1. State whether each scale is an example of a scale reduction or an enlargement. Explain how you know.

    a) 50 : 1   b) 1 : 50

2. Calculate the actual length given the scale and the length on a scale model.

    a) 2.5 cm on a 1 : 48 model   b) 48 mm on an 8 : 1 photograph

3. Given each of the following equations, find the value of "x":

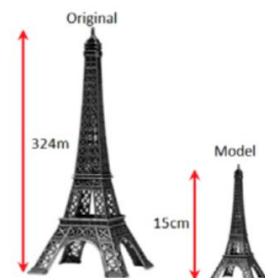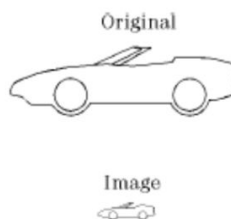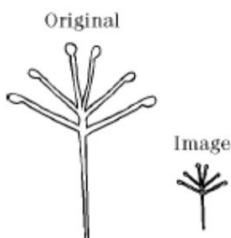| a) $\dfrac{3}{5} = \dfrac{x}{10}$	b) $\dfrac{2}{8} = \dfrac{x}{12}$	c) $\dfrac{7}{20} = \dfrac{x}{60}$	d) $\dfrac{12}{14} = \dfrac{x}{21}$
e) $\dfrac{4}{11} = \dfrac{2x}{33}$	f) $\dfrac{4}{15} = \dfrac{10}{x}$	g) $\dfrac{12}{x} = \dfrac{6}{10}$	h) $\dfrac{3}{5} = \dfrac{3x}{4}$

4. Given the following two shapes, use a ruler to determine the scale factor:

5. The average length of a BMW 325xi is about 4.85 meters long. A toy model of this car is reduced at a scale factor of 0.25. What is the length of the toy model.

6. The distance between Vancouver and Seattle is 226.5 km. The distance between the two cities on a map is about 2.3 cm apart. What is the scale factor of the map?

7. The scale factor of a map is 1: 200 000 000. If the distance between the two cities on a map is 5.5 cm, how far are they apart in the real world?
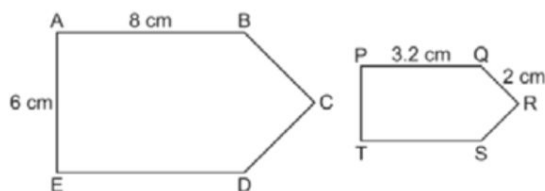
8. A little photograph measuring 10 cm by 15 cm is enlarged by a scale factor of 10.5. What is the area of the enlarged picture in cm²?

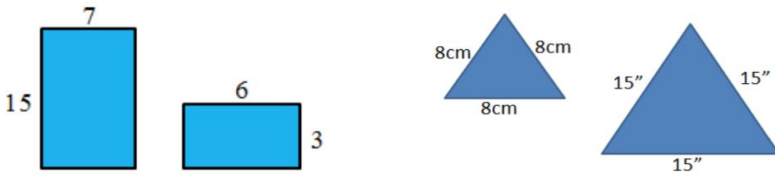9. Given that the following polygons are similar,

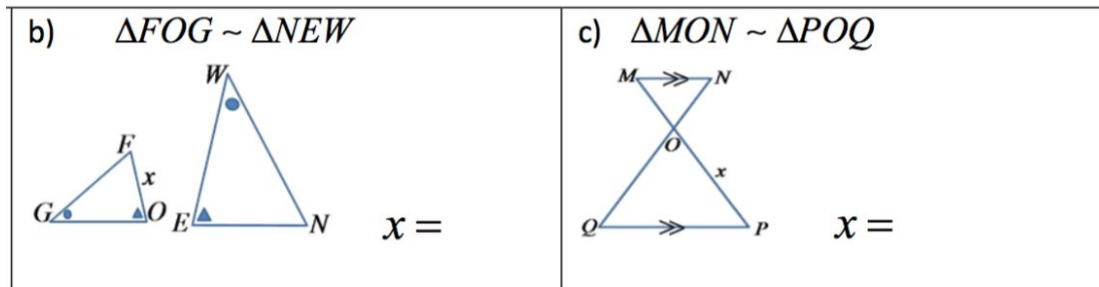   a) find the lengths of PT and DE.
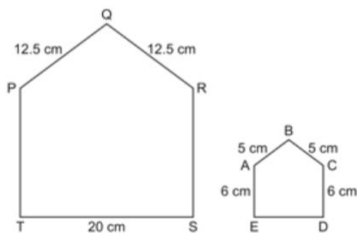
   b) Find the lengths of BC and PT:

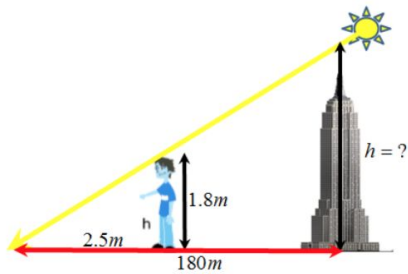10. Given the following set of shapes, indicate whether they are similar or not:

11. Given that each pair are similar triangles, indicate which side in the second triangle corresponds with side "x"?

b) $\Delta FOG \sim \Delta NEW$	c) $\Delta MON \sim \Delta POQ$
$x =$	$x =$

12. Naomi wants to calculate the height of a tree. She is 1.2 m tall and casts a shadow of 2.75 m. At the same time, the shadow of the tree is 10.5 m long. How tall is the tree?

13. Jason is 1.8 m tall and the sun casts a shadow of 2.5 m. A building nearby has a shadow 180 m long. Using similar triangles, how high is the building?

14. Solve for the value of "x"