Date: _____

4.3 Similar Triangles

***MathLinks 9*, pages 146–153**

Key Ideas Review

Choose from the following terms to complete #1 to 2.

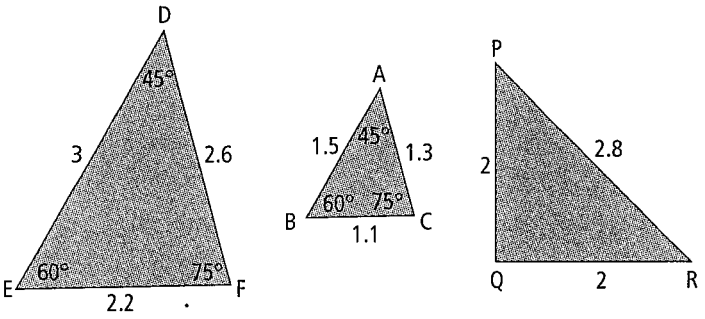
angles both not proportion scale factor sides similar

1. Triangles are similar if one of the following conditions is true:

   a) Corresponding _____ are equal in measure.

   b) Corresponding _____ are proportional in length.

2. You can solve problems for similar triangles using a _____ _____ or a _____.

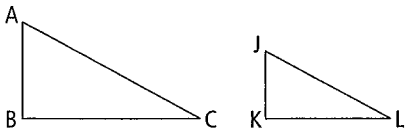
3. 

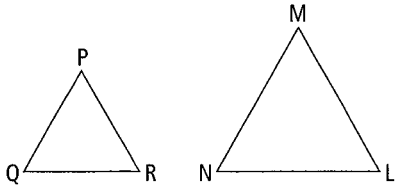
   a) Is $\triangle DEF$ similar to $\triangle ABC$? YES NO Explain.

   b) Is $\triangle DEF$ similar to $\triangle PQR$? YES NO Explain.

Check Your Understanding

4. What are the corresponding angles and the corresponding sides for the following pairs of similar triangles?

   a) 

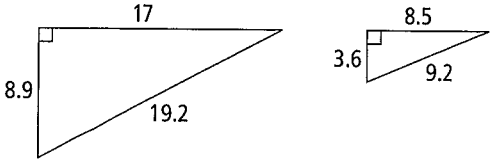
   b) 

Date: _____

5. Determine which pair of triangles is similar. Explain how you know.

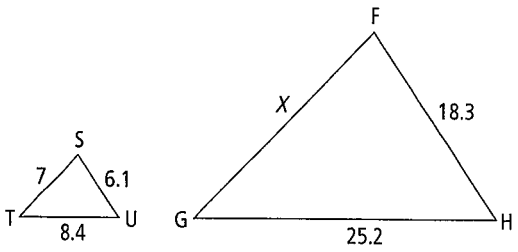
Triangle	Angles	Sides
△PQR	∠P = 90° ∠Q = 45° ∠R = 45°	PQ = 3 QR = 4.2 PR = 3
△STU	∠S = 90° ∠T = 60° ∠U = 30°	ST = 9.2 TU = 18.4 SV = 15.9
△VWX	∠V = 45° ∠W = 90° ∠X = 45°	VW = 11.3 WX = 11.3 VX = 16

6. Are these triangles similar? Explain how you know.

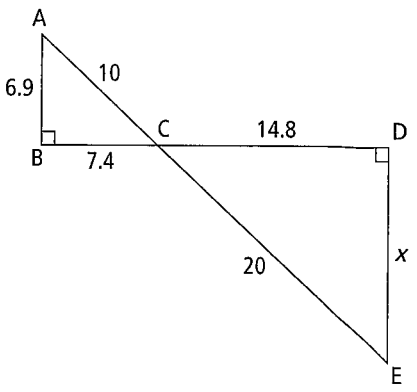


7. Determine the missing side lengths of the triangles below. Show your calculations.

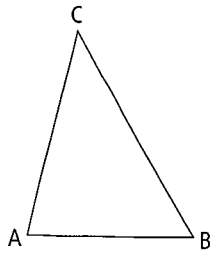
a)



