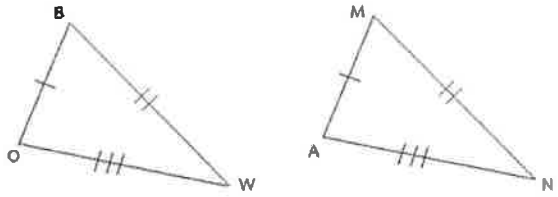
Name _____ Date _____

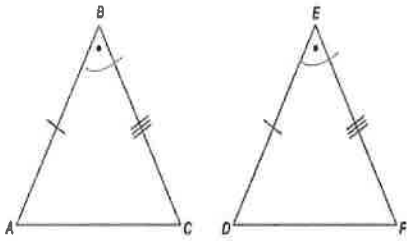
Write a congruence statement and tell which way you can tell that the triangles are congruent:

1.)



△BOW ≅ △MAN SSS

2.)

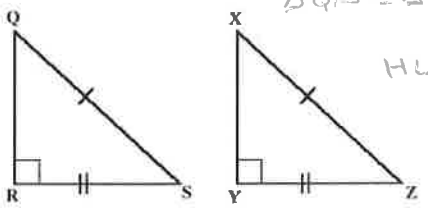


△ABC ≅ △DEF SAS

3.)

△QRS ≅ △XYZ

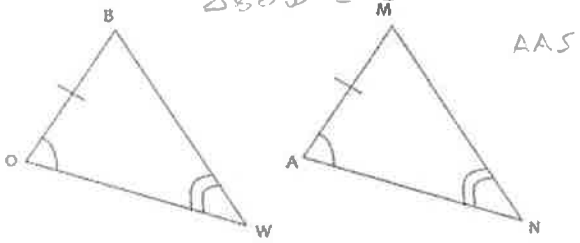
HL



4.)

△BOW ≅ △MAN

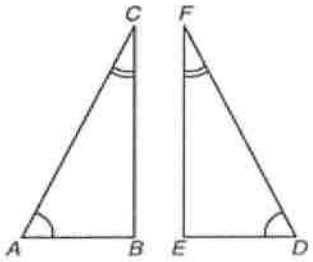
AAS



Name the additional part(s) that you would have to get congruent in order to prove that the triangles are congruent the way stated.

△ABC ≅ △DEF by AAS

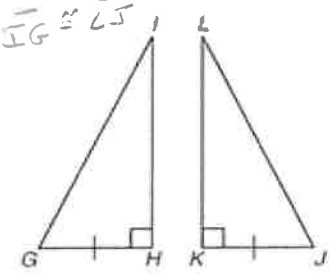
$\overline{AB} \cong \overline{ED}$ or $\overline{CB} \cong \overline{FE}$



(a)

△GHI ≅ △JKL by HL

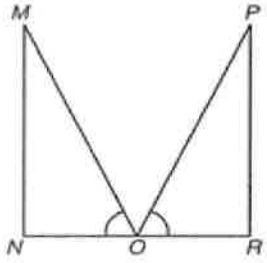
$\overline{IG} \cong \overline{LJ}$



(b)

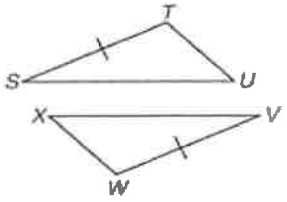
△MNO ≅ △PRO by SAS

$\overline{NO} \cong \overline{RO}$ AND $\overline{MO} \cong \overline{PO}$



(c)

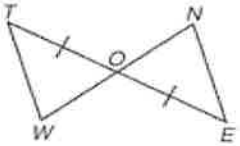
△STU ≅ △VWX by SSS



(d)

$\overline{TU} \cong \overline{WX}$ AND $\overline{SU} \cong \overline{VX}$

△ONE ≅ △OWT by ASA



(e)

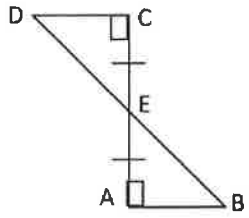
∠TOW ≅ ∠NOE BECAUSE ARE VERTICAL ∠'S

NEED $\overline{TO} \cong \overline{NO}$

Name _____ Date _____

I. 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.

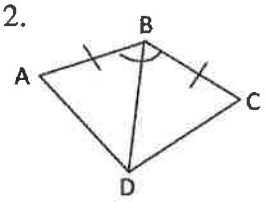


a. Yes

b. Δ DCE $\cong \Delta$ EAB

c. ASA

2.

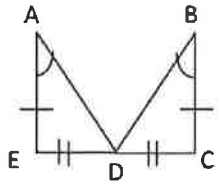


a. Yes

b. Δ ABD $\cong \Delta$ CBD

c. SAS

3.

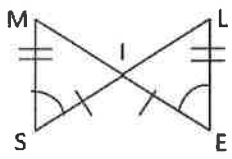


a. No

b. Δ____ $\cong \Delta$ ____

c. ____

4.

