Lesson 5.2 Problem Solving

A **scale drawing** is a drawing of a real object in which all of the dimensions are proportional to the real object. A scale drawing can be larger or smaller than the object it represents. The **scale** is the ratio of the drawing size to the actual size of the object.

A drawing of a person has a scale of 2 inches = 1 foot. If the drawing is 11 inches high, how tall is the person?

$$\frac{2}{1} = \frac{11}{n}$$ Write a proportion.

$$\frac{1 \times 11}{2} = n$$ Solve for n.

$$5\tfrac{1}{2} = n$$ The person is $5\tfrac{1}{2}$ feet tall.

SHOW YOUR WORK

Solve each problem. Write a proportion in the space to the right.

1. A bridge is 440 yards long. A scale drawing has a ratio of 1 inch = 1 yard. How long is the drawing?

The drawing is _____ inches long.

1.

2. A map of the county uses a scale of 2 inches = 19 miles. If the county is 76 miles wide, how wide is the map?

The map is _____ inches wide.

2.

3. A picture of a goldfish has a scale of 8 centimeters to 3 centimeters. If the actual goldfish is 12 centimeters long, how long is the drawing?

The drawing is _____ centimeters long.

3.

4. An architect made a scale drawing of a house to be built. The scale is 2 inches to 3 feet. The house in the drawing is 24 inches tall. How tall is the actual house?

The actual house is _____ feet tall.

4.