

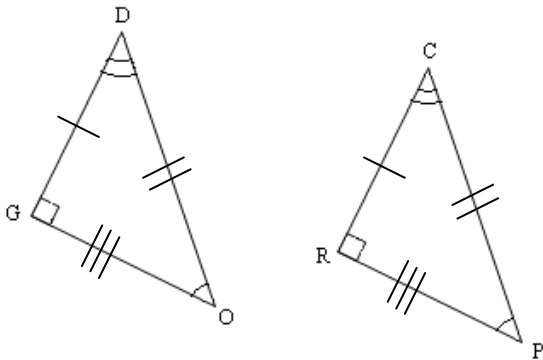
Name: \_\_\_\_\_ Per: \_\_\_\_\_ Date: \_\_\_\_\_  
 Serafino • Geometry

# 4A Triangle Congruence

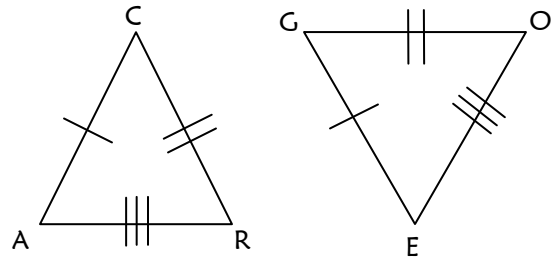
Classwork / Homework

## I. Name the congruent triangles.

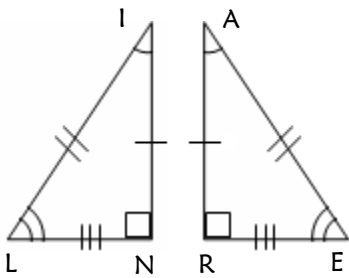
1.  $\triangle OGD \cong \triangle$  \_\_\_\_\_



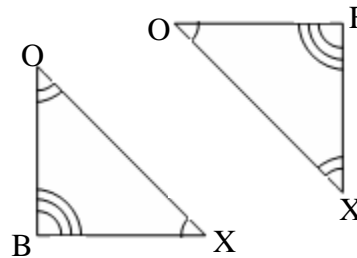
2.  $\triangle RAC \cong \triangle$  \_\_\_\_\_



3.  $\triangle LIN \cong \triangle$  \_\_\_\_\_



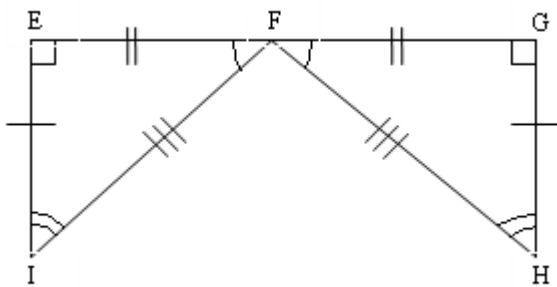
4.  $\triangle FOX \cong \triangle$  \_\_\_\_\_



*\*Hey! Why are there two Os and Xs?*

## II. Name the congruent triangle and the congruent parts.

7.



