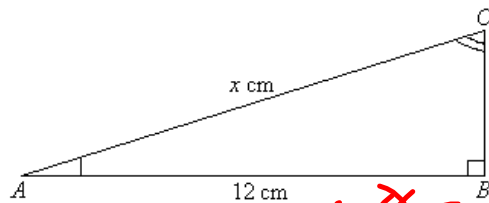
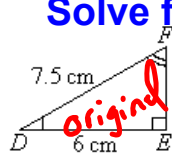


Warm-Up

- Are the triangles similar? How do you know?
- Solve for x



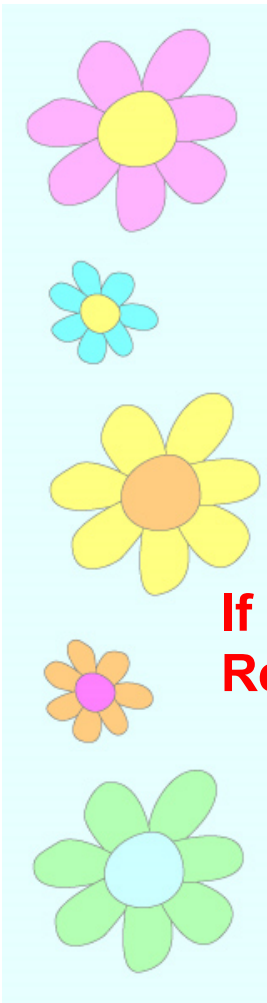
$$\frac{AC}{DF} = \frac{AB}{DE} \quad \cancel{7.5} \quad \cancel{x} = \frac{12}{6} \quad (7.5)$$

$$x = 15$$

If DFE is the original what is the scale factor?
Reduction or enlargement?

$$S.F. = \frac{\text{enlargement}}{\text{original}}$$

$$\frac{12}{6} = S.F. = 2$$



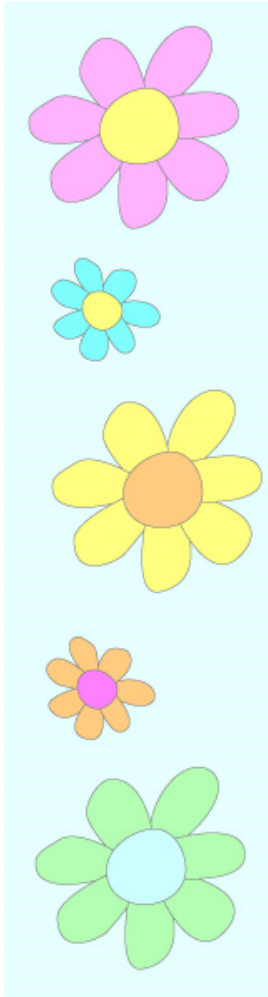
Find the distance across the river.

$$\frac{AB}{CD} = \frac{AC}{CE}$$

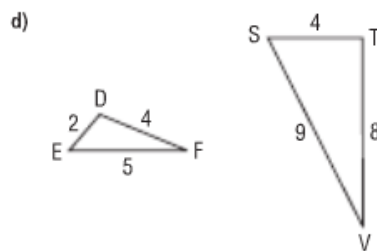
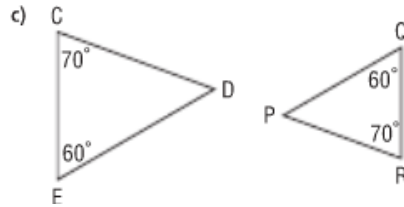
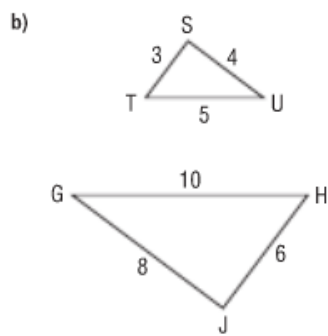
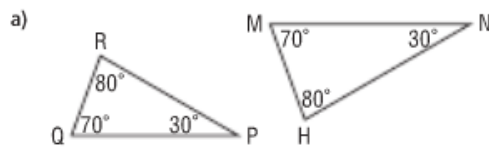
$$\frac{AB}{230} = \frac{305}{210}$$

