

Name _____ Date _____

Scale Drawings and Models

(Pages 366–369)

A **scale drawing** or **scale model** is used to represent an object that is too large or too small to be drawn or built at actual size.

Using Scale Drawings	The scale of a drawing or model is determined by the ratio of a given length on the drawing or model to its corresponding length in reality.
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EXAMPLE

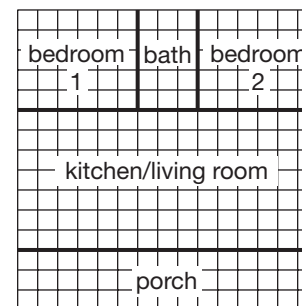
The figure at the right is a scale drawing of a cabin plan. In the drawing, the side of each square represents 20 inches. Find the length and width of bedroom 2.

Count the squares in the scale drawing. Bedroom 2 is 6 squares long and 5 squares wide. Use the scale and your counts to write proportions.

$$\frac{1 \text{ square}}{20 \text{ in.}} = \frac{6 \text{ squares}}{x \text{ in.}} \qquad \frac{1 \text{ square}}{20 \text{ in.}} = \frac{5 \text{ squares}}{y \text{ in.}}$$

$$1 \cdot x = 20 \cdot 6 \qquad 1 \cdot y = 20 \cdot 5$$

$$x = 120 \qquad y = 100$$



Try These Together

- Use the figure and scale in the Example to find the length and width of the kitchen/living room.
HINT: Write proportions.
- Use the figure and scale in the Example to find the length and width of the porch.
HINT: The length is the same as the kitchen/living room.

PRACTICE

- Find the length and width of the bath in the Example.
- On a map, the scale is 1 inch = 250 miles. Find the actual distance for each map distance.

	From	To	Map Distance
a.	Minneapolis, Minnesota	San Diego, California	about 8 inches
b.	San Diego, California	Portland, Oregon	about $4\frac{1}{4}$ inches
c.	Portland, Oregon	Minneapolis, Minnesota	about 7 inches



- Standardized Test Practice** Find the dimensions of the cabin (including the porch) in the Example.
A 150 in. by 150 in. **B** 112 in. by 112 in.
C 300 in. by 280 in. **D** 300 in. by 300 in.

Answers: 1. 300 in. by 140 in. 2. 300 in. by 60 in. 3. 60 in. by 100 in. 4a. about 2,000 miles 4b. about 1,062.5 miles 4c. about 1,750 miles 5. D