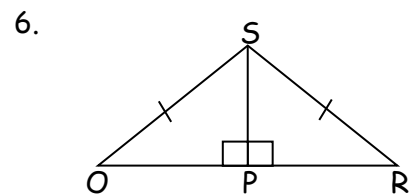
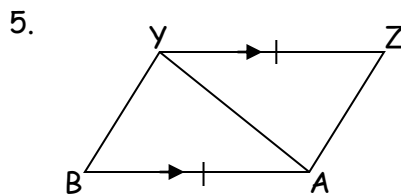
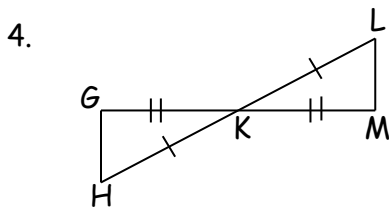
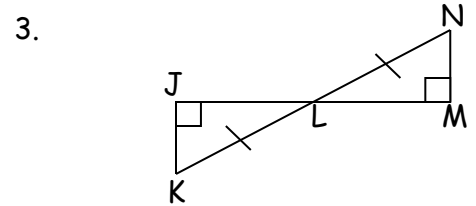
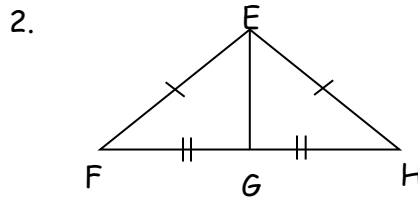
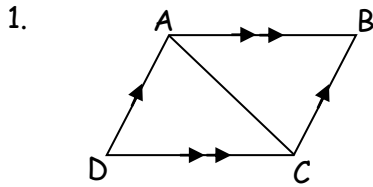


7.3-7.7: EVALUATE HW - Triangle Congruence
Pre-AP Geometry

Name _____
Period _____ Date _____

Directions: You MUST show all work to receive full credit. Figures are NOT drawn to scale.

Determine how the triangles are congruent and write a triangle congruency statement.



Determine what additional information is needed to enable you to use the indicated method to prove that $\triangle ABC \cong \triangle DEF$?

7. $\angle A \cong \angle D$, $\overline{AC} \cong \overline{DF}$; ASA Congruence

8. $\angle E \cong \angle B$, $\overline{AB} \cong \overline{DE}$; SAS Congruence

Draw a picture for each problem and then answer each question.

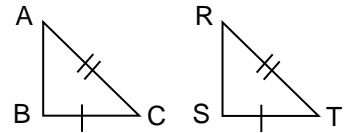
9. To prove the two triangles congruent by HL, what additional information must be known?

a. $\angle A \cong \angle R$

b. $\angle T \cong \angle A$

c. $\overline{AB} \cong \overline{BC}$

d. $\triangle ABC$ and $\triangle RST$ are right \triangle s



10. Consider $\triangle RST$ and $\triangle UVW$, where $\angle R \cong \angle U$, $m\angle R = (2x + 20)^\circ$, $m\angle U = (x + 50)^\circ$, $RS = 2x + 10$, $UV = 3x - 20$, $RT = x + 6$ and $UW = 2x - 24$.

a. Determine the value of x .

b. Determine the measures of the given sides and angles.

For each of the following problems, draw and label a figure to show the congruent triangles.

11. If $\triangle CAT \cong \triangle DOG$, $CA = 4x - y$, $CT = 3y - 2$, $DO = 2x + 2$ and $DG = x + 2y$, find the value of x and y .

12. If $\triangle JKL \cong \triangle ABC$, $m\angle J = (x^2 - 2x)^\circ$, $m\angle B = (x + 29)^\circ$, and $m\angle C = (3x + 52)^\circ$, find the value of x .