Practice 7.5

Basic 1 - 14
Intermediate 15 - 21

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.
   \( \frac{1}{1,100} \)

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? 1 in. : 17 ft

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. \( \frac{1}{132} \)

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. \( \frac{1}{20} \)

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. \( \frac{1}{60} \)

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? 42 mi

\( \text{sf} < 1 \)
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? \(3.9 \text{ mi}\)

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. \(1,190 \text{ mi}\)
   b) The actual distance between two towns is 765 miles. Find the distance on the map between these towns. \(9 \text{ in.}\)
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 in. \[
\frac{1\text{ in}}{15\text{ mi}} = \frac{x}{48\text{ mi}} \quad \frac{15x}{15} = \frac{48}{15} \quad x = \frac{32}{15} \text{ in}
\]

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 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 in.