$\triangle FGH \cong \triangle$  \_\_\_\_\_

$\angle EFI \cong \angle$  \_\_\_\_\_

$\overline{FG} \cong$  \_\_\_\_\_

$\angle G \cong \angle$  \_\_\_\_\_

$\overline{GH} \cong$  \_\_\_\_\_

$\angle H \cong \angle$  \_\_\_\_\_

$\overline{FH} \cong$  \_\_\_\_\_

8.  $\triangle EFI \cong \triangle HGI$

$\angle E \cong \angle$  \_\_\_\_\_

$\overline{FE} \cong$  \_\_\_\_\_

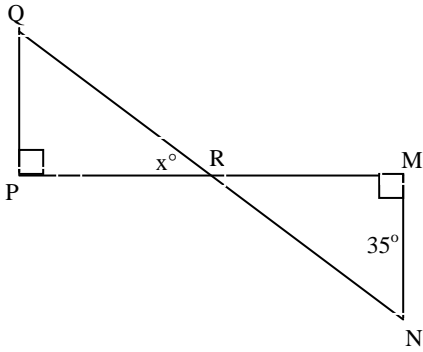
$\angle EFI \cong \angle$  \_\_\_\_\_

$\overline{FI} \cong$  \_\_\_\_\_

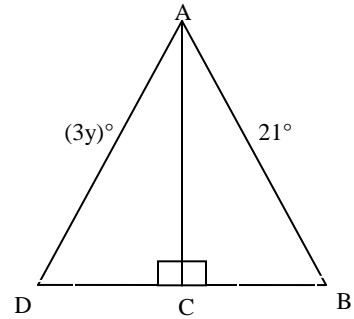
$\angle FIE \cong \angle$  \_\_\_\_\_

$\overline{IE} \cong$  \_\_\_\_\_

9.  $\triangle PQR \cong \triangle MNR$ . Find  $x$ .



10.  $\triangle ABC \cong \triangle ADC$ . Find  $y$ .



11. Prove the triangle congruent by showing **all three sides** and **all three angles** are congruent.

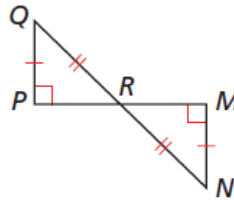
**Proving Triangles Congruent**

Given:  $\angle P$  and  $\angle M$  are right angles.

$R$  is the midpoint of  $\overline{PM}$ .

$\overline{PQ} \cong \overline{MN}$ ,  $\overline{QR} \cong \overline{NR}$

Prove:  $\triangle PQR \cong \triangle MNR$

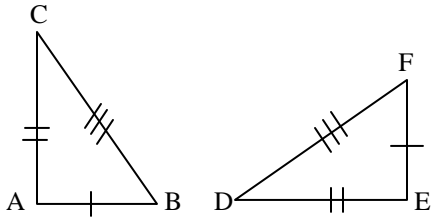


There MUST be an easier way!!

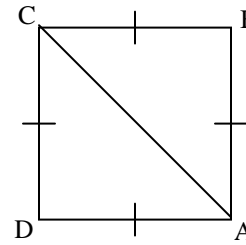
The Five Congruence Postulates:

For each pair of triangles, tell which postulates, if any, make the triangles congruent.

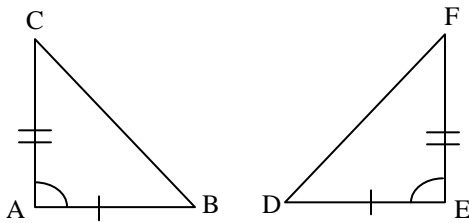
12.  $\triangle ABC \cong \triangle EFD$  \_\_\_\_\_



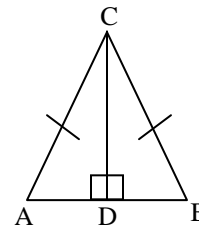
13.  $\triangle ABC \cong \triangle CDA$  \_\_\_\_\_



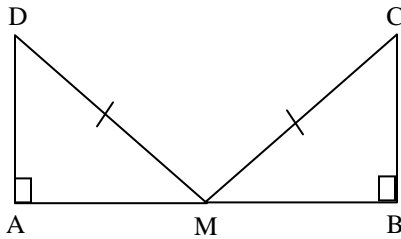
14.  $\triangle ABC \cong \triangle EFD$  \_\_\_\_\_



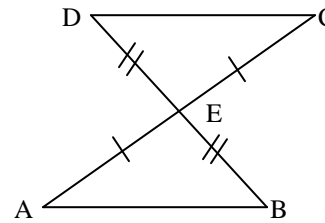
15.  $\triangle ADC \cong \triangle BDC$  \_\_\_\_\_



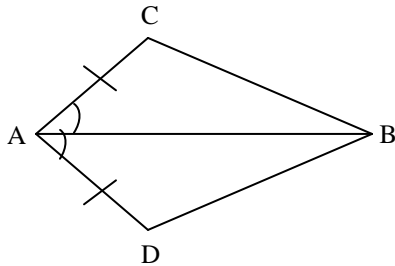
16.  $\triangle MAD \cong \triangle MBC$  \_\_\_\_\_