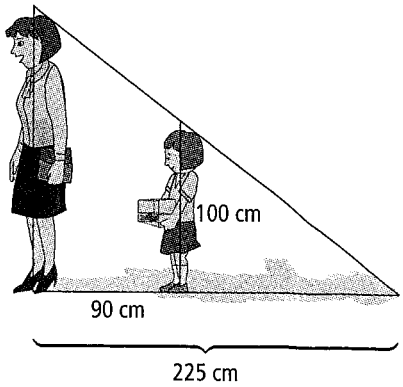
b)



8. Draw a triangle that is similar to the one shown. Label the measurements for the angles and sides on your triangle.



9. Kaylee is 100 cm tall and is standing so that her mother's shadow covers her shadow. She is 90 cm from her mother and her mother's shadow is 225 cm long. How tall is her mother? Express your answer to the nearest centimetre.



Date: _____

4.4 Similar Polygons

***MathLinks 9*, pages 154–159**

Key Ideas Review

Decide whether each of the following statements is true or false. Circle the word True or False. If the statement is false, rewrite it to make it true.

1. **True/False** Polygons that are similar have some angles that are equal in measure.

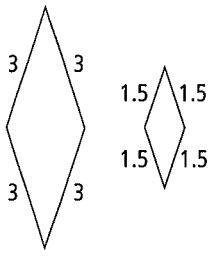
2. **True/False** You can use polygons that are not similar to determine unknown side lengths.

3. **True/False** A polygon is a three-dimensional closed figure made of more than three line segments.

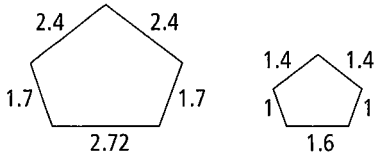
Check Your Understanding

4. Is each pair of polygons similar? How do you know?

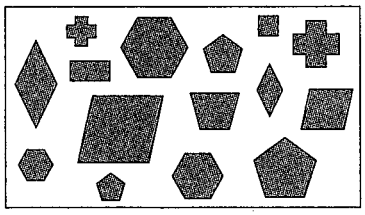
a)



b)



5. a) Draw lines to connect all sets of similar polygons found in the space below.



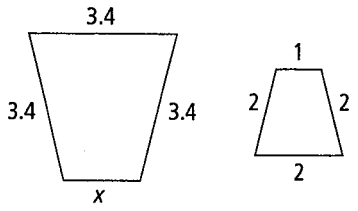
b) Draw any polygons that do not have a pair.

c) Sketch a similar polygon for the ones found in b).

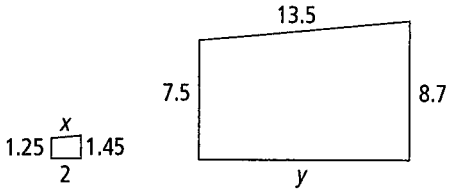
Date: _____

6. Use each pair of similar polygons to determine each unknown side length.

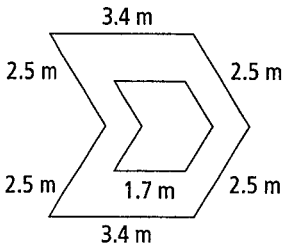
a)



b)



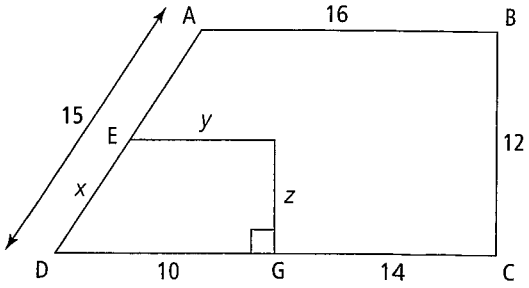
7. As part of an art project, Jamal made an outline of a shape with string. He wanted to create another shape inside the first one.



a) Calculate the unknown side lengths of the inside shape if it is similar to the outside shape.

b) What is the total length of string Jamal used for his art project?

8. Determine the value of the missing values to the nearest tenth. Show your thinking.



9. A pattern is cut showing the dimensions of a pair of similar trays. How much trim will you need to cover the outside edge of the larger tray? Justify your response.