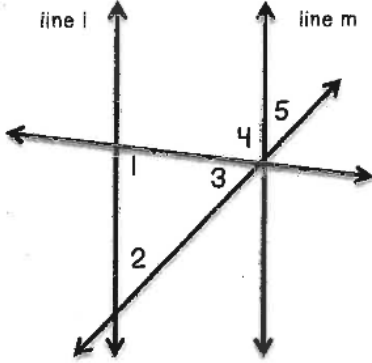


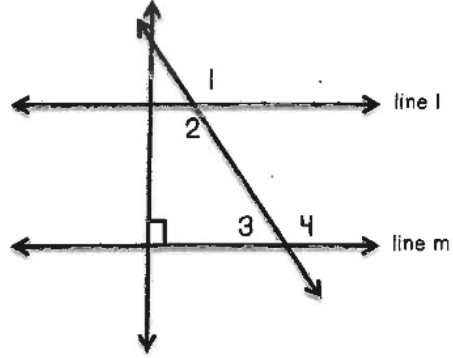
Pd ___ (7) (3)

Show that $\angle 1 + \angle 2 + \angle 3 = 180^\circ$, if line l and m are parallel but by two transversals.



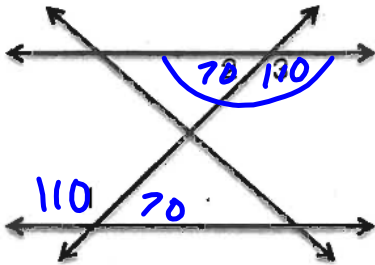
ite Pd ___ (7) (3)

2. Given that $m\angle 1$ is 130° . Line l & m are parallel, find the measure of angle 3.



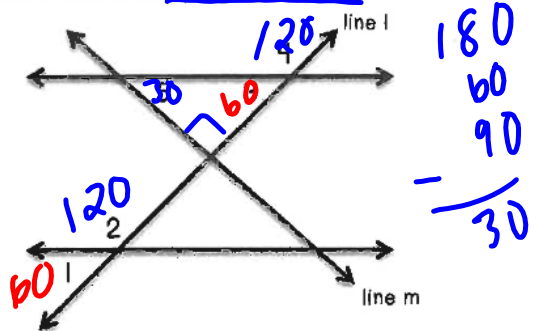
Pd ___ (7) (4)

Find the measure of angle 1, if $m\angle 2$ is 70° .



ite Pd ___ (7) (6)

2. Find the measure of angle 5, if $m\angle 2$ is 120° and line l and m are perpendicular.



Name _____ Date _____ Pd ____ 34

1. Solve, then answer the questions below.

a. $4x - 8 = 6x + 3$

b. How many solutions does this equation have?

2. Solve, then answer the questions below.

a. $\frac{1}{3}(-6x - 9) = -3x - 15 - 2x$

b. How many solutions does this equation have?

Name _____ Date _____ Pd ____ 40

1. Solve, then answer the questions below.

a. $-3x - 11 - 4x = -\frac{3}{4}(8 + 16x)$

b. How many solutions does this equation have?

2. Solve, then answer the questions below.

a. twice a number minus seven is eight greater than three times a number

b. How many solutions does this equation have?

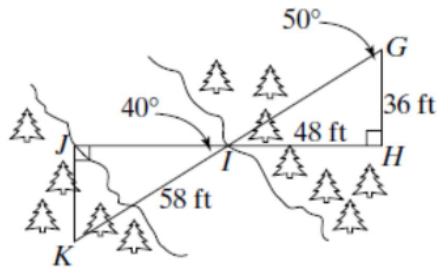
Name: _____

Class: _____

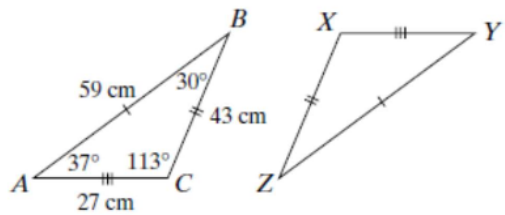
M8-U2: HW #5 – Similarity (proportionality)

Date: _____

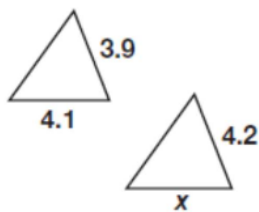
- #1. A surveyor drew the diagram at the right to find the distance from J to I across the canyon. $\triangle GHI \cong \triangle KJI$. What is the distance \overline{JI} ?



