Problem Solving Connections

Buying a Home Tina and Raul are buying a new house. The blueprint shows the layout of the bottom floor of the home and its backyard.

Scale 1 in: 8 ft
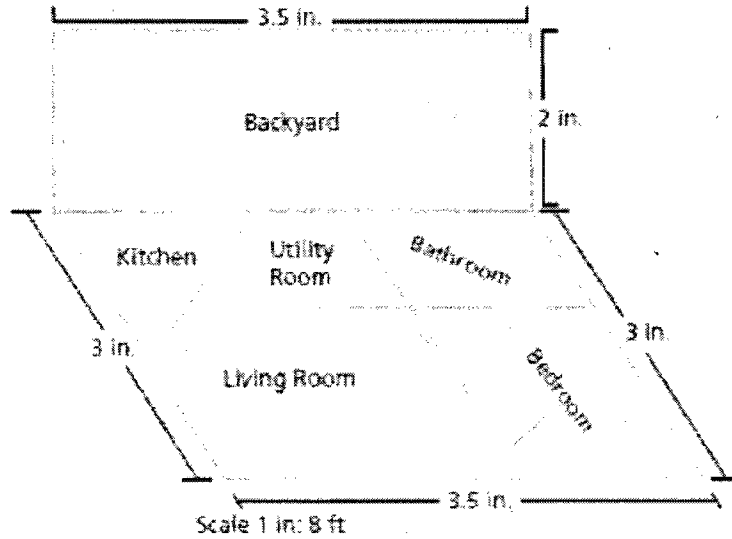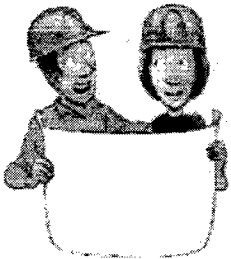
1 Measuring

A Complete the table.

Blueprint length (in.)	1	1.5	2	2.5	3	3.5	4
Actual length (ft)	8	12	16	20	24	28	32

B Use the table to find the find the given lengths.

Front of house: _____ ft

Length of backyard: _____ ft

Sides of house: _____ ft

Width of backyard: _____ ft

C Tina and Raul want to put a fence around the backyard. How much fencing do they need?

_____

D Also in the backyard Raul decides to put down a path from the back door straight across the yard to the fence. Each square stone has a length of 0.5 feet. How many stones will fit across the yard? Show your work below.

E Tina wants to place a shelving unit in the utility room along the back wall. The unit she has is 7 feet in length. Will the shelving unit fit along the back wall of the utility room if it measures 0.75 inches in the blueprint? Explain.

_____

2 Decorating

A Tina wants to put a large rug in the living room. The rug is shown at right. Tina estimates she can place a rug in an $1\frac{1}{2}$ in.-by- $1\frac{1}{3}$ in. area in the living room.

Find the actual area of the rug that Tina thinks will fit in the living room. Determine if her rug can be placed in the living room. Show your work.

7 ft

9 ft
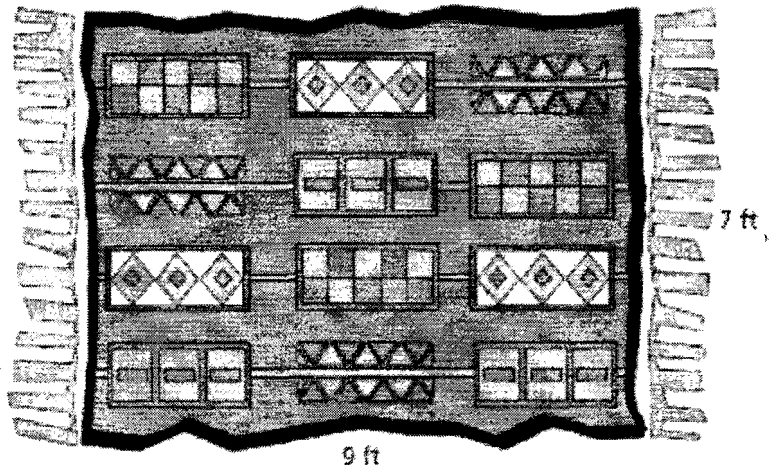
B Tina and Raul need to put down grass in the backyard. Find the area of the backyard. Show your work.

C If grass comes in rectangles that have an area of 8 square feet, how many rectangles do they need to buy? Find the total cost of the grass if each rectangle costs $1.25 and sales tax is 8%. Show your work below.