

Unit 2: Scale Drawings, Similarity, and Slope

CONCEPT

Name: _____ Date: _____

Solve each problem and write your short answer on the line. Show your setup where it helps.

1. A scaled copy of a figure uses a scale factor of 3. A side on the original figure is 4 cm long. How long is the matching side on the scaled copy?

Answer: _____

2. A scaled copy is made with a scale factor of $\frac{1}{2}$. A side on the original is 10 cm. How long is the matching side on the copy?

Answer: _____

3. On the original figure a side is 6 cm. On the scaled copy the matching side is 18 cm. What is the scale factor from the original to the copy?

Answer: _____

4. A scale drawing uses the scale 1 cm to 5 m. A wall is 4 cm long in the drawing. How many meters long is the real wall?

Answer: _____

5. A map uses the scale 1 cm to 8 km. Two towns are 30 km apart in real life. How many centimeters apart are they on the map?

Answer: _____

6. A point $P(2, 3)$ is dilated from the origin using a scale factor of 4. What are the coordinates of its image? Give your answer as (x, y) .

Answer: _____

7. A point $Q(6, 9)$ is dilated from the origin using a scale factor of $\frac{1}{3}$. What are the coordinates of its image? Give your answer as (x, y) .

Answer: _____

8. Two triangles are similar. In the first, a side is 5 cm. The matching side in the second is 15 cm, giving a scale factor of 3. Another side in the first triangle is 7 cm. How long is its matching side in the second triangle?

Answer: _____

9. On a line, you move from one point to another by going right 2 units and up 6 units. What is the slope of the line?

Answer: _____

10. On a line, you move from one point to another by going right 4 units and up 2 units. What is the slope of the line? Give your answer as a fraction.

Answer: _____

11. A line passes through the origin (0, 0) with a slope of 5. When $x = 3$, what is the value of y ?

Answer: _____

12. A line through the origin has slope 2. Write the equation of the line in the form $y = mx$ (fill in the number for m). What is m ?

Answer: _____