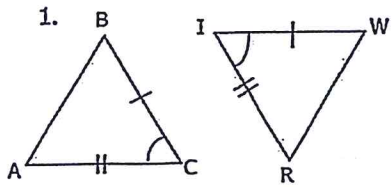


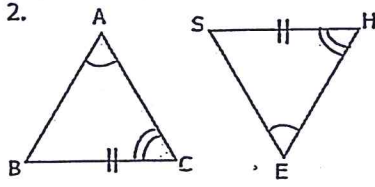
Unit 5: Triangle Congruence *HW #4*
 Proving Triangles Congruent: ASA, AAS, SAS, SSS

Name _____
 Per. _____

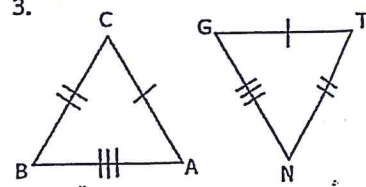
For each problem give the correct naming order of the congruent triangles. Write that name in order on the lines for the problem number (see box at bottom). Also, indicate which postulate or theorem is being used.



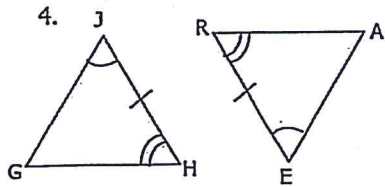
$\triangle ABC \cong \triangle$ _____ by _____



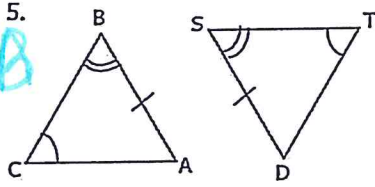
$\triangle ABC \cong \triangle$ _____ by _____



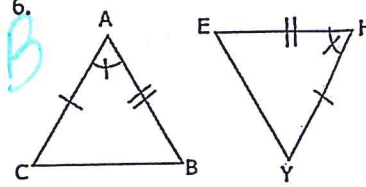
$\triangle ABC \cong \triangle$ _____ by _____



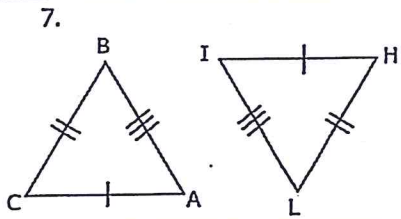
$\triangle GJH \cong \triangle$ _____ by _____



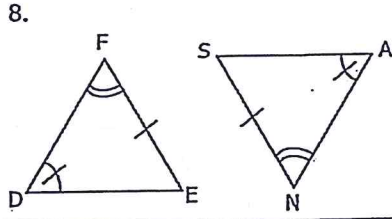
$\triangle ABC \cong \triangle$ _____ by _____



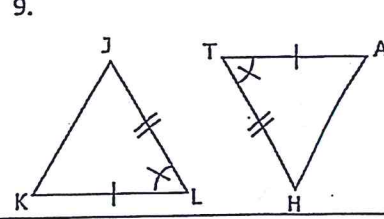
$\triangle ABC \cong \triangle$ _____ by _____



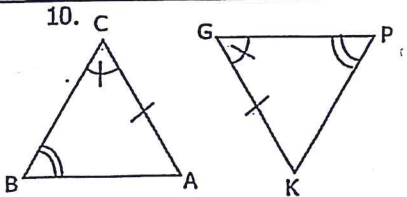
$\triangle ABC \cong \triangle$ _____ by _____



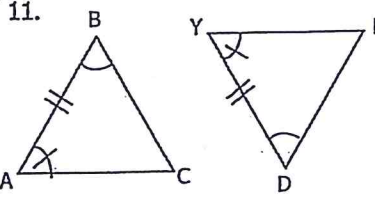
$\triangle DEF \cong \triangle$ _____ by _____



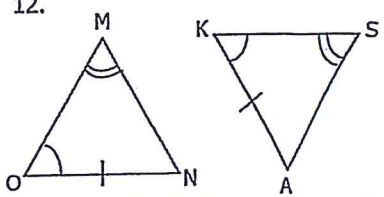
$\triangle JKL \cong \triangle$ _____ by _____



$\triangle ABC \cong \triangle$ _____ by _____



$\triangle ABC \cong \triangle$ _____ by _____



$\triangle MNO \cong \triangle$ _____ by _____

4 4 4 8 8 O 8 12 N 12 12 2 S 2 2 E 5 I 5 5 9 9 9 T 6
 6 6 10 E E 10 10 1 O 1 1 N 3 U 3 3 7 7 T 7 E 11 11 I 11

(When you are done with the puzzle, there are: 3 SAS, 5 AAS, 2 ASA, and 2 SSS instances.)

