Practice 7.5

Solve. Show your work.

1. A model of a ship is 6 inches long. The actual ship is 550 feet (6,600 inches). Find the scale factor used for the model.

\[
\frac{6}{6,600} = \frac{1}{1,100}
\]

2. On a blueprint, the length of a wall is 5 inches. The actual length of the wall is 85 feet. What scale is used for the blueprint?

3. An artist made a painting of a water pitcher. Then the artist reduced the size of the painting. Find the scale factor of the reduction.

\[
\frac{2}{3}
\]
4. The height of a building in a drawing is 15 inches. If the actual height of the building is 165 feet, find the scale factor of the drawing.

5. In a scale drawing, a sofa is 3 inches long. If the actual length of the sofa is 5 feet long, find the scale factor.

6. Daniel is making a scale drawing of his classroom for a project. The length of his classroom is 30 feet long. In his drawing, the length of the classroom is 6 inches. Find the scale factor of Daniel's drawing.

7. Two cities are 7 inches apart on a map. If the scale of the map is 0.5 inch : 3 miles, what is the actual distance between the two cities?

8. A road map of New Orleans uses a scale of 1 inch : 3 miles. If Carlton Avenue is 1.3 inches long on the map, what is the actual length of the street?

9. The scale of a map is 1 inch : 85 miles.
   a) On the map, the river is 14 inches long. Find the actual length of the river in miles.
   b) The actual distance between two towns is 765 miles. Find the distance on the map between these towns.
Lesson 7.5 Homework Review

10 Goodhope River is 48 miles long. What is the length of the river on a map with a scale of 1 inch : 15 miles?

\[ 3.2 \text{ in.} \]

11 A map is drawn using a scale of 1 inch : 165 miles. The length of a road on the map is 12 inches. Find the actual length of the road.

\[ 1,980 \text{ mi.} \]

12 On a particular map, 2 inches represents an actual distance of 64 miles. Towns A and B are 608 miles apart. Find the distance between the two towns, in inches, on the map.

\[ 19 \text{ in.} \]

13 On a particular map, 1 inch represents an actual distance of 2.5 miles. The actual area of a lake is 12 square miles. Find the area of the lake on the map.

14 On the map, the area of a nature preserve is 54.2 square inches. If the scale of the map is 1 inch : 8 miles, find the actual area of the nature preserve.
15 The map shows two roads labeled A and B.

a) Using a ruler, measure, in centimeters, the lengths of roads A and B.

b) Using the scale given, find, in kilometers, the actual lengths of roads A and B.

a) $A = 2.4 \text{ cm}$  
   $B = 3.3 \text{ cm}$

b) $A = 1.2 \text{ km}$  
   $B = 1.65 \text{ km}$

$\text{Scale} \quad 1:50,000$

$100 \text{ cm} = 1 \text{ m}$

$1000 \text{ m} = 1 \text{ km}$

$100,000 \text{ cm} = 1 \text{ km}$
The map shows seven cities in Florida. Using the scale on the map, use a ruler to measure the distance between the following pairs of cities. Then find the actual distance between them in miles.

a) Orlando and West Palm Beach

b) Fort Myers and Miami Beach

\[
\frac{0.8 \text{ cm}}{50 \text{ mi}} = \frac{2.4 \text{ cm}}{x} \\
0.8x = 2.4(50) \\
x = 150 \text{ mi}
\]

\[
\frac{0.8 \text{ cm}}{50 \text{ mi}} = \frac{2 \text{ cm}}{x} \\
0.8x = 100 \\
x = 125 \text{ mi}
\]