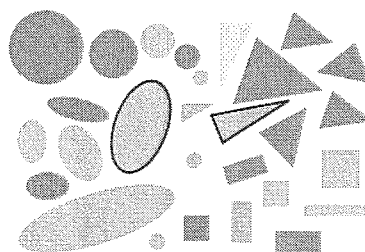Name: _____   Date: _____

Chapter 4 Practice-Test

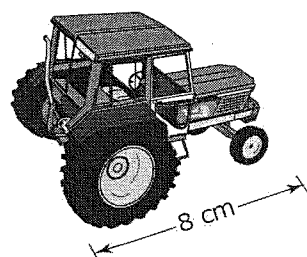*For #1 to 4, choose the best answer.*

1. Jason arranged shapes into sets of similar polygons. How many of the shapes in the sets do not appear to be similar to any other shape?
   A 5   **B** 4   **C** 3   **D** 0

2. A local farm equipment dealership has model tractors. The length of the actual tractor is 5.6 m. What scale was used for the reduction?
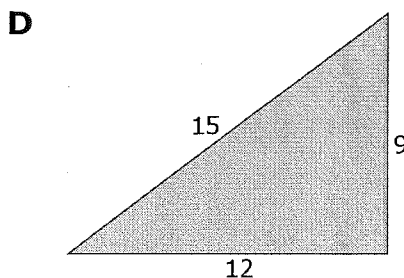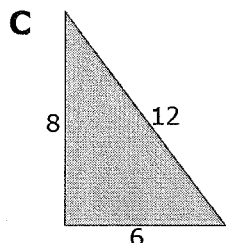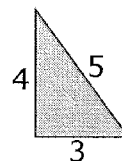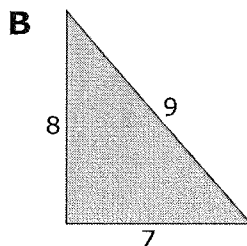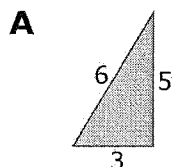
   A $\dfrac{1}{7}$ **B** 7   **C** 1:70   **D** 700:1

   8 cm

3. A penny has a diameter of 19 mm. Brenda used a scale factor of 3 to create a scale drawing of the penny. Which of the following statements about Brenda's drawing is true?

   A Brenda drew an enlargement. The drawing has a diameter of 57 mm.
   B Brenda drew an enlargement. The drawing has a diameter of about 6.3 mm.
   C Brenda drew a reduction. The drawing has a diameter of 57 mm.
   D Brenda drew a reduction. The drawing has a diameter of about 6.3 mm.

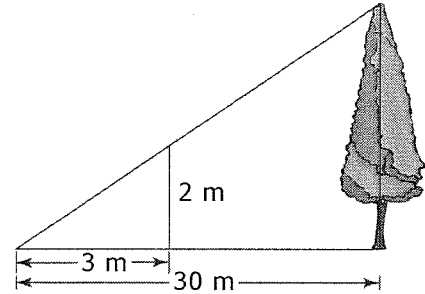4. Which of the following triangles is similar to the given triangle?

   4   5   3

   A
   6   5   3

   B
   8   9   7

   C
   8   12   6

   D
   15   9   12

Name: _____ Date: _____
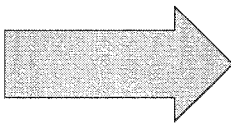
Complete the statements in #5 and 6.

5. Using the information given in the diagram, the

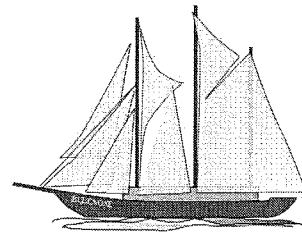height of the actual tree is _____ m.

2 m

3 m

30 m

6. A standard stop sign is 79 cm across from one side of the red octagon to the opposite side. The letters forming STOP are 25 cm tall. If an image is drawn using a scale of 1:14, the entire width of the image of the stop sign

is _____ cm, to the nearest tenth of a centimetre.

Short Answer

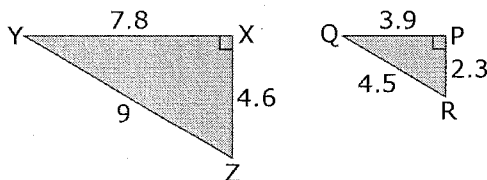**7.** Use a scale factor of 0.5 to draw a reduction of this figure.