- #2. Find the missing measures for $\triangle XYZ$.

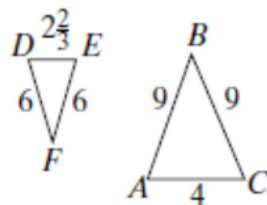


- #3. Each pair of figures is similar. Find the length of x .

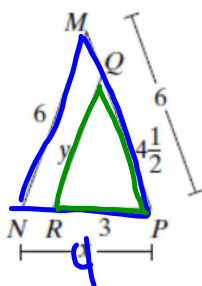


- #4. $\triangle ABC$ is similar to $\triangle XYZ$. The length AB is 10. The length BC is 7. Find the length XY if the length YZ is 14.

- #5. Tell whether the pair of polygons is similar. Explain why or why not.



- #6. The following figures are similar polygons. Find the unknown lengths.



$$\frac{\text{Big}}{\text{little}} = \frac{x}{3} \quad \cancel{\frac{6}{4.5}}$$

$$\frac{18}{4.5} = \frac{4.5x}{4.5}$$

$$4 = x$$

$$\frac{\text{Big}}{\text{little}} = \frac{6}{y} \quad \cancel{\frac{6}{4.5}}$$

$$\frac{27}{6} = \frac{6y}{6}$$

$$4.5 = y$$

Spiral:

#7. Solve the following proportion: $\frac{x-3}{5} = \frac{x+2}{4}$.

#8. Simplify the following: $4 \times \left(\frac{1}{3} - \frac{2}{3}\right)^2 \div \left(\frac{5}{9}\right)$

Let x be # of hours

#9. Kaitlin earns \$6.50 for each hour she works. On Friday she worked for 3 hours. She also worked on Saturday. If she earned a total of \$52.00 for the two days of work, how many hours did she work on Saturday?

$$\begin{array}{r}
 6.50 \\
 \times \quad 3 \\
 \hline
 19.50
 \end{array}
 + 6.50x = 52$$

$$\begin{array}{r}
 19.50 \\
 - 19.50 \\
 \hline
 6.50x = 32.50
 \end{array}$$

$$\begin{array}{r}
 6.50x = 32.50 \\
 \hline
 6.50 \quad 6.50
 \end{array}$$

$$\textcircled{x = 5}$$

Name: _____

Class: _____

M8-U2: Notes #6 – Similarity (angles)

Date: _____

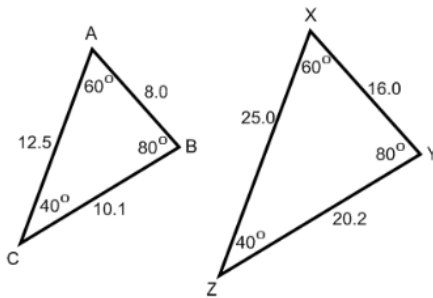
Warm-Up: Similar Figures

a. Two triangles that are similar have 3 equal angles.

AND

b. Corresponding sides are in proportion.

$\Delta ABC \sim \Delta XYZ$



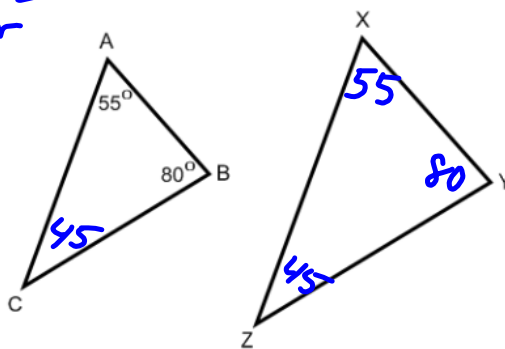
$\angle A \cong \angle X$
 $\angle B \cong \angle Y$
 $\angle C \cong \angle Z$

