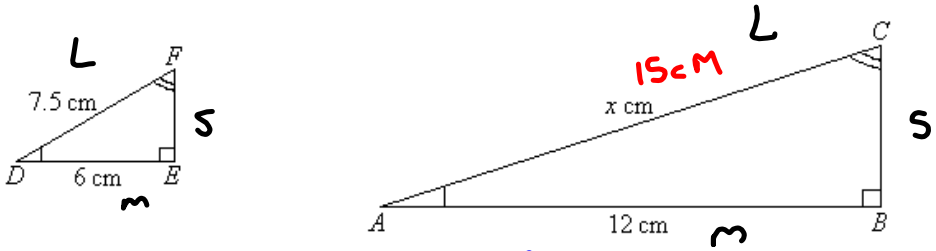
Warm-Up April 18, 2019

1. Are the triangles similar? How do you know?

[To prove triangles similar you look for 3 equal angles,named using 3 letter or the ratio of corresponding sides must be equal]



$\angle EDF = \angle BAC$

$\angle FED = \angle CBA$

$\angle DFE = \angle ACB$

$\triangle DEF \sim \triangle ABC$

2. Solve for side AC [x]

set up ratios

$\frac{DF}{AC} = \frac{FE}{CB} = \frac{DE}{AB}$

$\frac{7.5}{AC} = \frac{FE}{CB} = \frac{6}{12}$

solve AC

$\frac{7.5}{AC} = \frac{6}{12}$

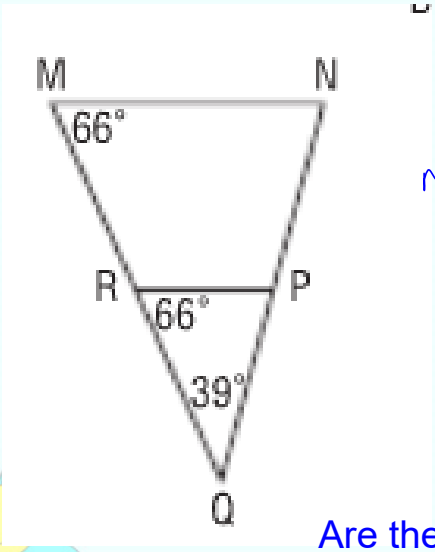
FLIP

$\frac{AC}{7.5} = \frac{12}{6}$

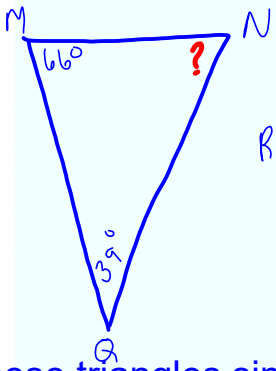
$AC = 15$

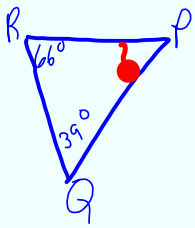
3. If $\triangle DFE$ is the original what is the scale factor? Reduction or enlargement?

$\frac{1}{2}$



Draw the two triangles separately!





66+39+_ =180

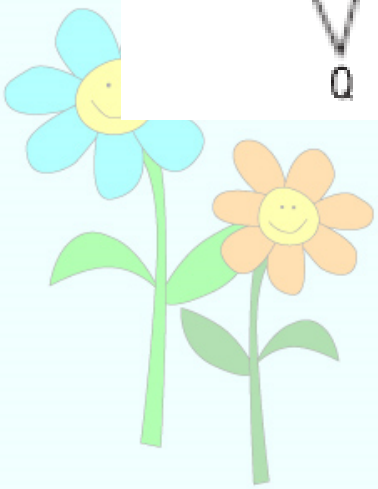
Are these triangles similar?write a similarity statement

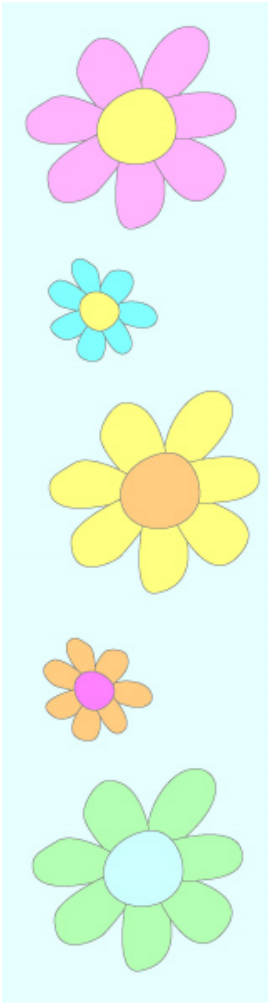
use letters?

Find the missing angle?

∠MNQ = 75°

∠RPQ

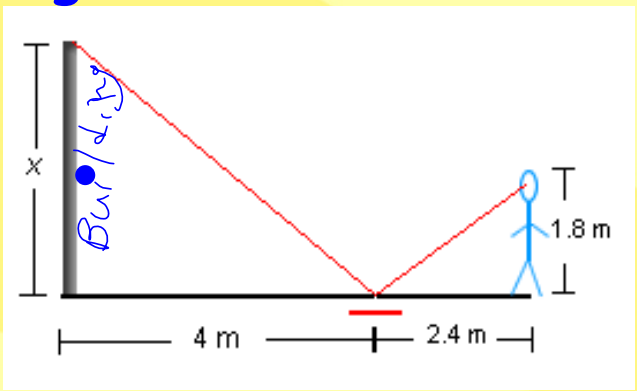




Using Similar Triangles to Solve Problems...

Solve for x...

