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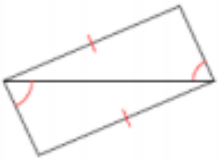
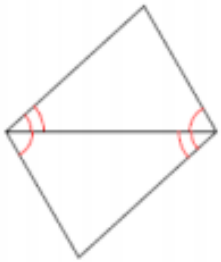
Unit 3 Triangle Congruence Exam

State if the two triangles are congruent. If they are, state how you know.

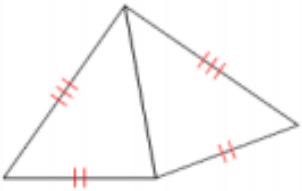
1)



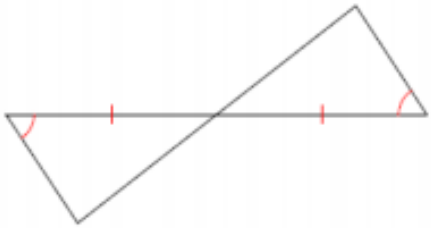
2)



3)

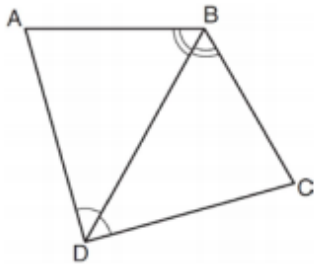


4)



5)

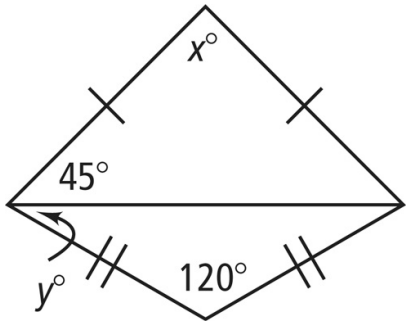
The diagram below shows a pair of congruent triangles, with $\angle ADB \cong \angle CDB$ and $\angle ABD \cong \angle CBD$.



Which statement must be true?

1) $\angle ADB \cong \angle CBD$
2) $\angle ABC \cong \angle ADC$
3) $\overline{AB} \cong \overline{CD}$
4) $\overline{AD} \cong \overline{CD}$

6) Find the value of x and y.



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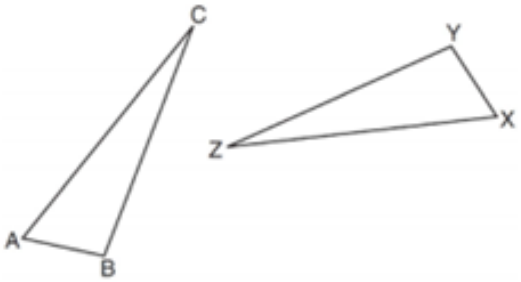
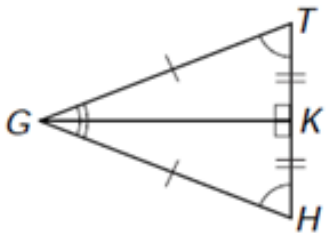
7) In the diagram below, $\Delta ABC \cong \Delta XYZ$.



Which statement must be true?

1) $\angle C \cong \angle Y$
2) $\overline{\angle A} \cong \overline{\angle X}$
3) $\overline{AC} \cong \overline{YZ}$
4) $\overline{CB} \cong \overline{XZ}$

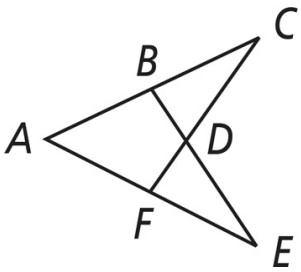
8) **Complete the correspondence statement:**



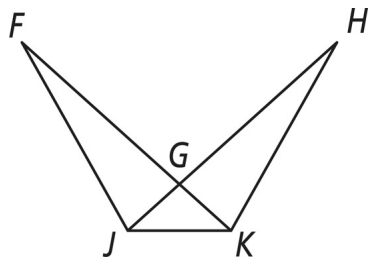
$\triangle GHK \cong \triangle$ _____

For questions 9 & 10, name a pair of <u>overlapping</u> congruent triangles in each diagram. State whether the triangles are congruent by SSS, SAS, ASA, AAS, or HL.

9. Given: $\angle E \cong \angle C,\ \overline{AC} \cong \overline{AE}$



10. Given: $\overline{FK} \cong \overline{HJ},\ \angle FKJ \cong \angle HJK$



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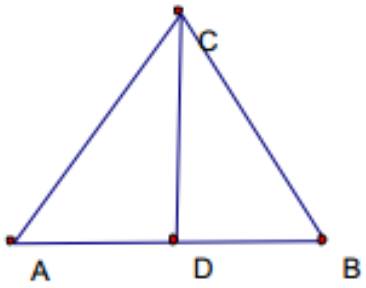
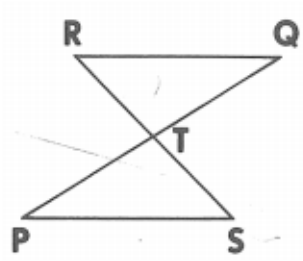
11. Write a two column proof.

Given: $\overline{AC} \cong \overline{CB}$, $\overline{CD}$ bisects $\overline{AB}$
Prove: $\angle CAD \cong \angle CBD$



12. Write a two column proof.

Given: T is the midpoint of $\overline{RS}$, $\overline{RQ} \parallel \overline{PS}$
Prove: $\Delta RTQ \cong \Delta STP$



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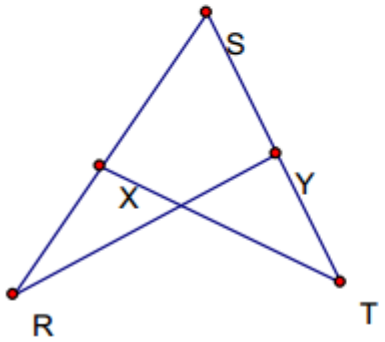
13. Write a two column proof.



Given: $\overline{SR} \cong \overline{ST}, \angle SYR \cong \angle SXT$
Prove: $\Delta RSY \cong \Delta TSX$