$\frac{AB}{XY} = \frac{BC}{YZ} = \frac{8.0}{20.2} = \frac{10.1}{16}$

Example 1: Stating that 2 Triangles are Similar

$\Delta ABC \sim \Delta XYZ$, Determine all of the angles in each triangle.

similar



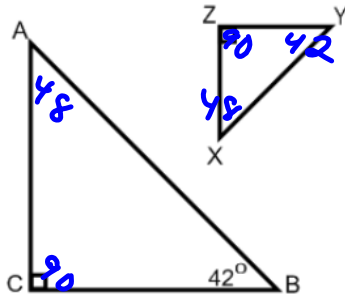
$$\begin{array}{r} 180 \\ - 55 \\ - 80 \\ \hline \end{array}$$

* If 2 pairs of angles are \cong the 3rd must also be \cong

Try It!

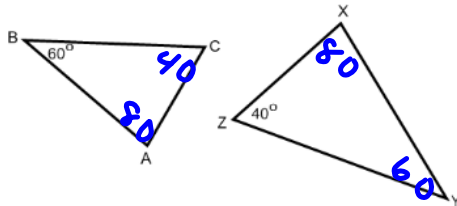
a. $\triangle ABC \sim \triangle XYZ$, Determine all of the angles in each triangle.

$$\begin{array}{r} 180 \\ 90 \\ - 42 \\ \hline \end{array}$$



b. $\triangle ABC \sim \triangle XYZ$

$$\begin{array}{r} 180 \\ 60 \\ - 40 \\ \hline 80 \end{array}$$

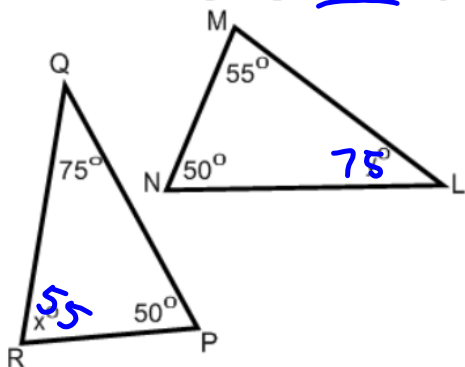


$$\begin{array}{l} m\angle XYZ = \underline{60} \\ m\angle BCA = \underline{40} \\ m\angle CAB = \underline{80} \end{array}$$

Example 2: Determining Similarity

Are the following triangles similar? Explain.

$$\begin{array}{r} 180 \\ 75 \\ - 50 \\ \hline 55 \end{array}$$



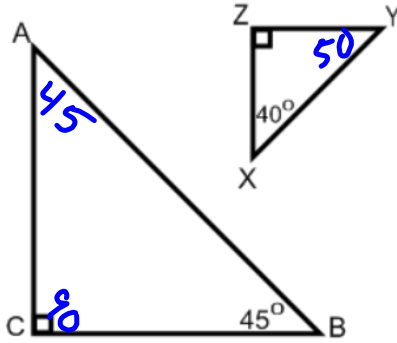
$$\begin{array}{r} 180 \\ 55 \\ - 50 \\ \hline 75 \end{array}$$

Yes the Δ s are \sim b/c corresponding angles are \cong

Try It!

a. Are the following triangles similar? Explain.

