

Name: \_\_\_\_\_ Teacher: \_\_\_\_\_ Date: \_\_\_\_\_

# Perimeter, Circumference, and Area

Guided Notes: STUDENT EDITION

## VOCABULARY

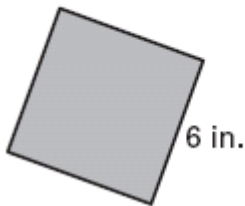
The amount of surface covered by a figure is its **area**.

Area of a Square:  $\text{Area} = (\text{side})^2$

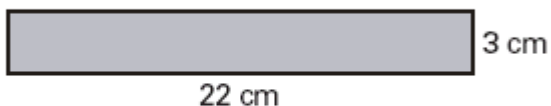
Area of a Rectangle:  $\text{Area} = (\text{base})(\text{height})$

## *Find the Area of a Square and the Area of a Rectangle*

- a. Find the area of the square.



- b. Find the area of the rectangle.



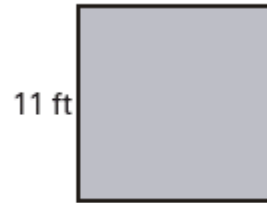
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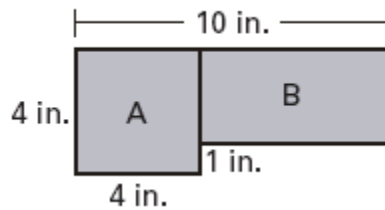
## *Find the Base of a Rectangle*

The rectangle has an area of 132 square feet.  
Find its base.



## *Find the Area of a Complex Polygon*

Find the area of the polygon made up of rectangles.



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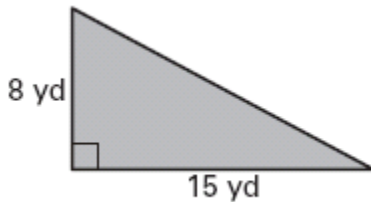
## VOCABULARY

The **height** of a triangle is the perpendicular segment from a vertex to the line containing the opposite side, called the **base of the triangle**.

**Area of a Triangle:**  $\text{Area} = \frac{1}{2}(\text{base})(\text{height})$

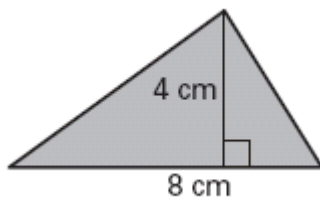
### *Find the Area of a Right Triangle*

Find the area of the right triangle.



### *Find the Area of a Triangle*

Find the area of the triangle.



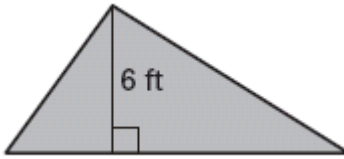
### *Find the Base of a Triangle*

Find the base of the triangle, given that its area is 42 square feet.

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### VOCABULARY

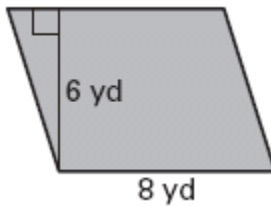
Either pair of parallel sides of a parallelogram are called the **bases of the parallelogram**. The shortest distance between the bases of a parallelogram is called the **height of a parallelogram**.

**Area of a Parallelogram:**  $\text{Area} = (\text{base})(\text{height})$

**Area of a Rhombus:**  $\text{Area} = \frac{1}{2}(\text{product of diagonals})$

### Find the Area of a Parallelogram

Find the area of the parallelogram.



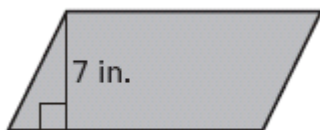
### Find the Base of a Parallelogram

Find the base of the parallelogram given that its area is 105 square inches.

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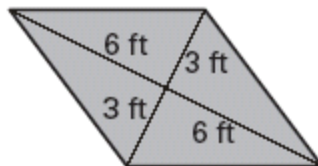
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### Find the Area of a Rhombus

Find the area of the rhombus.



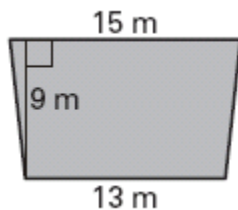
### **VOCABULARY**

The shortest distance between the bases of a trapezoid is the **height** of the trapezoid.

**Area of a Trapezoid:**       $\text{Area} = \frac{1}{2}(\text{height})(\text{sum of bases})$

### Find the Area of a Trapezoid

Find the area of the trapezoid.



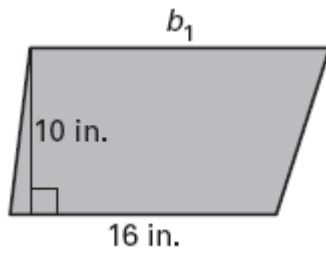
### Use the Area of a Trapezoid

Given that the area of the trapezoid is 170 square inches, find  $b_1$ .

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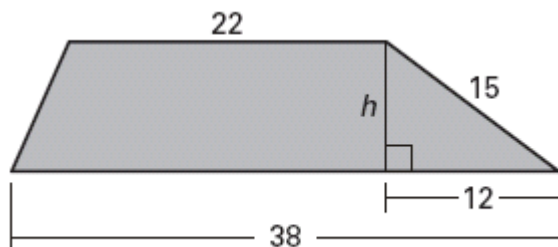
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# Perimeter, Circumference, and Area

**Use the Pythagorean Theorem**



**Area of a Circle:**  $\text{Area} = \pi(\text{radius})^2$

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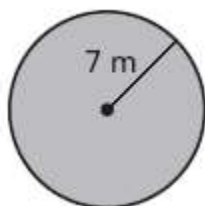
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## Find the Circumference of a Circle

Find the circumference of the circle.

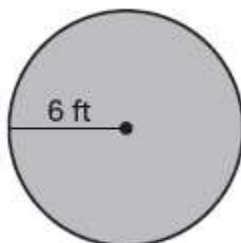
$$C = 2\pi r$$



## Find the Area of the Circle

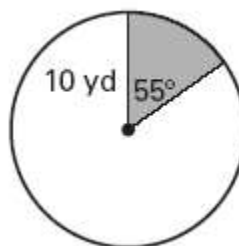
Find the area of a circle with a radius of 6 feet.

$$A = \pi r^2$$



## Find the Area of a Sector

Find the area of the shaded sector.



First find the area of the circle.

Now find the area of the sector. Let  $x$  equal the area of the sector.

$$\frac{\text{Area of sector}}{\text{Area of entire circle}} = \frac{\text{Measure of central angle}}{\text{Measure of entire circle}}$$

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Cross product property