Chapter 4 Practice Test
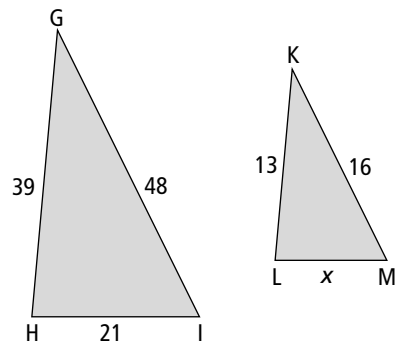
For #1 to #4, choose the best answer.

1. What is the value of x if $\dfrac{1}{x} = \dfrac{8}{32}$?

   A 2   **B** 3

   C 4   **D** 7

2. $\triangle GHI$ is similar to $\triangle KLM$. Find the missing side length.

   A 4   **B** 7
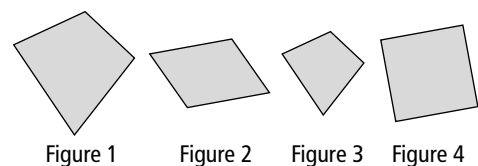
   C 10   **D** 14

3. On a scale diagram, what does 1 in the scale of 1:5 represent?

   A how many times larger   **B** how many times
      the object is   smaller the object is

   C the actual size   **D** the diagram size

4. Which 2 shapes are similar?

   A Figures 1 and 2   **B** Figures 1 and 3

   C Figures 1 and 4   **D** Figures 2 and 3

   Figure 1   Figure 2   Figure 3   Figure 4

Complete the statements in #5 and #6.

5. The amount by which an object is enlarged or reduced is called the _____
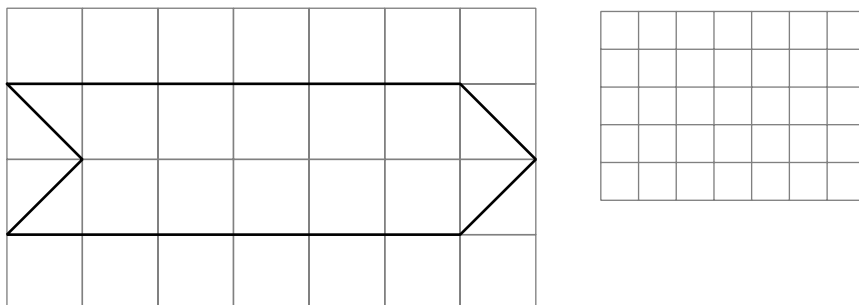
   _____ (2 words).

6. An umbrella is 75 cm long. An image of the umbrella is 15 cm long.
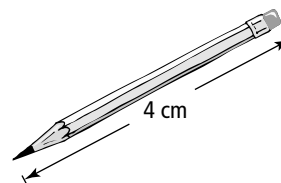
   The image is a _____ of the original.

Name: _____ Date: _____

Short Answer

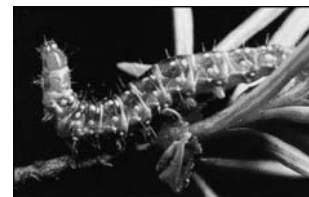7. Draw a reduction that is half the size of this figure.

8. A pencil is 18 cm long. The drawing of the pencil is 4 cm long.
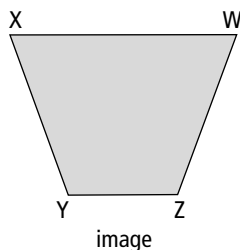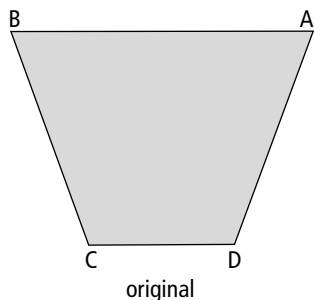   What is the scale factor?

   4 cm

   Sentence: _____

9. A western spruce budworm larva can grow to 32 mm long.
   A drawing of the larva uses a scale of 1:1.5. How long is the drawing?

   Sentence: _____

Name: _____ Date: _____

10. a) Measure the angles and sides of the 2 quadrilaterals.

original

image

Quadrilateral ABCD:

$\angle A =$ _____°, $\angle B =$ _____°

$\angle C =$ _____°, $\angle D =$ _____°

AB = _____ cm, BC = _____ cm

CD = _____ cm, DA = _____ cm

Quadrilateral WXYZ:

$\angle W =$ _____°, $\angle X =$ _____°

$\angle Y =$ _____°, $\angle Z =$ _____°

WX = _____ cm, XY = _____ cm

YZ = _____ cm, ZW = _____ cm

b) Are the quadrilaterals similar? Circle YES or NO. Give 1 reason for your answer.

_____

c) If they are similar, what is the scale factor? _____

Math Link: Wrap It Up!

Finish your design project.

a) Decide on a layout. Include the following 4 parts:
   ❏ an enlargement or reduction of your design from Math Link 4.2, page 195
   ❏ your logo using a similar triangle from Math Link 4.3, page 207
   ❏ the title of your design project surrounded by a similar polygon from Math Link 4.4, page 214
   ❏ a scale diagram of your design

b) Present your design using a poster or a multimedia presentation. Your presentation must include:
   • your design and the scale you used
   • an actual sample of your finished design project
   • what you learned about scale diagrams and similarity