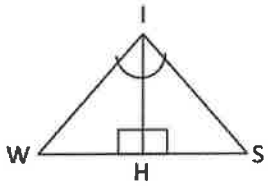


a. Yes

b. Δ ISM $\cong \Delta$ IEL

c. SAS or ASA using Vert $\angle$s

5.

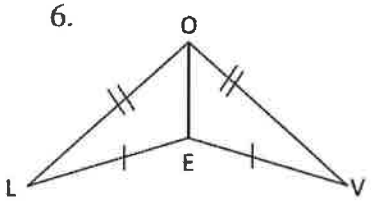


a. Yes

b. Δ INW $\cong \Delta$ INS

c. ASA

6.

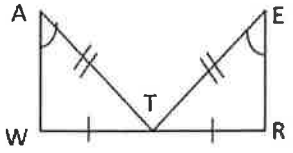


a. Yes

b. Δ OEL $\cong \Delta$ OEV

c. SSS

7.

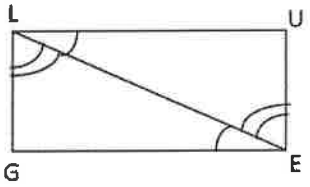


a. No

b. Δ____ $\cong \Delta$ ____

c. ____

8.

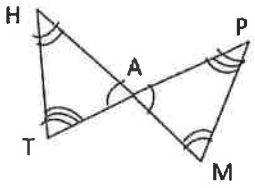


a. Yes

b. Δ LEG $\cong \Delta$ ELU

c. ASA

9.



a. No

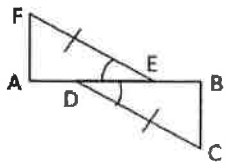
b. Δ____ $\cong \Delta$ ____

c. ____

State the missing parts of each triangle that must first be determined to be congruent in order to prove the triangles congruent by the given postulate.

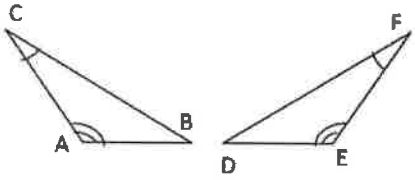
II. Using the given postulate, tell which parts of the pair of triangles should be shown congruent.

10. SAS



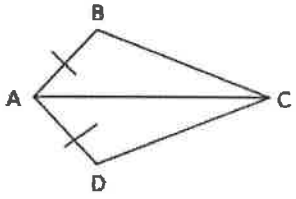
$\overline{AE} \cong \overline{BD}$

11. ASA



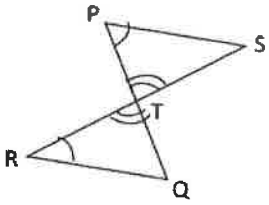
$\overline{AC} \cong \overline{EF}$

12. SSS



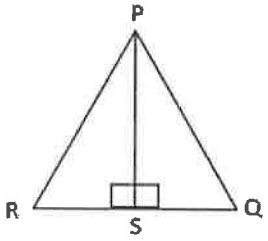
$\overline{DC} \cong \overline{BC}$

13. AAS



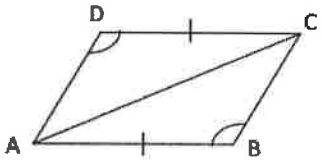
$\overline{PS} \cong \overline{TQ}$

14. HL



$\overline{PR} \cong \overline{PQ}$

15. ASA

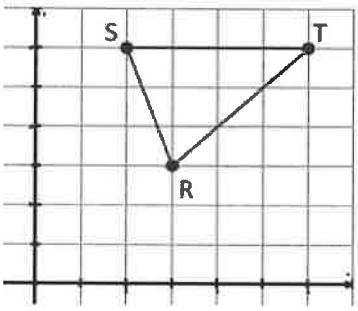


$\angle DCA \cong \angle BAC$

III. Multiple Choice

16. Which set of coordinates represents the vertices of a triangle congruent to ΔRST? (Hint: Find the lengths of the sides of ΔRST)

A. (3, 4) (3, 0) (0, 0)
B. (3, 3) (0, 4) (0, 0)
C. (3, 1) (3, 3) (4, 6)
D. (3, 0) (4, 4) (0, 6)



17. Given ΔABC and ΔDEF. Which of the following pairs of corresponding parts would correctly prove the triangles congruent by ASA?

A. $\angle B \cong \angle E, \angle A \cong \angle D, \overline{AB} \cong \overline{DE}$
B. $\angle C \cong \angle F, \angle A \cong \angle D, \overline{AB} \cong \overline{DE}$
C. $\angle B \cong \angle E, \angle C \cong \angle F, \overline{AB} \cong \overline{DE}$
D. $\angle B \cong \angle E, \angle A \cong \angle D, \overline{AC} \cong \overline{DF}$