

# Scale Drawings

Fractions, Decimals & % · Grade 7

◆ Medium · 12 Questions

Solve each problem. Show your work in the space provided. Write your answer on the line.

1. A map has scale 1 : 50,000. Two points are 6 cm apart on the map. Find the real distance in km.

Answer: \_\_\_\_\_

2. A scale drawing of a room is 8 cm × 5 cm. The scale is 1 cm : 2.5 m. Find the real area of the room.

Answer: \_\_\_\_\_

3. A park on a map measures  $3 \text{ cm} \times 4 \text{ cm}$ . The real park is  $150 \text{ m} \times 200 \text{ m}$ . What is the map scale?

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Answer: \_\_\_\_\_

4. Two buildings are  $450 \text{ m}$  apart. On a map at scale  $1 : 15,000$ , how far apart are they?

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Answer: \_\_\_\_\_

5. A scale model of a plane is  $1 : 72$ . The wingspan of the model is  $25 \text{ cm}$ . What is the real wingspan?

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Answer: \_\_\_\_\_

6. On a map of scale 1 cm : 40 km, a road is 7.5 cm long. Find the real length.

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Answer: \_\_\_\_\_

7. A blueprint at 1 in : 4 ft shows a rectangular room 5 in  $\times$  3.5 in. Find the real perimeter.

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Answer: \_\_\_\_\_

8. A scale drawing of a triangle has sides 3 cm, 4 cm, 5 cm. The scale is 1 cm : 7 m. Find the real perimeter.

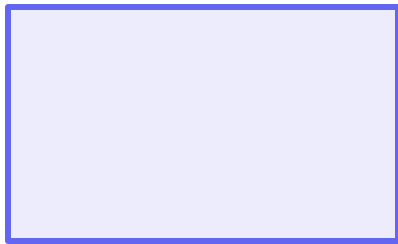
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Answer: \_\_\_\_\_

9. A city block is 400 m long. On a map it measures 8 cm. What is the scale ratio?

Answer: \_\_\_\_\_

10. A scale diagram has scale 1 : 25. A room on the diagram is 14 cm × 10 cm. Find the real area in m<sup>2</sup>.



Answer: \_\_\_\_\_

- 11.** On a map with scale 1 cm : 3 km, a lake has an area of 12 cm<sup>2</sup>. What is the real area of the lake?

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**Answer:** \_\_\_\_\_

- 12.** A model house is built at scale 1 : 30. The model roof ridge is 45 cm long. The model is 20 cm wide. What are the real dimensions?

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**Answer:** \_\_\_\_\_

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## Answer Key

### Scale Drawings — Medium

1. **3 km**

$$6 \times 50,000 = 300,000 \text{ cm} = 3,000 \text{ m} = 3 \text{ km}.$$

2. **250 m<sup>2</sup>**

$$\text{Real dims: } 8 \times 2.5 = 20 \text{ m and } 5 \times 2.5 = 12.5 \text{ m. Area} = 20 \times 12.5 = 250 \text{ m}^2.$$

3. **1 cm : 50 m**

$$150 \div 3 = 50 \text{ and } 200 \div 4 = 50. \text{ Scale: } 1 \text{ cm} = 50 \text{ m}.$$

4. **3 cm**

$$450 \text{ m} = 45,000 \text{ cm. } 45,000 \div 15,000 = 3 \text{ cm}.$$

5. **1,800 cm = 18 m**

$$25 \times 72 = 1,800 \text{ cm} = 18 \text{ m}.$$

6. **300 km**

$$7.5 \times 40 = 300 \text{ km}.$$

7. **68 ft**

$$\text{Real: } 20 \text{ ft} \times 14 \text{ ft. Perimeter} = 2(20 + 14) = 68 \text{ ft}.$$

8. **84 m**

$$\text{Real sides: } 21, 28, 35 \text{ m. Perimeter} = 21 + 28 + 35 = 84 \text{ m}.$$

9. **1 : 5,000**

$$400 \text{ m} = 40,000 \text{ cm. Scale} = 8 : 40,000 = 1 : 5,000.$$

10. **8.75 m<sup>2</sup>**

$$\text{Real dims: } 14 \times 25 = 350 \text{ cm} = 3.5 \text{ m; } 10 \times 25 = 250 \text{ cm} = 2.5 \text{ m. Area} = 3.5 \times 2.5 = 8.75 \text{ m}^2.$$

**11. 108 km<sup>2</sup>**

*Each 1 cm<sup>2</sup> on the map = 3 km × 3 km = 9 km<sup>2</sup>. Real area = 12 × 9 = 108 km<sup>2</sup>.*

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**12. Ridge: 13.5 m; Width: 6 m**

*45×30=1,350 cm=13.5 m. 20×30=600 cm=6 m.*

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