Congruence and Triangles

.....ne: _____
Per.: _____

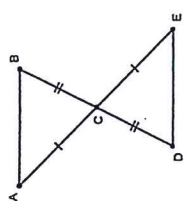
1. Given $\triangle ABE \cong \triangle OUY$. Name the corresponding part for each of the following:

- a. $\angle E \cong$ _____
- b. $\angle O \cong$ _____
- c. $\overline{OY} \cong$ _____
- d. $\overline{EI} \cong$ _____

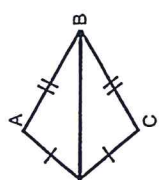
2. Given $\triangle DEF \cong \triangle RST$. Name the corresponding part for each of the following:

- a. $\angle F \cong$ _____
- b. $\angle S \cong$ _____
- c. $\overline{DE} \cong$ _____
- d. $\overline{TR} \cong$ _____

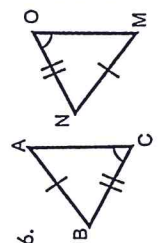
Determine whether the following triangles are congruent. State yes or no. If yes, state the appropriate congruence postulate/theorem shortcut and write the congruence statement.

3. 

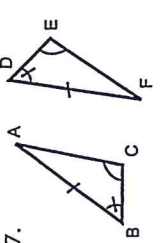
Congruent? _____
Reason _____
Statement: $\triangle ABC \cong$ _____

4. 

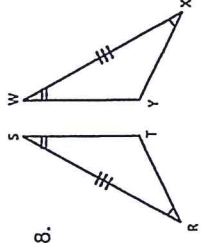
Congruent? _____
Reason _____
Statement: $\triangle ABD \cong$ _____

6. 

Congruent? _____
Reason _____
Statement: $\triangle ONM \cong$ _____

7. 

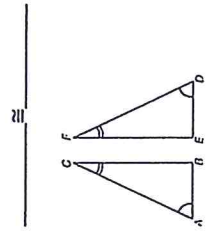
Congruent? _____
Reason _____
Statement: $\triangle ADE \cong$ _____

8. 

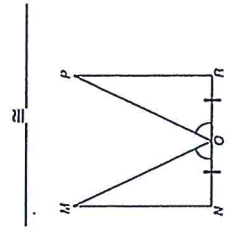
Congruent? _____
Reason _____
Statement: $\triangle SWX \cong$ _____

For questions 9 -13, what additional, corresponding parts are needed to prove the triangles congruent by the indicated method?

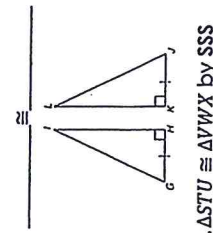
9. $\triangle ABC \cong \triangle DEF$ by AAS



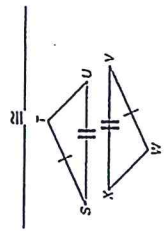
10. $\triangle MNO \cong \triangle PRO$ by SAS



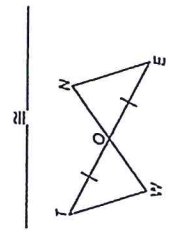
11. $\triangle GHI \cong \triangle JKL$ by SAS



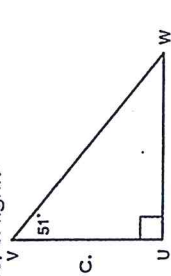
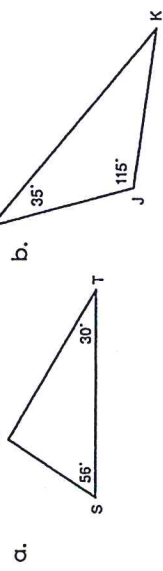
12. $\triangle STU \cong \triangle VWX$ by SSS



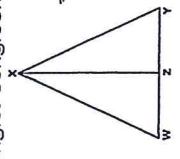
13. $\triangle ONE \cong \triangle TEN$ by ASA



14. Find the missing angle and classify the triangle as acute, obtuse, or right..



15. Given $WZ = YZ$ and $\angle XZW \cong \angle XZY$. By what method are the triangles congruent? Explain your reasoning.