$$\begin{array}{r} 180 \\ 90 \\ 45 \\ \hline 45 \end{array}$$

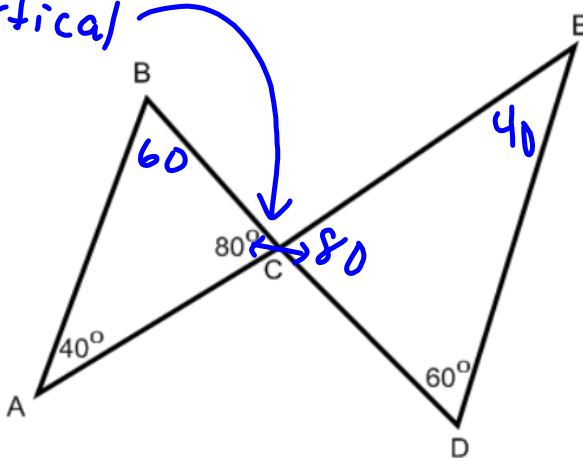


$$\begin{array}{r} 180 \\ 90 \\ - 40 \\ \hline 50 \end{array}$$

No the Ds are not ~ b/c only one pair of angles are \cong

b. Are the following triangles similar? Explain.

* All vertical angles are \cong



$$\begin{array}{r} 180 \\ 40 \\ - 80 \\ \hline 60 \end{array}$$

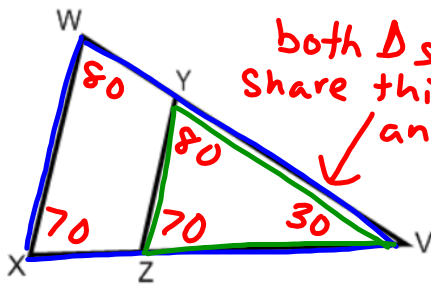
$$\begin{array}{r} 180 \\ 80 \\ - 60 \\ \hline 40 \end{array}$$

Yes the Ds are ~ b/c corresponding angles are \cong

Example 3:

In the diagram $m\angle WXV$ and $m\angle YZV = 70^\circ$ and $m\angle WVX = 30^\circ$.
 Are $\triangle WXV$ and $\triangle YZV$ similar? Explain.

$$\begin{array}{r} 180 \\ - 70 \\ - 30 \\ \hline 80 \end{array}$$



both Δ s share this angle
 Yes the Δ s are \sim b/c corresponding angles are \cong

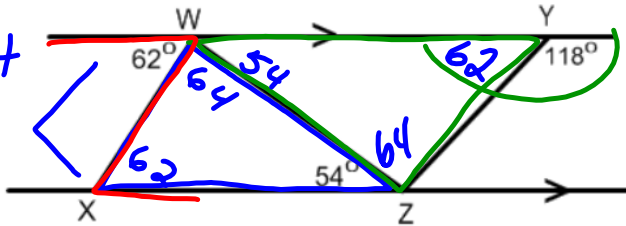
$$\begin{array}{r} 180 \\ - 62 \\ - 54 \\ \hline 64 \end{array}$$

Example 4:

Are $\triangle XWZ$ and $\triangle YZW$ similar? Explain.

$$\begin{array}{r} 180 \\ - 118 \\ \hline 62 \end{array}$$

Alt int
 So \cong



Yes Δ s are \sim b/c corresponding angles are \cong

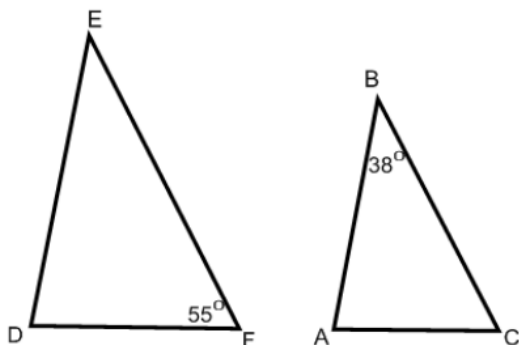
Name: _____

Class: _____

M8-U2: HW #6 – Similarity (angles)

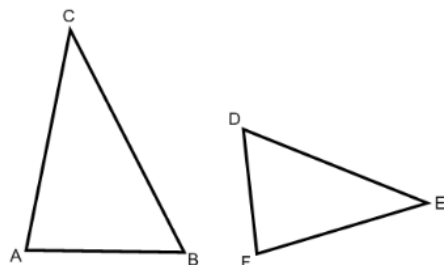
Date: _____

1. $\triangle DEF \sim \triangle ABC$, Determine all of the angles in each triangle.