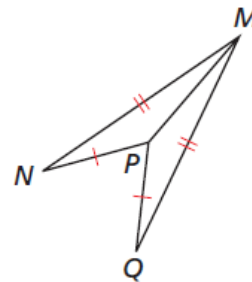
17.  $\triangle ABE \cong \triangle CDE$  \_\_\_\_\_



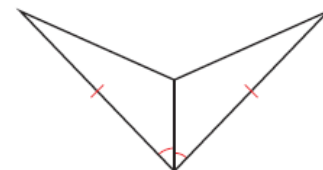
18.  $\triangle ACB \cong \triangle ADB$  \_\_\_\_\_



19.  $\triangle MNP \cong \triangle MQP$  \_\_\_\_\_

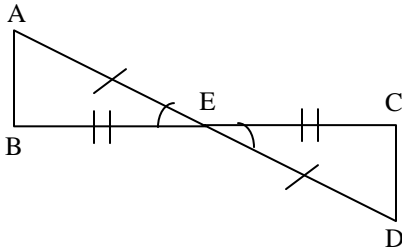


20. Name the triangles!  
 \_\_\_\_\_  
 \_\_\_\_\_

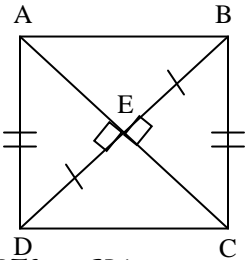


1. For each pair of triangles, tell which postulate, if any, can be used to prove the triangles congruent.

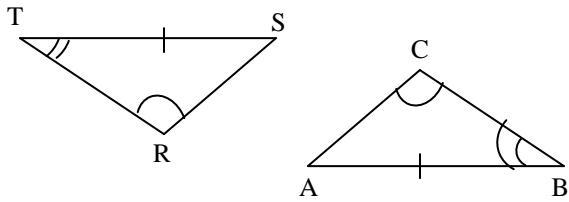
1.  $\triangle AEB \cong \triangle DEC$  \_\_\_\_\_



3.  $\triangle DEA \cong \triangle BEC$  \_\_\_\_\_

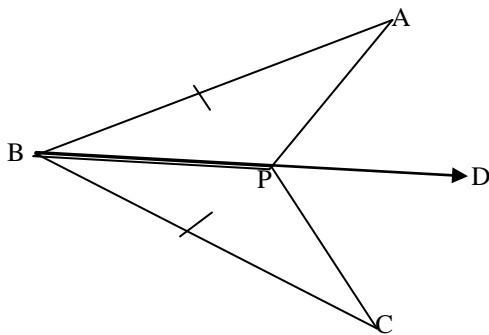


5.  $\triangle RTS \cong \triangle CBA$  \_\_\_\_\_

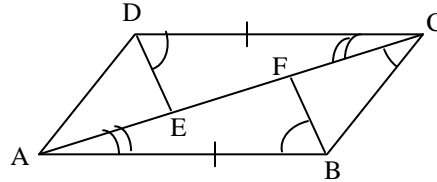


7.  $\triangle BAP \cong \triangle BCP$  \_\_\_\_\_

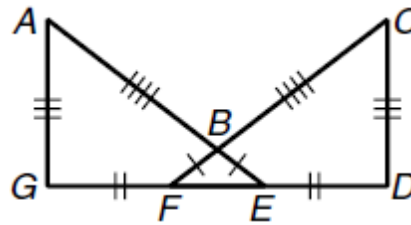
Given:  $\overrightarrow{BD}$  bisects  $\angle ABC$



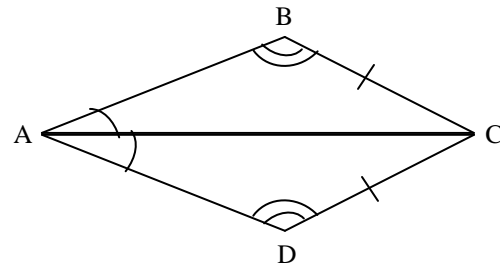
2.  $\triangle CDE \cong \triangle ABF$  \_\_\_\_\_



