

10. Mixed Application — Worksheet C

Name: _____ **Class:** _____ **Date:** _____

Before solving, state the direction and write the scale relationship.

1. Scale 1 cm = 12 km; map distance 7.5 cm.

2. Scale 2 cm = 30 km; real distance 105 km.

3. A blueprint uses 1 cm = 2.5 m. A room is 20 m by 12.5 m. Find the blueprint dimensions.

4. A model uses 1 cm = 15 cm. A model part is 8 cm long. Find the real length.

5. Rectangles are 6 by 10 and 15 by 25. Are they similar? Find the scale factor if they are.

6. Triangle sides are 6, 9, and 12. Enlarge by factor 1.5. Find the new sides.

7. A photo is 10 cm by 15 cm and is enlarged to 25 cm wide. Find the new height.

8. A map uses $1 \text{ cm} = 8 \text{ km}$. A route is 56 km. Find the map length.

9. Create a scale problem and solve it in both directions.

10. Explain why a similarity check needs more than one corresponding side pair.

11. **What matters and what doesn't:** A cartographer works 6 hours a day for a mapping company. A map uses $1 \text{ cm} = 20 \text{ km}$. The map shows a route of 9 cm. Find the real distance. Which details in this problem were not needed to answer it?

12. **Reconstruct the situation:** The calculation $24 \div 8 = 3$ represents a real similarity check between two rectangles. Write a context for it, and explain what the 24, the 8, and the 3 each mean.
