 \text{ and } w = 6$$

$$A = 73.8$$

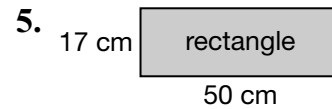
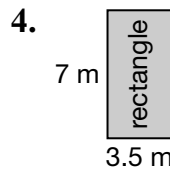
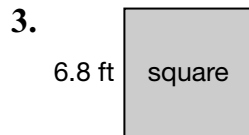
The area is 73.8 square ft.

Try These Together

- Find the perimeter of a rectangle with a length of 9 m and a width of 4 m.
HINT: The perimeter is two times the length plus two times the width.
- Find the area of a rectangle with a length of 9 m and a width of 4 m.
HINT: Area of a rectangle is length times width.

PRACTICE

Find the perimeter and the area of each figure.



6. square: s , 7.1 in. 7. rectangle: ℓ , 33 ft; w , 70 ft 8. square: s , 6.2 cm



9. Standardized Test Practice A rectangle is 8.6 cm long, and its perimeter is 18 cm. What is its width?

- A** 9.4 cm **B** 2.09 cm **C** 0.8 cm **D** 0.4 cm

Answers: 1. 26 m 2. 36 m² 3. 27.2 ft; 46.24 ft² 4. 21 m; 24.5 m² 5. 134 cm; 850 cm² 6. 28.4 in.; 50.41 in² 7. 206 ft; 2310 ft² 8. 24.8 cm; 38.44 cm² 9. D