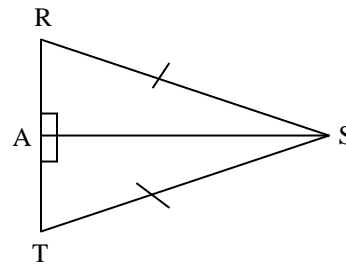
4.  $\triangle AGE \cong \triangle CDF$  \_\_\_\_\_



6.  $\triangle ABC \cong \triangle ADC$  \_\_\_\_\_

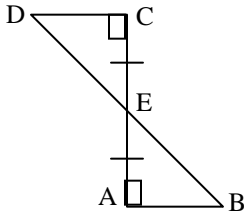


8.  $\triangle SAT \cong \triangle SAR$  \_\_\_\_\_



II. For each pair of triangles, tell: (a) Are they congruent (b) Write the triangle congruency statement. (c) Give the postulate that makes them congruent.

1.

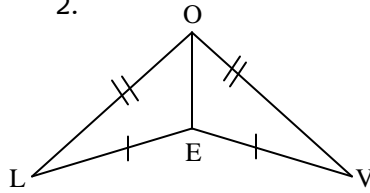


Postulate: \_\_\_\_\_

Cannot be determined

$\Delta$  \_\_\_\_\_  $\cong$   $\Delta$  \_\_\_\_\_

2.

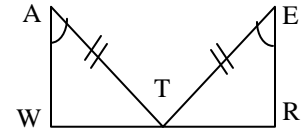


Postulate: \_\_\_\_\_

Cannot be determined

$\Delta$  \_\_\_\_\_  $\cong$   $\Delta$  \_\_\_\_\_

3. Given: T is the midpoint of  $\overline{WR}$

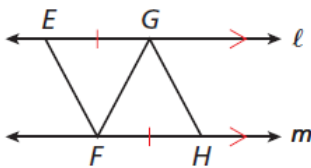


Postulate: \_\_\_\_\_

Cannot be determined

$\Delta$  \_\_\_\_\_  $\cong$   $\Delta$  \_\_\_\_\_

4.

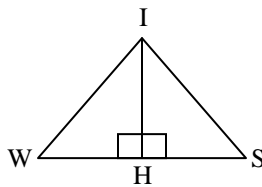


Postulate: \_\_\_\_\_

Cannot be determined

$\Delta$  \_\_\_\_\_  $\cong$   $\Delta$  \_\_\_\_\_

5. Given:  $\overrightarrow{IH}$  Bisects  $\angle WIS$

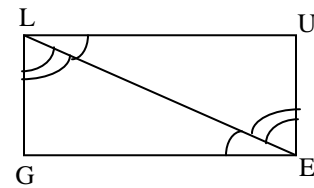


Postulate: \_\_\_\_\_

Cannot be determined

$\Delta$  \_\_\_\_\_  $\cong$   $\Delta$  \_\_\_\_\_

6.

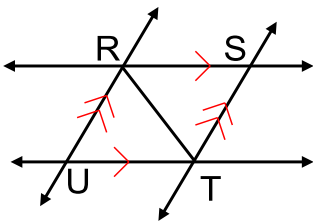


Postulate: \_\_\_\_\_

Cannot be determined

$\Delta$  \_\_\_\_\_  $\cong$   $\Delta$  \_\_\_\_\_

7.

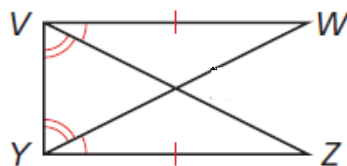


Postulate: \_\_\_\_\_

Cannot be determined

$\Delta$  \_\_\_\_\_  $\cong$   $\Delta$  \_\_\_\_\_

8.

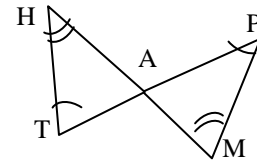


Postulate: \_\_\_\_\_

Cannot be determined

$\Delta$  \_\_\_\_\_  $\cong$   $\Delta$  \_\_\_\_\_

9.