Congruence and Triangles

.....ne: _____
Per.: _____

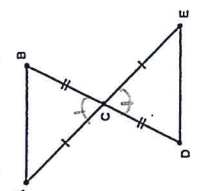
1. Given $\triangle ABE \cong \triangle OUY$. Name the corresponding part for each of the following:

- a. $\angle E \cong \underline{\angle U}$
- b. $\angle O \cong \underline{\angle Y}$
- c. $\overline{OE} \cong \underline{\overline{OU}}$
- d. $\overline{EY} \cong \underline{\overline{UY}}$

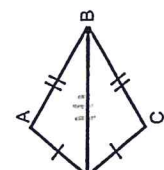
2. Given $\triangle DEF \cong \triangle RST$. Name the corresponding part for each of the following:

- a. $\angle F \cong \underline{\angle T}$
- b. $\angle S \cong \underline{\angle E}$
- c. $\overline{DE} \cong \underline{\overline{RS}}$
- d. $\overline{TR} \cong \underline{\overline{FD}}$

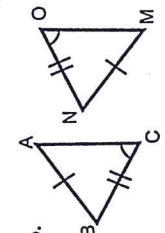
Determine whether the following triangles are congruent. State yes or no. If yes, state the appropriate congruence postulate/theorem shortcut and write the congruence statement.

3. 

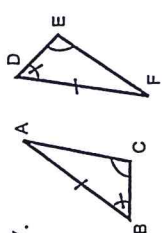
Congruent? yes
Reason: SAS
Statement: $\triangle ABC \cong \triangle DEC$

4. 

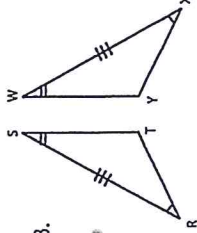
Congruent? yes
Reason: SSS
Statement: $\triangle ABD \cong \triangle CBD$

6. 

Congruent? no
Reason: SSA
Statement: $\triangle ABC \cong \triangle MNC$

7. 

Congruent? yes
Reason: SAA or ASA
Statement: $\triangle ABC \cong \triangle EDF$

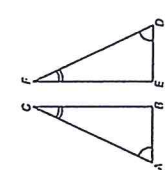
8. 

Congruent? yes
Reason: ASA
Statement: $\triangle RST \cong \triangle XNY$

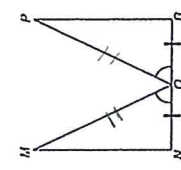
Right \triangle 's
Pyth Th makes 3rd sides =

For questions 9-13, what additional, corresponding parts are needed to prove the triangles congruent by the indicated method?

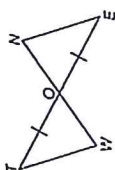
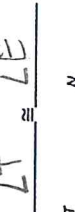
9. $\triangle ABC \cong \triangle DEF$ by AAS



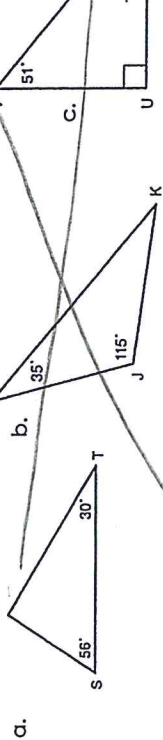
10. $\triangle MNO \cong \triangle PRO$ by SAS



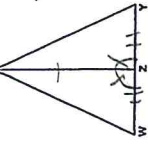
13. $\triangle ONE \cong \triangle TEN$ by ASA



14. Find the missing angle and classify the triangle as acute, obtuse, or right.



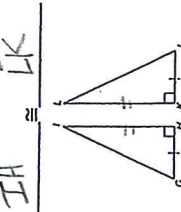
15. Given $\overline{WZ} = \overline{YZ}$ and $\angle XZW \cong \angle XZY$. By what method are the triangles congruent? Explain your reasoning.



$\triangle XZW \cong \triangle XZY$ by SAS.
 \overline{XZ} is shared by both \triangle 's and then there are two other sides = and the included \angle 's are \cong $\angle XZW \cong \angle XZY$.

key

11. $\triangle GHI \cong \triangle JKL$ by SAS



12. $\triangle STU \cong \triangle VWX$ by SSS

