Chapter 4 Review

Key Words

For #1 to #4, unscramble the letters for each term.
Use the clues to help you.

1. L G Y N O P O

A ▮▮▮▮ is a closed figure with sides that are line segments.

2. I R I S L M A

▮▮▮▮ figures have equal corresponding angles and proportional corresponding side lengths.
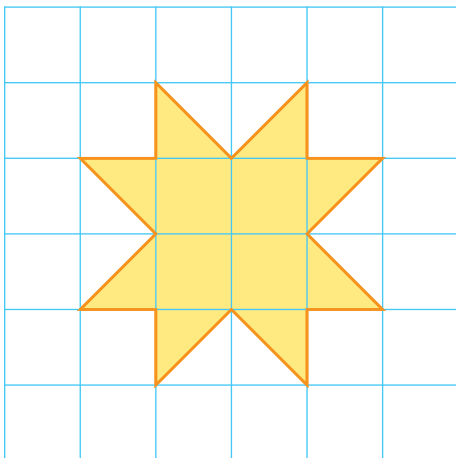
3. C A S E L O T C A F R

The ▮▮▮▮ ▮▮▮▮ is the constant amount by which any dimension of a shape is enlarged or reduced.

4. R R O O P P T I N O

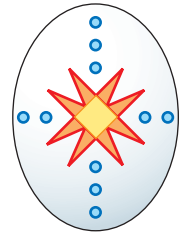A ▮▮▮▮ is a statement that says two ratios are equal.

4.1 Enlargements and Reductions, pages 130–138

5. Use grid paper to draw the design using each scale factor.

a) scale factor of 2
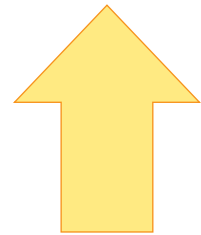**b)** scale factor of 0.5

6. Draw an image of the egg design that is three times as large as the original.
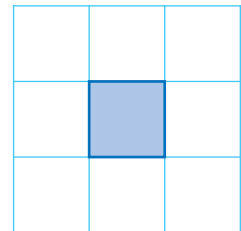

> **Art Link**
> Pysanky is the traditional Eastern European art that uses beeswax and dyes to create designs on eggs.

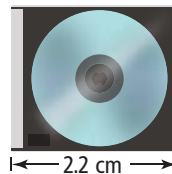**7.** Draw a reduction of the arrow that is half as large as the original.

8. Draw an image of the square to illustrate each of the following.

a) a scale factor equal to 1
b) a scale factor greater than 1
c) a scale factor less than 1

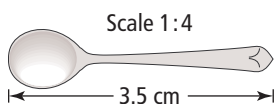## 4.2 Scale Diagrams, pages 139–145

9. An actual CD jewel case measures 14.3 cm. Determine the scale factor used to create the image.
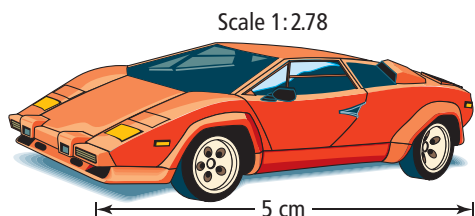

2.2 cm

10. Determine the actual length of each object from its scale diagram.

a) spoon

Scale 1:4

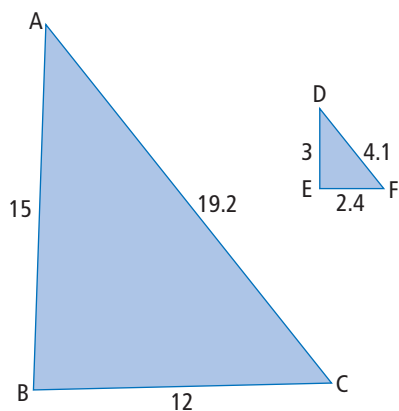|← 3.5 cm →|

b) toy car

Scale 1:2.78

|← 5 cm →|

11. The scale for an image of a tower is 1 cm represents 12.5 m. If the actual tower measures 108.75 m in height, what is its height on the drawing?
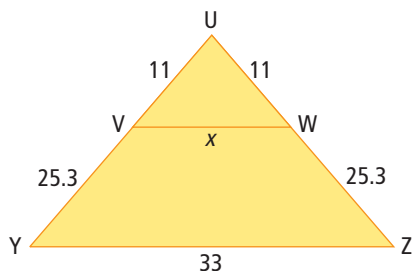
12. A highway is 600 km in length. If the length of the highway on a map is 6 cm, what is the scale factor? Hint: 1 km = 100 000 cm.
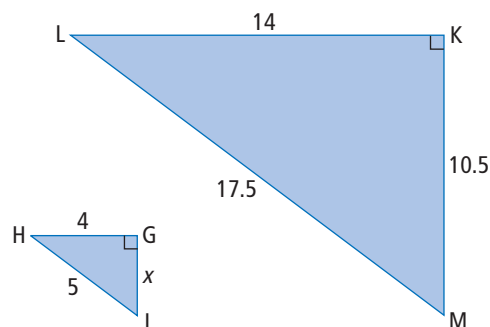
4.3 Similar Triangles, pages 146–153

13. Are these triangles similar? Explain.
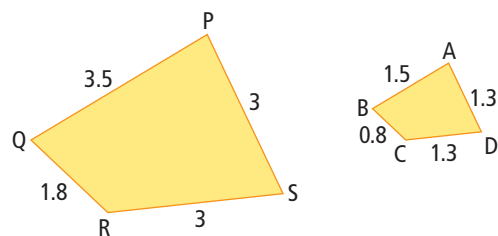

14. △UVW is similar to △UYZ. Determine the length x.

15. Given that △GHI is similar to △KLM, what is the length of side IG?

4.4 Similar Polygons, pages 154–159

16. Determine if the two polygons are similar.

17. The sides of one quadrilateral measure 3 cm, 9 cm, 12 cm, and x. The corresponding sides of a similar quadrilateral measure 2.25 cm, 6.75 cm, 9 cm, and 13.5 cm. What is the value of x?

18. The pentagons DEFGH and JKLMN are similar. Determine the missing side lengths, to the nearest tenth.