8. Raul's grandfather collects models of ships such as *Bluenose*. The model measures 120 mm in length and the scale used to make the model is 1 : 470. Calculate the length of the actual sailing ship to the nearest tenth of a metre.
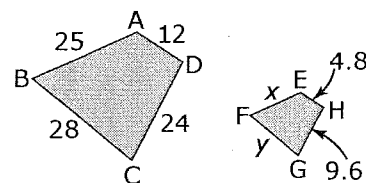
Extended Response

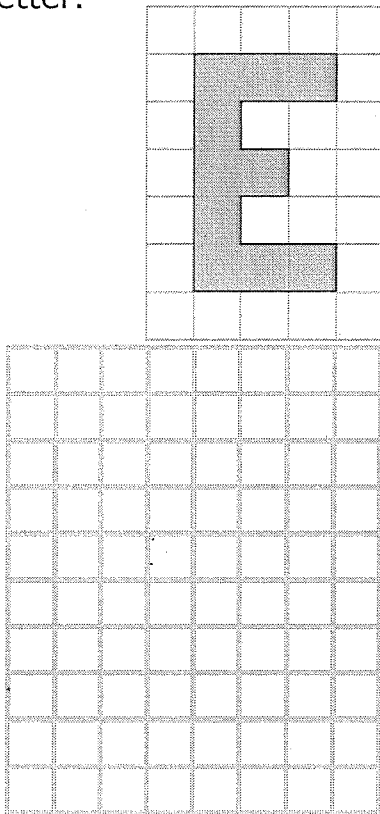**9.** Determine if the two triangles are similar. Show your work.

Y 7.8 X   Q 3.9 P
9   4.6   4.5   2.3
Z   R

10. Use the two similar trapezoids to determine the missing side lengths, *x* and *y*. Show your work.

A 12
25   D
B
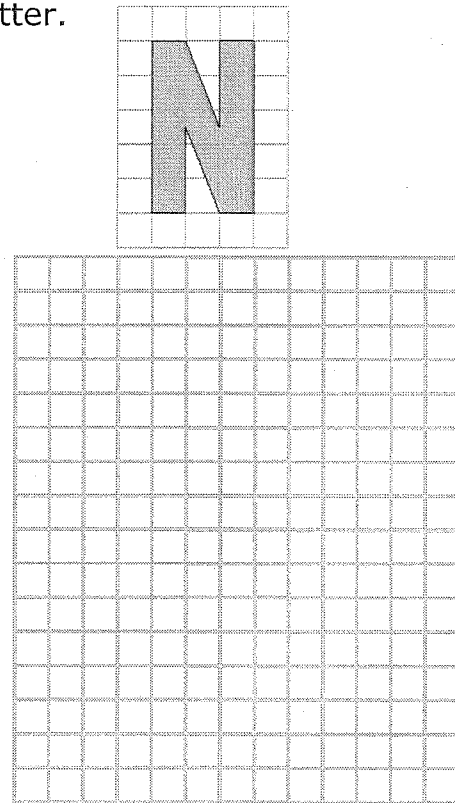28   24
C

E 4.8
x   H
F
y
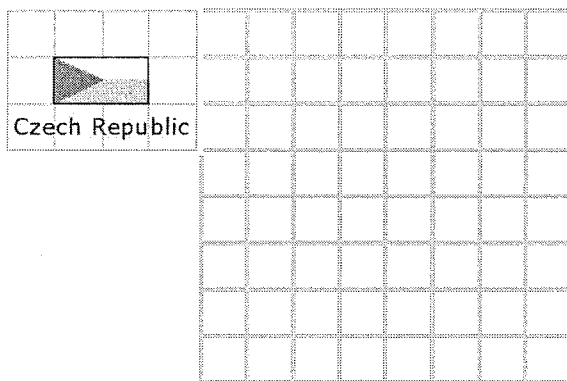G 9.6

Name: _____ Date: _____
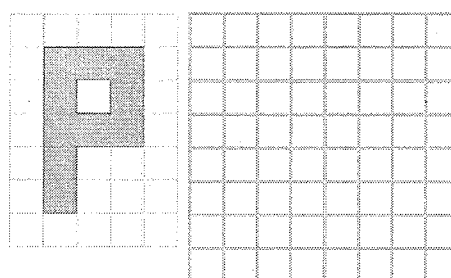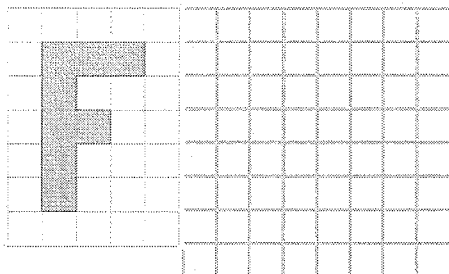
11. Use a scale factor of 2 to enlarge the letter.

