

NAME: \_\_\_\_\_

*P.I. A.N.5: Solve algebraic problems arising from situations that involve proportionality/direct variation*

1. The scale model of a building that is actually 1,521 ft tall is 13 inches. Which of the following ratios represents the scale?

[A] 1 in.:117 ft      [B]  $1\frac{1}{2}$  in.:85 ft

[C] 2 in.:70 ft      [D] 1 in.:119 ft

2. A map has a scale of 3 cm : 6 km. If two cities are 16 cm apart on the map, what is the actual distance between the cities, to the nearest tenth of a kilometer?

[A] 320 km      [B] 80 km

[C] 32 km      [D] 8 km

3. A map has a scale of 1:2,400,000. If two cities are 8 cm apart on the map, what is the actual distance between the two cities?

[A] 192 km      [B] 0.3 km

[C] 3 km      [D] 1920 km

4. A scale drawing of a town park has a scale of 1 inch:100 feet. What is the actual length for each 1 foot on the drawing?

[A]  $\frac{1}{1200}$  in.      [B] 1200 ft.

[C] 1000 ft.      [D] none of these answers

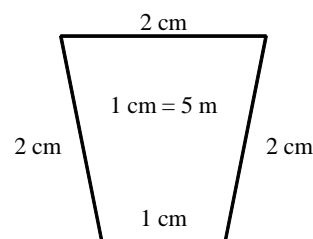
5. A scale drawing has a scale of  $\frac{1}{2}$  in:10 km.

What is the length of the drawing if the actual length is 200 km?

6. A scale drawing of a bedroom is 4 in. wide and 6 in. long. How long is the actual room if it is 10 ft wide? What is the scale factor?

7. Half Dome trail at Yosemite National Park is 26.9 km round trip. It is shown on a map with a scale of 2.5 cm = 3 km. How many centimeters long is the trail on the map?

8. Find the perimeter of the actual object using the scale factor shown on the blueprint.



9. Which of the following would be the most appropriate subject if you were drawing it at a scale of 1:1?

[A] New Jersey      [B] a bedroom

[C] a micro-organism      [D] a baseball

10. Use any problem solving strategy to solve the following problem. Maria sketched plans for a rectangular garden on grid paper. The rectangle she drew is 2.5 squares wide and 4 squares long. If each side of each square on the grid paper represents 3.5 feet, find the length and the width of the actual garden.

- [1] A
- [2] C
- [3] A
- [4] B
- [5] 10 in.
- [6] 15 ft; 1 in. = 2.5 ft
- [7] about 22.4 cm
- [8] 35 m
- [9] D
- [10] 8.75 feet wide and 14 feet long