Area-Teacher

**Goal:** The goal of this activity is for students to find the area of a house floor plan. They will need to use their knowledge of rectangles to identify the missing side lengths to find the correct area. This also allows students to see how area is used in a real-life application.

**Materials:** This worksheet and a calculator (optional).

**Directions:** Have students break up into groups of 2 or 3 and explain to them that they are looking at a floor plan of a house. Explain to them that they need to find the area of the house and then let them work together to achieve this goal.

Below is the floor plan for the Smith’s house.

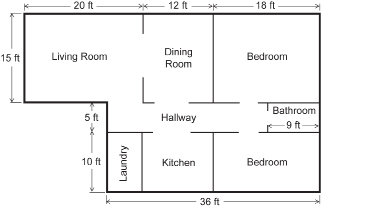
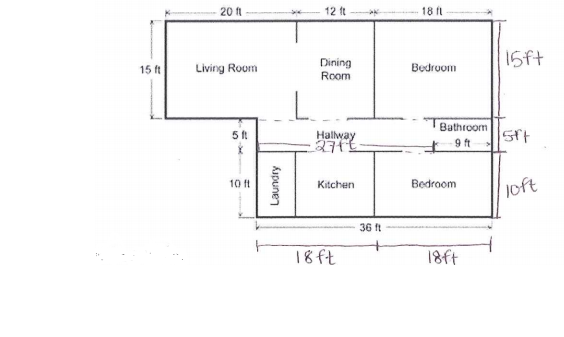


Image retrieved from: http://moodle2.rockyview.ab.ca/mod/book/tool/print/index.php?id=51521&chapterid=23802



1. Find the area of the bedrooms.

**Bedroom 1 18 ft. x 15 ft. = 270 square feet**

**Bedroom 2 18 ft. x 10 ft. = 180 square feet**

**Total area of the bedrooms = 270 sq. ft. + 180 sq. ft. = 450 sq. ft.**

1. Find the area of rest of the house (Living room, Dining room, Hallway, Bathroom, Laundry, and Kitchen).

**Living room 15 ft. x 20 ft. = 300 sq. ft.**

**Dining room 12 ft. x 15 ft. = 180 sq. ft.**

**Hallway 27 ft. x 5ft. = 135 sq. ft**

**Bathroom 9 ft. x 5 ft. = 45 sq. ft.**

**Laundry + Kitchen 18 ft. x 10 ft. = 180 sq ft.**

**The total area is the sum of each room, or 840 sq. ft.**

1. What is the total area of the Smith’s house.

**The area of the Smith’s house can be found by adding the answers from question 1 and question 2 together, or 1,290 sq. ft.**

The Smith’s are planning to recarpet the 2 bedrooms and install tile throughout the rest of the house.

1. The Smith’s found carpet that costs $3.40 per square foot. How much would it cost to install new carpet into the bedrooms?

**450 sq. ft. x $3.40 per sq. ft. = $1,530**

1. The Smith’s found tile that costs $2.09 per square foot. How much would it cost to install new tile throughout the rest of the house?

**840 sq. ft. x $2.09 per sq. ft. = $1,755.60**

1. What would be the total cost of the tile and carpet for the Smith’s house?

**The total cost of the tile and carpet for the Smith’s house is $1,530 + $1,755.60 = $3,285.60**