$$AB = \frac{118450}{210}$$

$$AB = 564$$

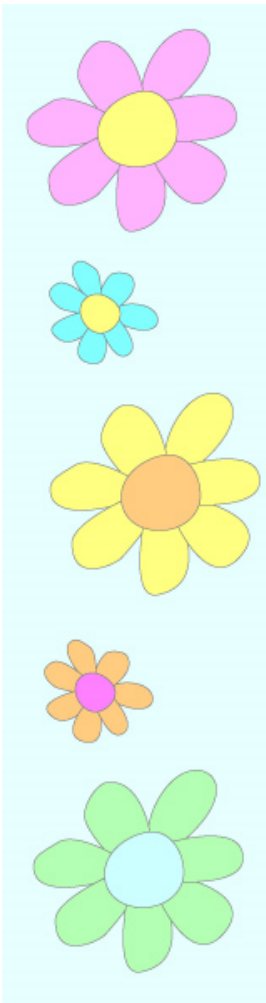


4. Which triangles in each pair are similar?
How do you know?

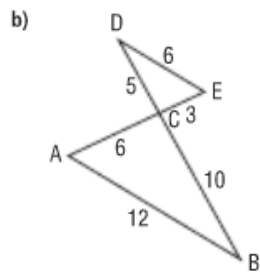
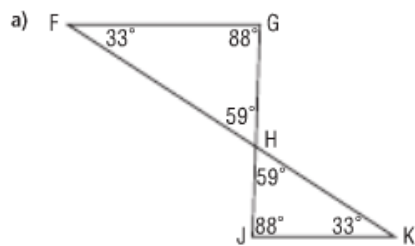


a) Similar; the corresponding angles are $\angle P = \angle N = 30^\circ$, $\angle Q = \angle M = 70^\circ$.

b) Similar; the corresponding sides are proportional.
 $\frac{ST}{JH} = \frac{3}{6} = \frac{1}{2}$, $\frac{TU}{HG} = \frac{4}{8} = \frac{1}{2}$, $\frac{SU}{GJ} = \frac{5}{10} = \frac{1}{2}$.
 So, $\frac{ST}{JH} = \frac{TU}{HG} = \frac{SU}{GJ}$.



5. In each diagram, identify two similar triangles. Explain why they are similar.



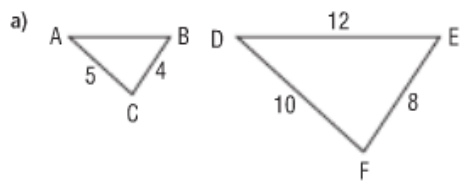
a) $\triangle HGF \sim \triangle HJK$; the corresponding angles are equal:
 $\angle H = \angle H = 59^\circ$, $\angle G = \angle J = 88^\circ$, $\angle F = \angle K = 33^\circ$

b) $\triangle CED \sim \triangle CAB$; the corresponding sides are proportional:

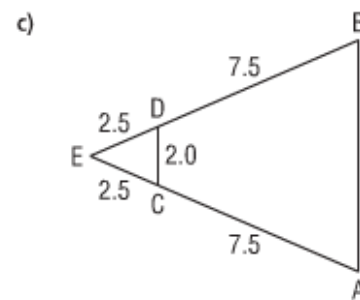
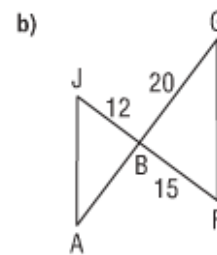
$$\frac{CE}{CA} = \frac{3}{6} = \frac{1}{2}, \frac{ED}{AB} = \frac{6}{12} = \frac{1}{2}, \frac{DC}{BC} = \frac{5}{10} = \frac{1}{2}$$

$$\text{So, } \frac{CE}{CA} = \frac{ED}{AB} = \frac{DC}{BC} = \frac{1}{2}$$

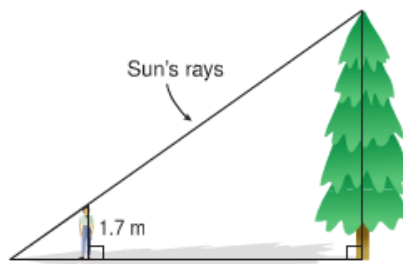
6. Determine the length of AB in each pair of similar triangles.



Short = med = long



9. Tina wants to estimate the heights of two trees. For each tree, she stands so that one end of her shadow coincides with one end of the shadow of the tree. Tina's friend measures the lengths of her shadow and the tree's shadow. Tina is 1.7 m tall.



