

Name _____ Date _____

Area of Parallelograms (pages 398–401)

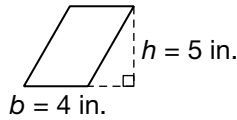
A rectangle is a special kind of parallelogram. A parallelogram is a quadrilateral with two pairs of parallel sides. The base is any one of the sides and the height is the shortest distance (the length of a perpendicular segment) from the base to the opposite side.

<p>Finding the Area of a Parallelogram</p>	<p>The area (A) of a parallelogram equals the product of its base (b) and height (h).</p> <p>$A = bh$</p>	
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EXAMPLES

A Find the area of the parallelogram.

Multiply the length of the base of the parallelogram (4 in.) and the height drawn to that base (5 in.).



$$A = bh$$

$$A = 4(5)$$

$$A = 20 \text{ in}^2$$

B The area of a parallelogram is 30 square inches. The base is 10 inches long. What is the height?

$$A = bh$$

$$30 = 10h \quad \text{Substitute the values you know.}$$

$$h = 3 \quad 30 = 10 \cdot 3$$

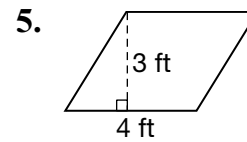
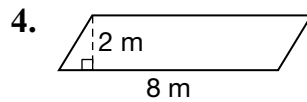
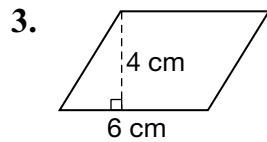
The height is 3 inches.

Try These Together

- Find the area (to the nearest tenth) of a parallelogram that is 3.6 centimeters wide and 5.2 centimeters high.
HINT: Use the formula and then round.
- Find the base of a parallelogram that has a height of 7 centimeters and an area of 56 square centimeters.
HINT: Write the formula, substitute values, and solve for b .

PRACTICE

Find the area of each parallelogram.



- What is the area of a parallelogram that is 5 centimeters wide and 8 centimeters high?
- Puzzles** Kai has a puzzle that is a parallelogram. It is 30 centimeters long and 22 centimeters high. What is the area of the puzzle?



8. Standardized Test Practice If a parallelogram has an area of 42 square centimeters and its height is 6 centimeters, how long is its base?

- A** 6 cm **B** 7 cm **C** 5 cm **D** 8 cm

Answers: 1. 18.7 in² 2. 8 cm 3. 24 cm² 4. 16 m² 5. 12 ft² 6. 40 cm² 7. 660 cm² 8. B