Using shadows to find heights



$$\frac{\text{height of building}}{\text{height of person}} = \frac{\text{shadow of building}}{\text{shadow person}}$$

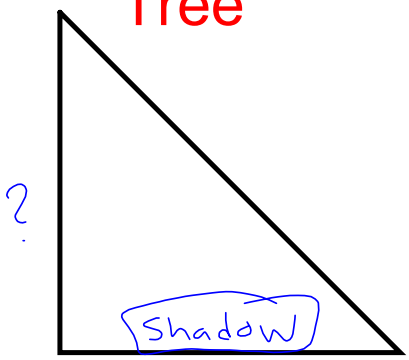
$$\frac{x}{1.8} = \frac{4}{2.4}(1.8)$$

$$x = \frac{7.2}{2.4}$$

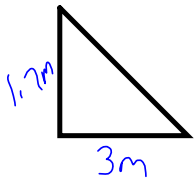
$$x = 3$$

George is 1.7 m tall. His shadow is 3 m long. He is standing beside a tree that has a shadow that is 8 m long. How tall is the tree? [Draw a diagram]

Tree



George



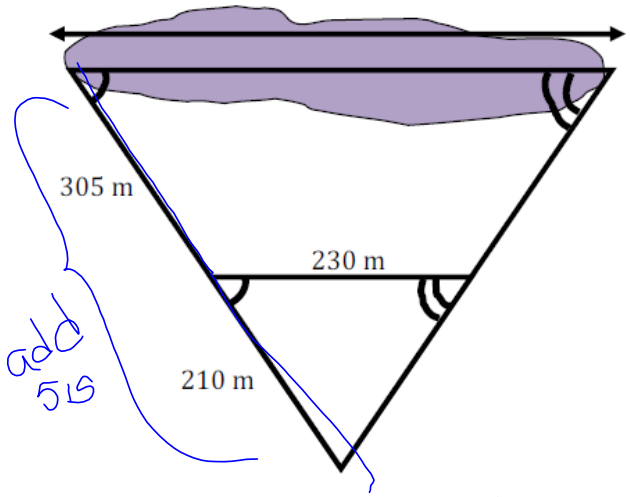
$$\frac{\text{height tree}}{\text{height person}} = \frac{\text{shadow tree}}{\text{shadow George}}$$

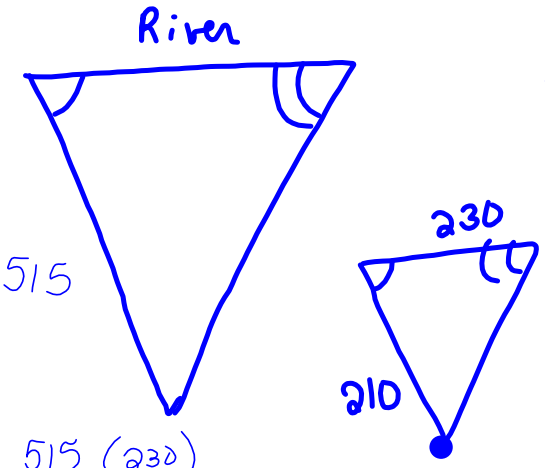
$$\frac{? }{1.7} = \frac{8}{3}$$

$$(1.7)$$

$$? = 4.5\text{m}$$

Find the distance across the river.





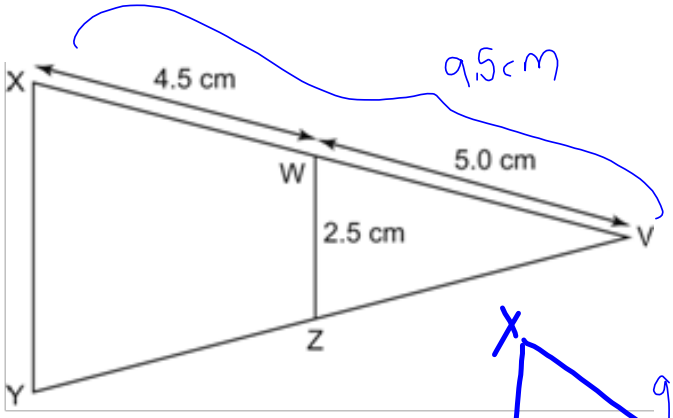
$\frac{(230)\ river}{230} = \frac{515\ (230)}{210}$

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

river: 564 m

Name the Similar Triangles.

Find side XY



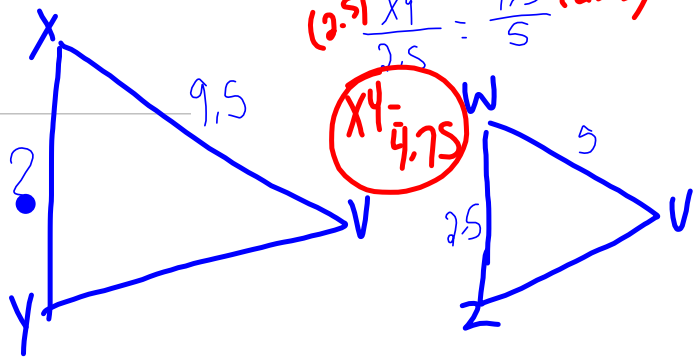
9.5cm

Ratio of corresponding sides!

$\frac{XY}{W2} = \frac{XV}{WV}$

$\frac{XY}{2.5} = \frac{9.5}{5}$ (2.5) (2.5)

XY = 4.75



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4. Name the triangles then list corresponding angles/sides...if not all corresponding then not similar. [make sure when naming keep short side, medium and long in the right order!!!]

5. Name the triangle...list corresponding angles...when naming keep long, medium and short sides in the right order!!!

6. Name the triangles then write the ratios then solve!!!

7. Sketch your diagram, write the ratios then solve!!!

9. Sketch two separate diagrams then solve.

10. Sketch then solve

11. Sketch two triangles separately then solve.

12. Sketch then solve.

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