12. Use a scale factor of 3 to enlarge the letter.

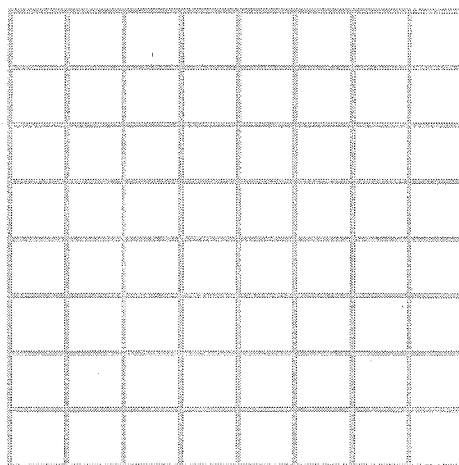13. Draw an enlargement of the flag using a scale factor of 3.
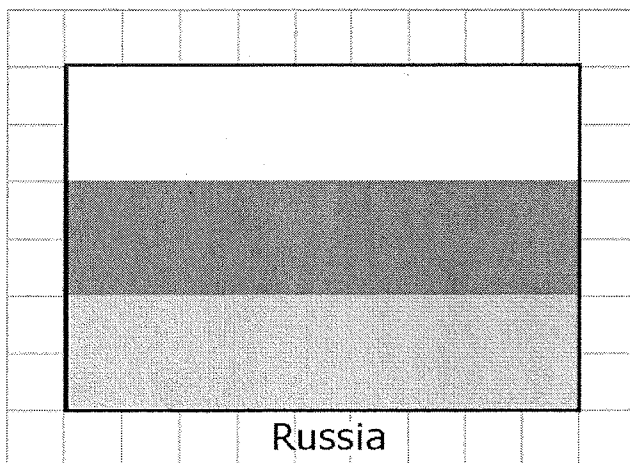
Czech Republic

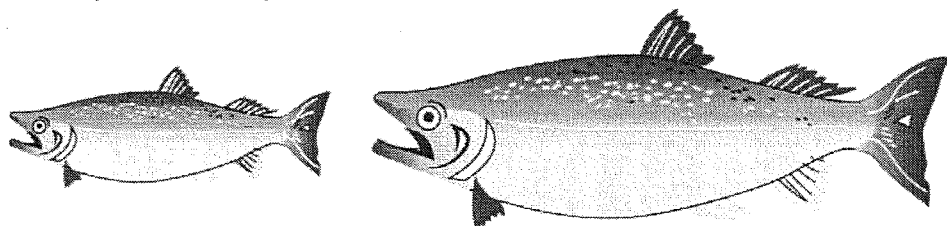14. Draw an image with dimensions that are half as large as each letter.

Name: _____   Date: _____

15. Draw a reduction of the flag using a scale factor of 0.25.

Russia

16. For the second image, is the scale factor equal to 1? Greater than 1? Less than 1? Explain how you know.

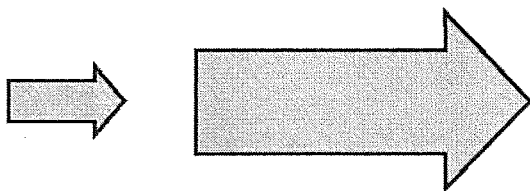## 17. Explain how you could determine if Figure B is an accurate enlargement of Figure A.

Figure A   Figure B

BLM 4–13 Chapter 4 Test

1. B **2.** C **3.** A **4.** D
5. 20 **6.** 5.6
7. Look for an arrow that is 1.5 cm in length.
8. 56.4 m

9. △PQR is similar to △XYZ. The corresponding sides are proportional with a scale factor of 2: $\dfrac{XY}{PQ} = \dfrac{7.8}{3.9} = 2$;

$\dfrac{YZ}{QR} = \dfrac{9}{4.5} = 2$; $\dfrac{XZ}{PR} = \dfrac{4.6}{2.3} = 2$.
The corresponding angles are equal: $\angle X = \angle P$
$= 90°$; $\angle Y = \angle Q = 30°$; $\angle Z = \angle R = 60°$
10. $x = 10$; $y = 11.2$

16. Greater than 1. Example: The second image is an enlargement.
17. Example: Check that each dimension of the image is proportionally larger than the original.
Or join the corresponding corners and make sure the lines all meet that the same center point.