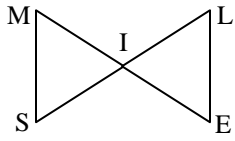


Postulate: \_\_\_\_\_

Cannot be determined

$\Delta$  \_\_\_\_\_  $\cong$   $\Delta$  \_\_\_\_\_

10. Given: I is the midpoint  
of  $\overline{ME}$  and  $\overline{SL}$

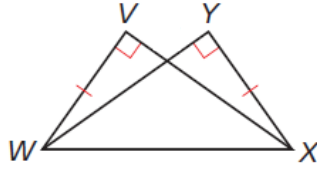


Postulate: \_\_\_\_\_

Cannot be determined

$\Delta$  \_\_\_\_\_  $\cong$   $\Delta$  \_\_\_\_\_

11.

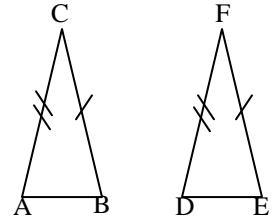


Postulate: \_\_\_\_\_

Cannot be determined

$\Delta$  \_\_\_\_\_  $\cong$   $\Delta$  \_\_\_\_\_

12.



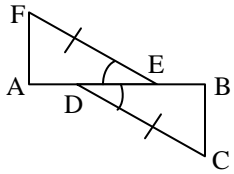
Postulate: \_\_\_\_\_

Cannot be determined

$\Delta$  \_\_\_\_\_  $\cong$   $\Delta$  \_\_\_\_\_

III. Using the given postulate, a) tell which parts of the pair of triangles should be shown congruent.

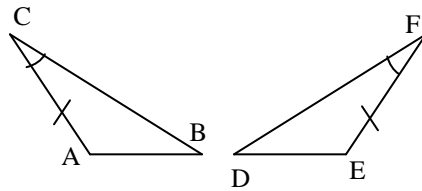
1. SAS



\_\_\_\_\_  $\cong$  \_\_\_\_\_

$\Delta$  \_\_\_\_\_  $\cong$   $\Delta$  \_\_\_\_\_

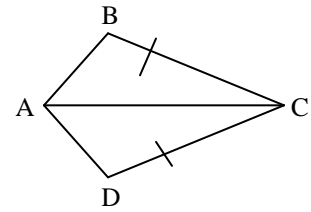
2. ASA



\_\_\_\_\_  $\cong$  \_\_\_\_\_

$\Delta$  \_\_\_\_\_  $\cong$   $\Delta$  \_\_\_\_\_

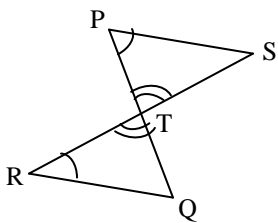
3. SSS



\_\_\_\_\_  $\cong$  \_\_\_\_\_

$\Delta$  \_\_\_\_\_  $\cong$   $\Delta$  \_\_\_\_\_

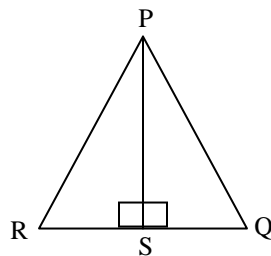
4. AAS



\_\_\_\_\_  $\cong$  \_\_\_\_\_

$\Delta$  \_\_\_\_\_  $\cong$   $\Delta$  \_\_\_\_\_

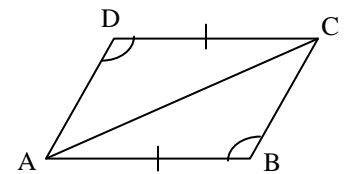
5. HL



\_\_\_\_\_  $\cong$  \_\_\_\_\_

$\Delta$  \_\_\_\_\_  $\cong$   $\Delta$  \_\_\_\_\_

6. ASA



\_\_\_\_\_  $\cong$  \_\_\_\_\_

$\Delta$  \_\_\_\_\_  $\cong$   $\Delta$  \_\_\_\_\_