5.8a,b Study Guide
Perimeter and Area

Learning Goals

5.8   a) find perimeter, area, and volume in standard units of measure;
b) differentiate among perimeter, area, and volume and identify whether the application of the concept of perimeter, area, or volume is appropriate for a given situation;
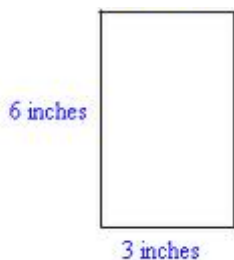
Vocabulary

Perimeter - a measure of the distance around a polygon; found by adding the measures of the sides.
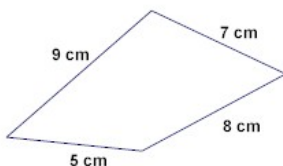**Area -** the number of square units needed to cover a surface.

Examples and Explanations
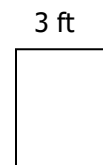
To find the **perimeter**, add the measure of each side.

6 inches

3 inches

6+6 = 12
3+3 = 6 } 18

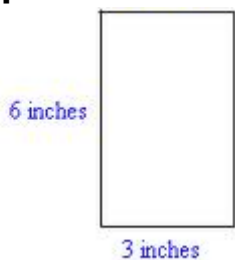The perimeter is 18 i...

9 cm
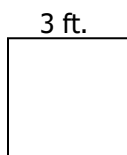7 cm
8 cm
5 cm

9+7+5+6 = 27

The perimeter is 27 cm.

3 ft

3+3+3+3=12

The perimeter is 12 ft.

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To find the **area of a rectangle**, multiply the length times the width (**A= l x w**). The **area of a square** can be found by multiplying one side by another. (**A = s x s**)
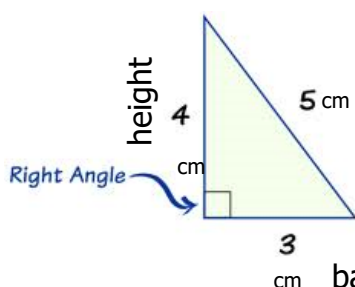
6 inches

3 inches

3 ft.

The area of the rectangle
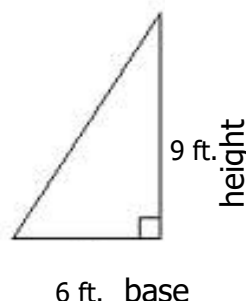is 18 square inches or 18 in².

The area of the square is
is 9 square feet or 9 ft².

A **right triangle** *is half of a rectangle*. To find the **area of a right triangle**, find the area of the "imaginary" whole rectangle the triangle would create, then divide it by two. Or, multiply the base times the height, then divide the number in half. **A= ½ (b x h)**

height
4
cm
5 cm
Right Angle
3
cm base

3 x 4 = 12
½ of 12 = **6 square cm**
or **6 cm²**

4 x 4 x 2 = 32 cubic cm.

9 ft.
height
6 ft. base

6 x 9 = 63
½ of 63 = **31.5 square ft.**
or **31.5 ft²**

Sample Questions (Released SOL items)

1.

Which of the following are the dimensions of a rectangle with a perimeter of 26 inches and an area of 42 square inches?

   A   Length — 1 inch; width — 26 inches
   B   Length — 2 inches; width — 13 inches
   C   Length — 2 inches; width — 21 inches
   D   Length — 6 inches; width — 7 inches

2.

Ms. Perry placed a border around the bulletin board.
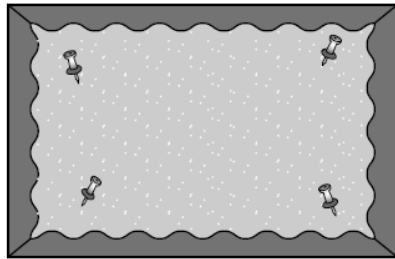
The length of the border is an example of —

   F   area
   G   volume
   H   perimeter
   J   circumference

3.

Andrea is buying a rectangular rug that is 3 feet wide and 4 feet long. What is the total area that the rug will cover?

   F   12 square feet
   G   14 square feet
   H   24 square feet
   J   28 square feet