

8-1: Solve Problems Involving Scale Drawings

1. Sample answer: Measurements in scale drawings and actual measurements always have the same proportional relationship. The scale factor that relates actual measurements and the measurements from a scale drawing is the constant of proportionality, k .
2. Sample answer: The corresponding measures are related by the scale. The ratio of corresponding measures is the same for all measures.
3. Sample answer: Both proportions correctly show the relationship between corresponding units from the scale drawing (the map) and the actual distance. You can use the properties of equality to solve for x in both proportions and show that x has the same value, 225.
4. 5 meters
5. 2.25 square meters
6. 1 inch = 5 miles
7. $\frac{5}{1}$
40
8. $\frac{3}{1} = \frac{w}{5}$
15
9. 10.8 mi
10. Scale: 1 in. = 1.6 ft
New scale width = 9.375 in.
11. 220 m²
12. a. $y = \frac{5}{2}x$
b. 1,250 ft²
13. 96 ft²
14. 400 meters
15. 0.33 inch
16. a. 1.25
b. 14.4