

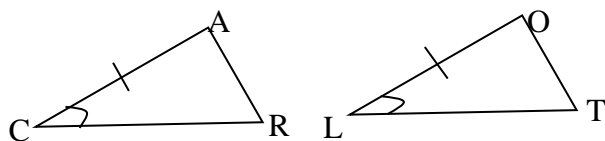
# Honors Math 2 Unit 2 Problem Set

## Congruent Triangles

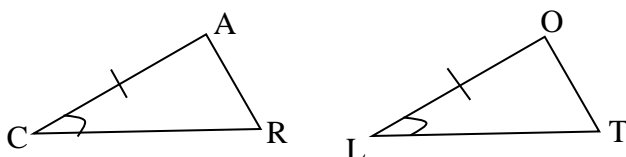
Name \_\_\_\_\_

1. If  $\triangle IGH \cong \triangle KLJ$ , then  $\angle H \cong$  \_\_\_\_\_.
2. Given  $\triangle MON \cong \triangle PQR$  with  $MO = 20$ ,  $MN = 32$ , and  $PR = 3x - 10$ . Find the value of  $x$ .
3. Given  $\triangle ABC \cong \triangle PQR$ ,  $AB = x + y$ ,  $PQ = 2x + 4$ ,  $AC = 4y - 13$ ,  $PR = 2y + x$ . Find  $PQ$ .

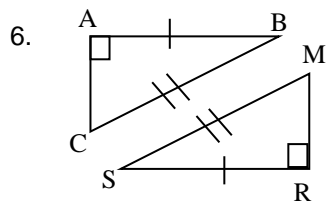
4. Name one additional pair of corresponding parts that need to be congruent in order to prove that  $\triangle CAR \cong \triangle LOT$  by SAS.



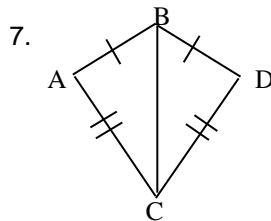
5. Name one additional pair of corresponding parts that need to be congruent in order to prove that  $\triangle CAR \cong \triangle LOT$  by AAS.



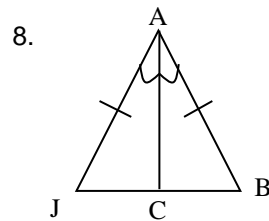
- For 6-14, a) Tell whether the triangles are congruent by SSS, SAS, ASA, AAS, HL, or none.  
Remember to FIRST mark vertical angles congruent, alternate interior angles congruent (look for Z's), and segments congruent by reflexive property.
- b) If the triangles are congruent, name the triangle that is congruent to  $\triangle ABC$ .



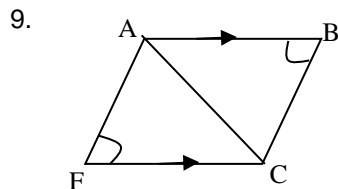
- a) \_\_\_\_\_  
b)  $\triangle ABC \cong \triangle$  \_\_\_\_\_



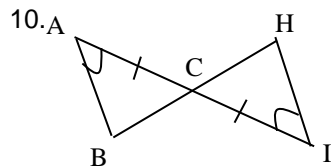
- a) \_\_\_\_\_  
b)  $\triangle ABC \cong \triangle$  \_\_\_\_\_



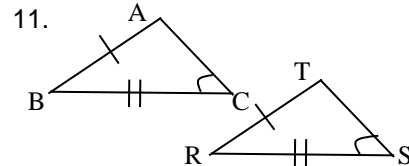
- a) \_\_\_\_\_  
b)  $\triangle ABC \cong \triangle$  \_\_\_\_\_



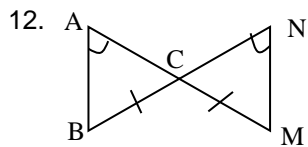
- a) \_\_\_\_\_  
b)  $\triangle ABC \cong \triangle$  \_\_\_\_\_



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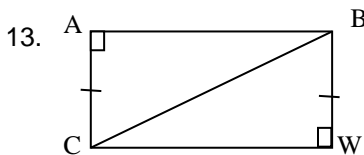


- a) \_\_\_\_\_  
b)  $\triangle ABC \cong \triangle$  \_\_\_\_\_



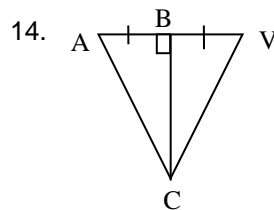
a) \_\_\_\_\_

b)  $\triangle ABC \cong \triangle$  \_\_\_\_\_



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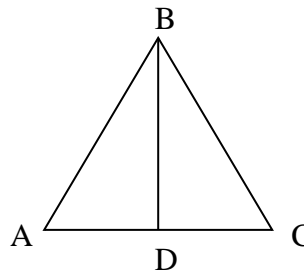
a) \_\_\_\_\_

b)  $\triangle ABC \cong \triangle$  \_\_\_\_\_

For the proof, fill in the missing statements and reasons.

15. Given:  $\overline{BD}$  bisects  $\overline{AC}$  at D,  $\angle BDA$  and  $\angle BDC$  are right angles.

Prove:  $\overline{AB} \cong \overline{CB}$



Statements	Reasons
1. $\overline{BD}$ bisects $\overline{AC}$ at D, $\angle BDA$ and $\angle BDC$ are right angles	1.
2. D is the midpoint of $\overline{AC}$	2.
3. $\overline{AD} \cong \overline{DC}$	4.
4.	4. All right angles are congruent
5.	5. Reflexive property.
6. $\triangle ABD \cong \triangle CBD$	6.
7. $\overline{AB} \cong \overline{CB}$	7.

16. Write a flow or 2-column proof.

Given:  $\angle B \cong \angle H$ , and  $\overline{AC} \cong \overline{CI}$

Prove:  $\angle A \cong \angle I$

