TIMSS

NAEP

Standard Indicator
4.5.7

House for Rent

Purpose

Students will find areas of shapes by dividing them into basic shapes such as rectangles and squares.

Materials

For the teacher: chalk, chalkboard, yardstick
For each group of 2-3 students: copy of Black Line Master (BLM) *House for Rent*

Activity

A. Introduction

1. Draw a basic square and rectangle on the chalkboard. Review the formulas for finding areas of squares and rectangles. Measure the shapes and find the areas using the formulas. (Round measurements to the nearest whole inch.)
2. On the chalkboard, draw an irregular shape that can easily be divided into squares and rectangles (similar to the floor plans on the BLM *House for Rent*).
3. Ask students how they might find the area of a shape such as the irregular shape drawn.
4. Show students how to divide the irregular shape into squares and rectangles to measure the area. Measure the squares and rectangles and find their areas. Add the areas together to find the area of the irregular shape. (Round measurements to the nearest whole inch.)
5. Draw one or two more irregular shapes on the board. Have student volunteers divide the shapes into squares and rectangles and measure the squares and rectangles to the nearest whole inch. Have the class find the areas of the irregular shapes.

B. Group Activity

1. Divide the class into groups of two or three students. Tell students that they will be measuring house floor plans to see which house has the larger area.
2. Hand the group a copy of the BLM *House for Rent*. Explain directions to the class.
3. Monitor activity as students work on the task.

connecting across the curriculum

Visual Arts

Have students design floor plans using centimeter graph paper. Allow them to choose furnishings and decorating schemes for their houses. Have them find the area of their houses in square centimeters.

EXTENDING THE **ACTIVITY**

For students who need a greater challenge, give each house a rental price. Ask students how they might find the best value in the houses. Show them how to use calculators to divide the cost of the house by the area to find a cost per square unit.

Standards Links
4.2.4, 4.3.2, 4.7.2, 4.7.3

Standard 5

Questions for Review

Basic Concepts and Processes

During the Group Activity, discuss the following questions with students to gauge their understanding of the indicator:

How would you divide this shape [*indicate a floor plan on the BLM*] into squares and rectangles ?

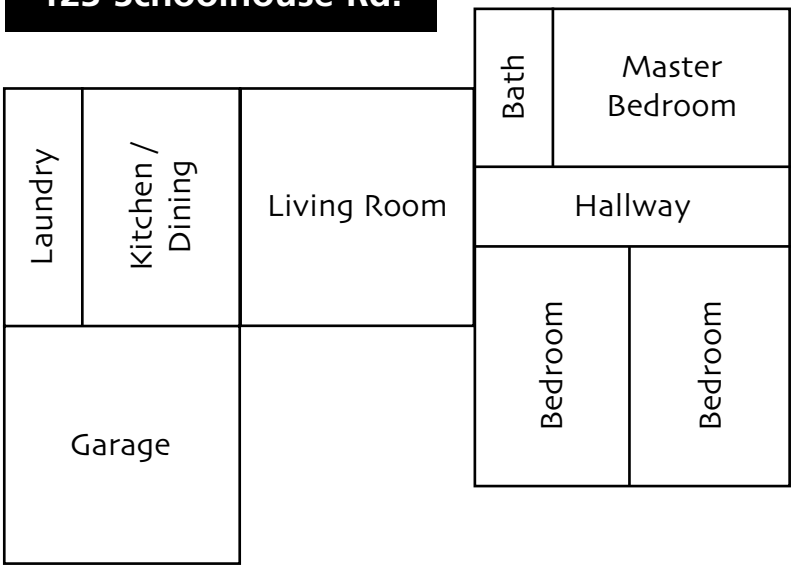
What numbers did you add to get the total area of this [*indicate a floor plan on the BLM*] house?

Name: _____

House for Rent

Find the areas of the houses below by dividing the floor plans into squares and rectangles. Measure in centimeters the sides of the squares and rectangles to find the areas. Add the areas together to find the total area of each house.

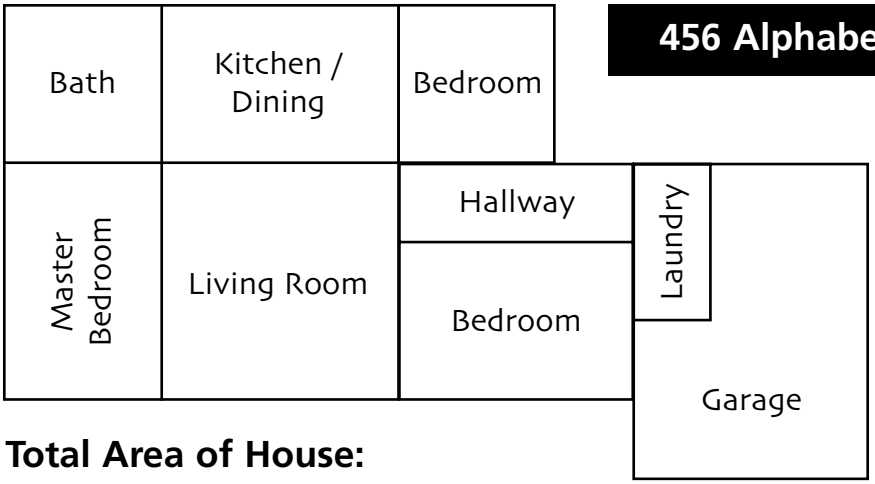
123 Schoolhouse Rd.



Total Area of House:

_____ **Square Centimeters**

456 Alphabet Lane



Total Area of House:

_____ **Square Centimeters**

Which house is larger?

House for Rent

Teacher Directions

Have students find the areas of the houses on the BLM by dividing the floor plans into squares and rectangles. Have them measure in centimeters the sides of the squares and rectangles to find the areas of each and add the areas together to find the total area of each house.

Answer Key

123 Schoolhouse Road
Total Area: 51 square centimeters

456 Alphabet Lane
Total Area: 50 square centimeters