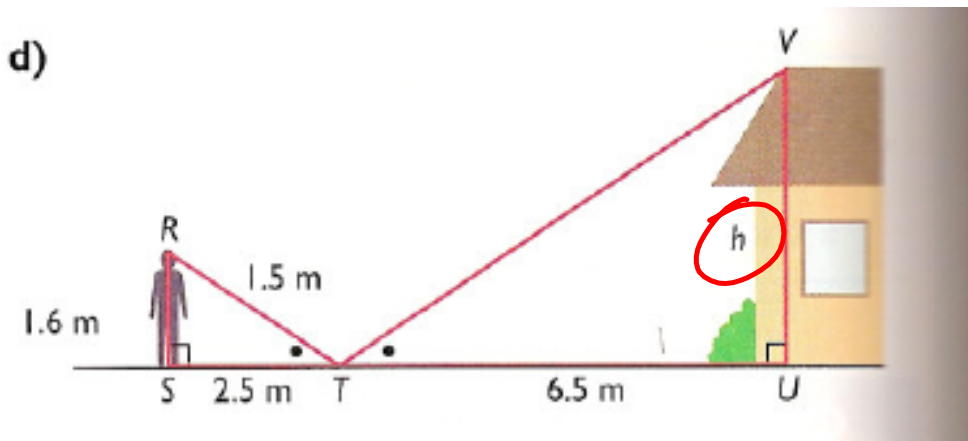
- a) Tina's shadow is 2.4 m and the first tree's shadow is 10.8 m. What is the height of the tree?
- b) Tina's shadow is 0.8 m and the second tree's shadow is 12.8 m. What is the height of the tree?

7.65 m

27.2 m

- 10.** When the shadow of a building is 16 m long, a 4-m fence post casts a shadow 3 m long.
- Sketch a diagram.
 - How tall is the building?

21.3 m

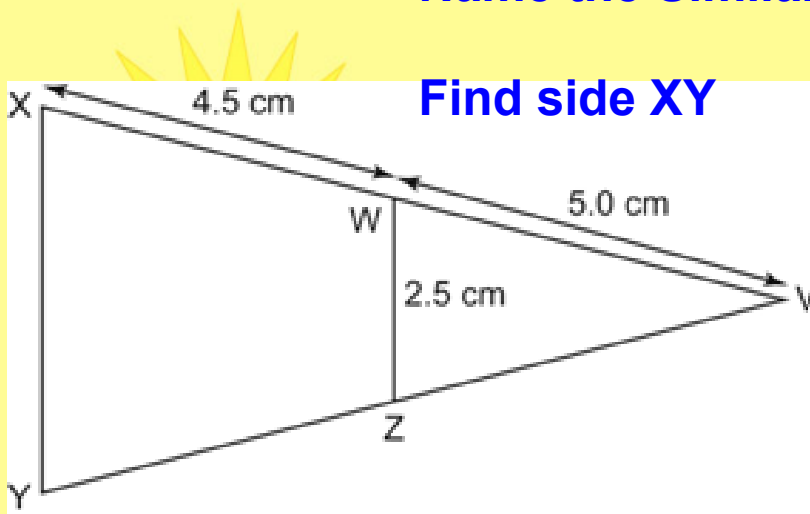


$$\frac{\text{height house} - \text{shadow house}}{\text{height person} - \text{shadow person}}$$

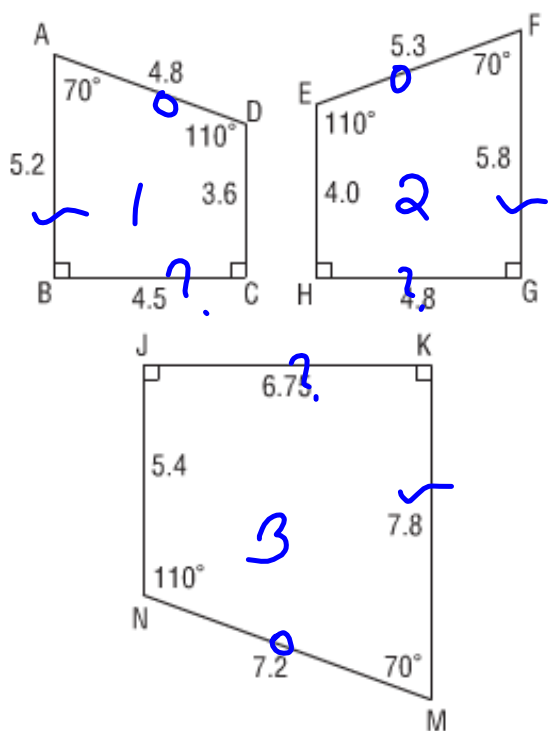
$$\frac{h}{1.6} = \frac{6.5}{2.5} (1.6)$$

$$h = 4.16$$

Name the Similar Triangles.



5. These quadrilaterals have corresponding angles equal.



$\frac{1}{2}$
 $\frac{1}{3}$
 $\frac{2}{3}$

0	✓	?
4.8		
5.3		

For the Quiz...

* Scale factor = $\frac{\text{reduction/enlargement}}{\text{original}}$

*New _____ = scale factor x original

*To prove polygons similar the following must be the same:

A. ratio of corresponding sides are equal

B. corresponding angles are equal

UNLESS A TRIANGLE ONLY NEED A OR B

Quiz Review Page 352 1, 5, 7 Worksheet
 Page 380 1, 2

40 min to complete the quiz...Review worksheet to practice and any questions covered in section 7.1-7.4