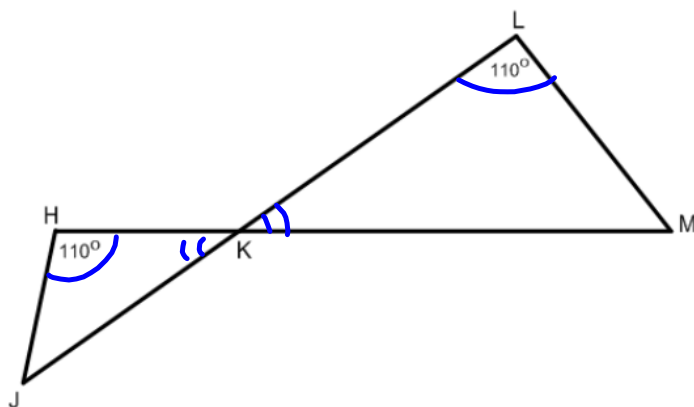


2. The $m\angle ABC = 68^\circ$, $m\angle ACB = 47^\circ$, $m\angle DEF = 47^\circ$, $m\angle EFD = 59^\circ$.

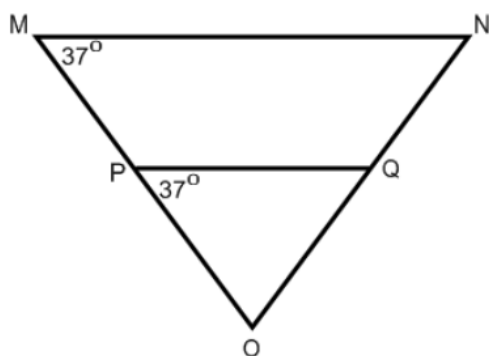
Are the following triangles similar? Explain.



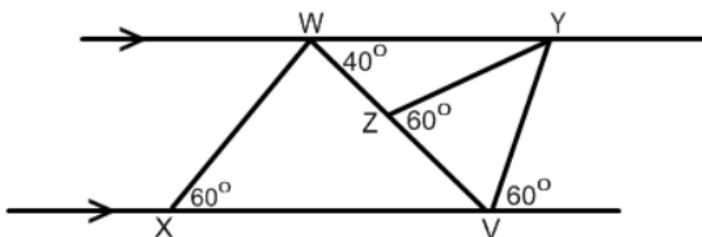
3. Are the following triangles similar? Explain.



4. Are the following triangles similar? Explain.

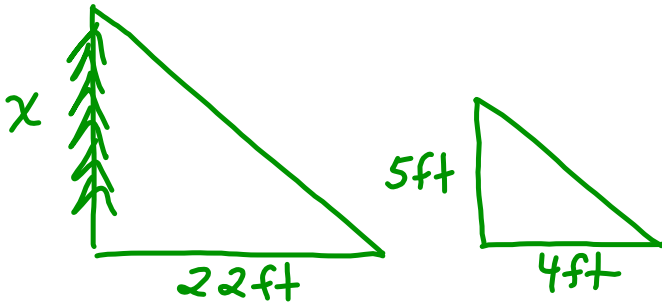


5. Are any triangles in the diagram below similar? Explain.



Spiral:

6. Angie is using similar triangles to find the height of a tree. A stick that is 5 ft tall casts a shadow that is 4 ft long. The tree casts a shadow that is 22 ft long. How tall is the tree?



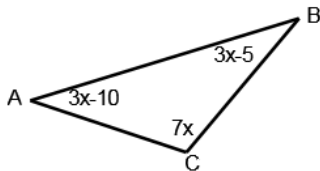
$$\frac{\text{Big}}{\text{little}} = \frac{x}{5} = \frac{22}{4}$$

$$\frac{110}{4} = \frac{4x}{4}$$

$$27.5 = x$$

$$\boxed{27.5\text{ ft}}$$

7. Find the value of x . What is the $m\angle CBA$?



8. In isosceles $\triangle ABC$, the measure of the vertex angle C is 30 degrees more than the measure of each base angle. Find the number of degrees in each angle of the triangle.