Unit 3 Review

Name: _____ Date: _____ Hour: _____

Triangle Construction:

1.) Construct the following triangles based on the given information:

a.) Draw and label triangle ABC with m<A = 45°, m<B = 60° and $\overline{AB}$ = 5cm

b.) Draw and label triangle DEF with m<D = 75°, m<E = 45° and $\overline{DE}$ = 5cm

c.) Draw and label triangle XZY with m<X = 45°, m<Y = 45° and $\overline{XY}$ = 5cm

2.) Are any of the above constructed triangles congruent? If yes, state the postulate that supports your answer. If no, explain why not.

3.) Can the following lengths make a triangle? Show your work!

a.) 10m, 6m, 5m

b.) 8cm, 3cm, 5cm

c.) 12yd, 12yd, 11yd

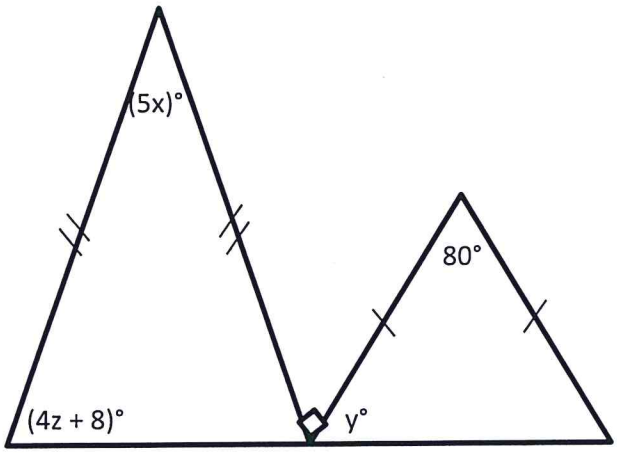
4.) What are the possible lengths for the third side of a triangle using the two given lengths? Write your answer as an inequality.

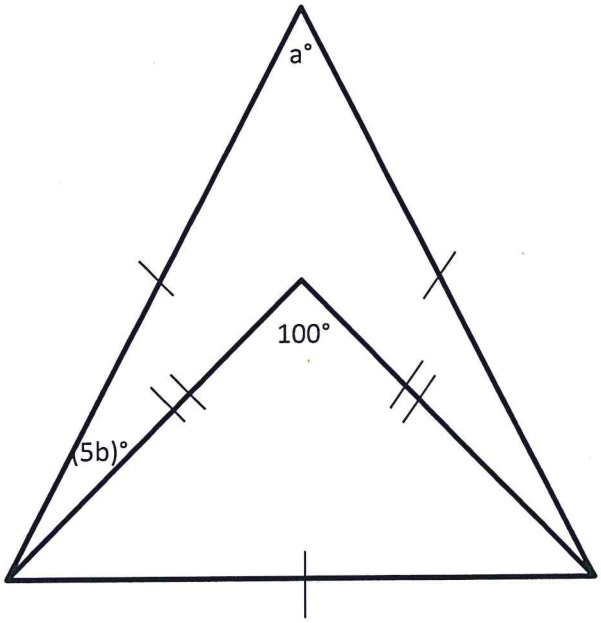
a.) 7cm, 15cm

b.) 3ft, 10ft

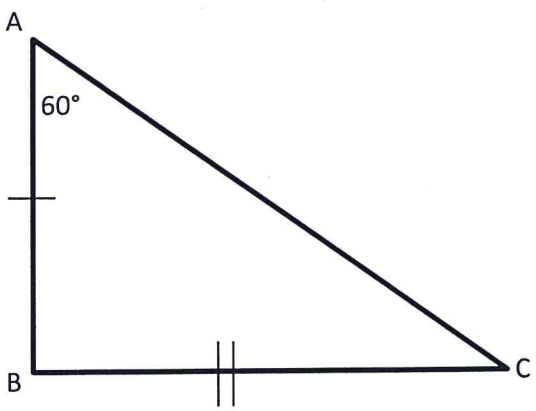
c.) 2m, 8m

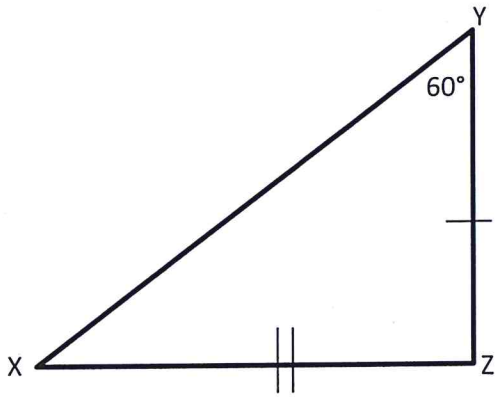
5.) Solve for each variable and find the measures of the angles of each triangle. Then classify each triangle by its angles. (Diagrams may not be drawn to scale)





6.) List all possible congruency statements for the two triangles. You can assume the triangles are congruent.



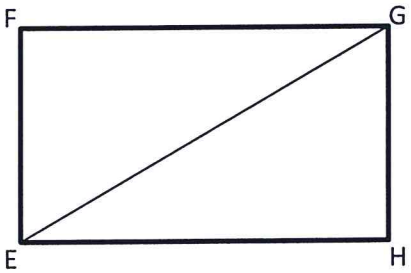


7.) **Given:** $\overline{GF} \perp \overline{EF}$

$\overline{EH} \perp \overline{GH}$

$\overline{EF} \cong \overline{GH}$

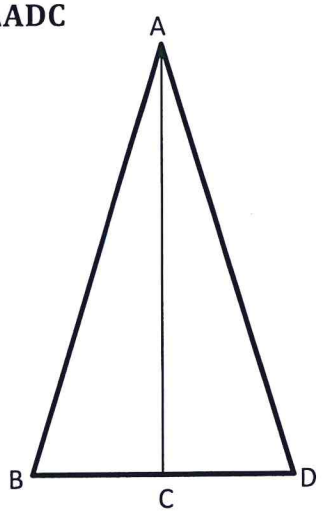
Prove: $\Delta FGE \cong \Delta HEG$



8.) **Given:** $\overline{AC} \perp \overline{BD}$

C is the midpoint of $\overline{BD}$

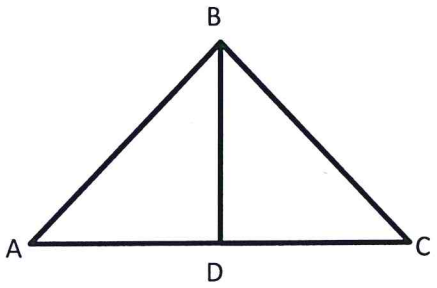
Prove: $\Delta ABC \cong \Delta ADC$



9.) **Given:** $\overline{AB} \cong \overline{CB}$

D is the midpoint of $\overline{AC}$

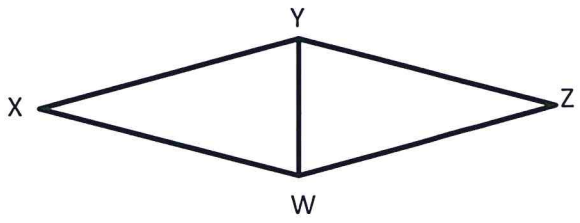
Prove: $\Delta ABD \cong \Delta CBD$



10.) **Given:** $\angle X \cong \angle Z$

$\overline{WY}$ **bisects** $\angle XYZ$

Prove: $\Delta WXY \cong \Delta WZY$



11.) **Given:** $\angle R \cong \angle P$

$\overline{RL} \cong \overline{PL}$

Prove: $\Delta RLS \cong \Delta PLT$