

Congruence and Triangles

Name: _____
 Per.: _____

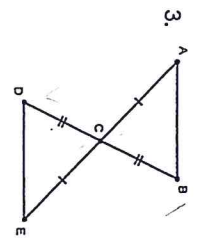
1. Given $\triangle ABE \cong \triangle OUY$. Name the corresponding part for each of the following:

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

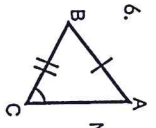
2. Given $\triangle DEF \cong \triangle RST$. Name the corresponding part for each of the following:

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

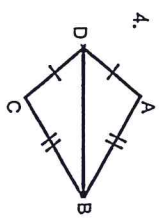
Determine whether the following triangles are congruent. State yes or no. If yes, state the appropriate congruence postulate/theorem shortcut and write the congruence statement.



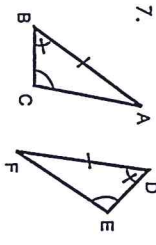
3. Congruent? _____
 Reason _____
 Statement: $\triangle ABC \cong$ _____



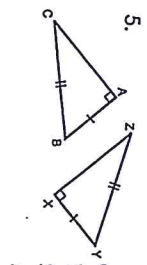
6. Congruent? _____
 Reason _____
 Statement: $\triangle ABC \cong$ _____



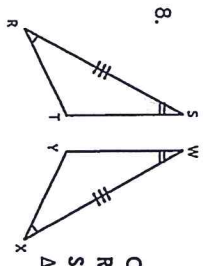
4. Congruent? _____
 Reason _____
 Statement: $\triangle ABD \cong$ _____



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



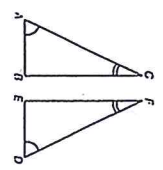
5. Congruent? _____
 Reason _____
 Statement: $\triangle ZXY \cong$ _____



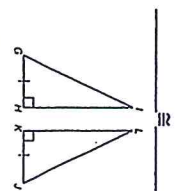
8. Congruent? _____
 Reason _____
 Statement: $\triangle RST \cong$ _____

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

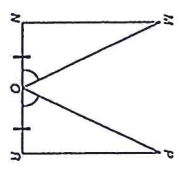
9. $\triangle ABC \cong \triangle DEF$ by AAS



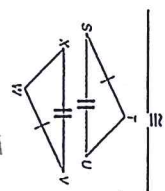
11. $\triangle GHI \cong \triangle JKL$ by SAS



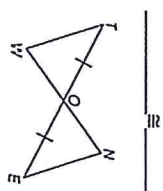
10. $\triangle MNO \cong \triangle PRO$ by SAS



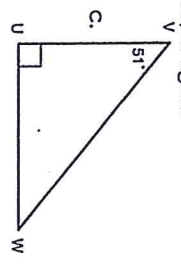
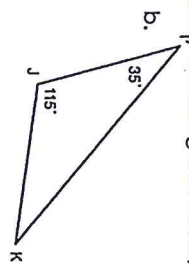
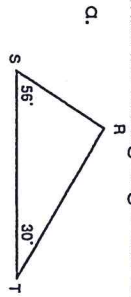
12. $\triangle STU \cong \triangle VWX$ by SSS



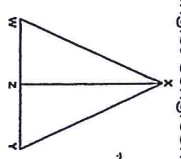
13. $\triangle ONE \cong \triangle PON$ by ASA



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.



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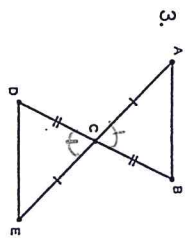
1. Given $\triangle ABE \cong \triangle OUY$. Name the corresponding part for each of the following:

- a. $\angle E \cong \underline{\angle U}$
- b. $\angle O \cong \underline{\angle A}$
- c. $\overline{OY} \cong \underline{\overline{AI}}$
- d. $\overline{EI} \cong \underline{\overline{UY}}$

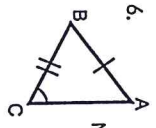
2. Given $\triangle DEF \cong \triangle RST$. Name the corresponding part for each of the following:

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

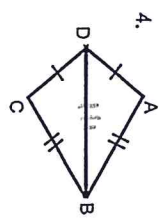
Determine whether the following triangles are congruent. State yes or no. If yes, state the appropriate congruence postulate/theorem shortcut and write the congruence statement.



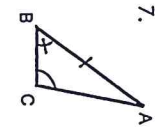
3. Congruent? yes
Reason SAS
Statement: $\triangle ABC \cong \triangle EDC$



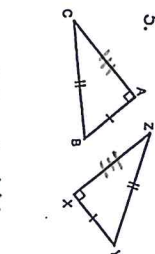
6. Congruent? no
Reason SSA
Statement: $\triangle ABC \cong \triangle M$



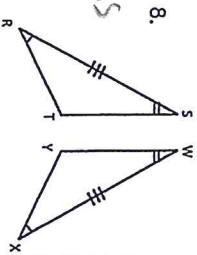
4. Congruent? yes
Reason SSS
Statement: $\triangle ABD \cong \triangle CBD$



7. Congruent? yes
Reason SAA or AAS
Statement: $\triangle ABC \cong \triangle FED$



5. Congruent? yes
Reason SSS
Statement: $\triangle ACB \cong \triangle ZXY$

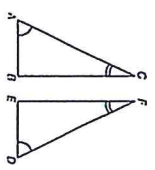


8. Congruent? yes
Reason ASA
Statement: $\triangle RST \cong \triangle WXY$

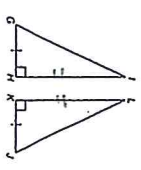
Right Δ 's
Pyth Th makes 3rd sides =

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

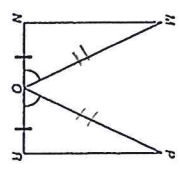
9. $\triangle ABC \cong \triangle DEF$ by AAS
 $\overline{AB} \cong \overline{DE}$
 $\overline{CB} \cong \overline{FE}$



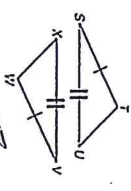
11. $\triangle GHI \cong \triangle JKL$ by SAS
 $\angle H \cong \angle K$



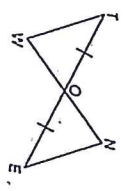
10. $\triangle AMNO \cong \triangle PRO$ by SAS
 $\overline{MO} \cong \overline{PO}$



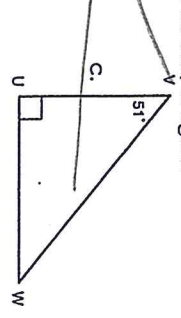
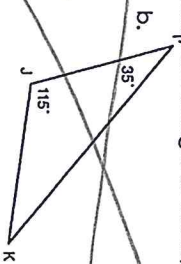
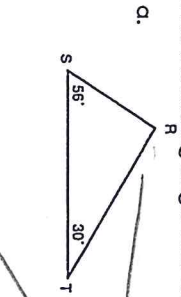
12. $\triangle STU \cong \triangle VWX$ by SSS
 $\overline{TU} \cong \overline{WX}$



13. $\triangle ONE \cong \triangle PEN$ by ASA
 $\angle E \cong \angle E$

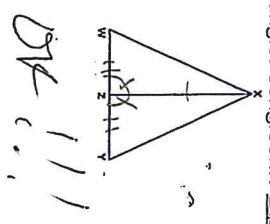


14. Find the missing angle and classify the triangle as acute, obtuse, or right.



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

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



Key