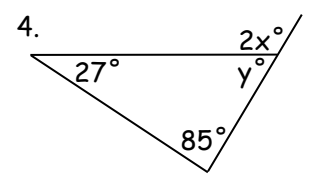
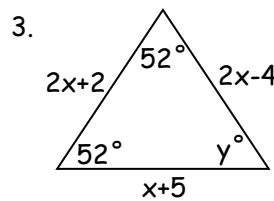
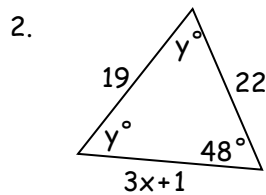
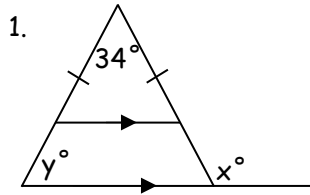
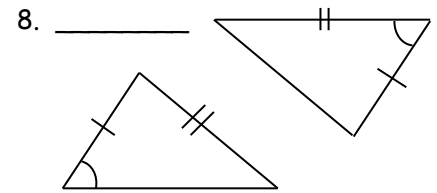
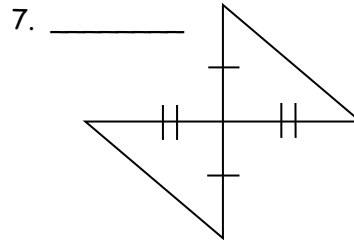
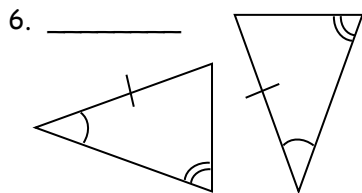


Write equations when possible and solve for the value of each variable.

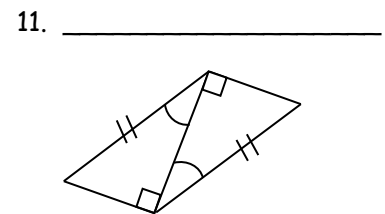
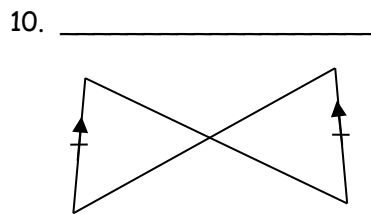
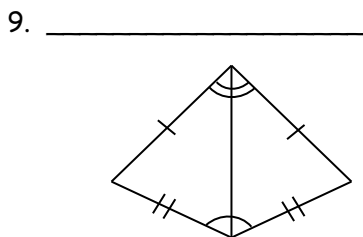


5. The lengths of the sides of a triangle are  $4x$ ,  $2x + 10$ , and  $7x - 15$ . Is there a value of  $x$  that makes the triangle equilateral? Justify your answer.

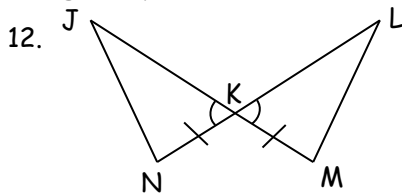
State the reason that proves congruence, or write *not congruent*.



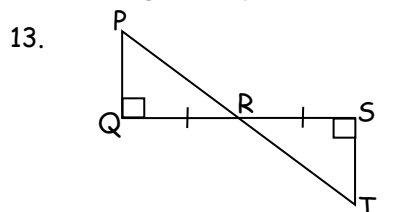
Mark your diagram and state two reasons that prove congruence.



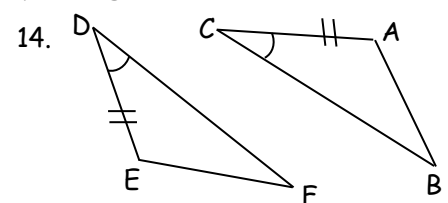
Mark your diagram and state the corresponding side or angle pair that is needed in order to use the given postulate or theorem. State all congruent pairs in the corresponding boxes below.



S	$\cong$
A	$\cong$
S	$\cong$



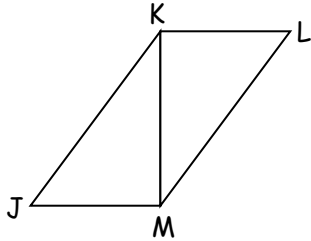
R	$\cong$
H	$\cong$
L	$\cong$



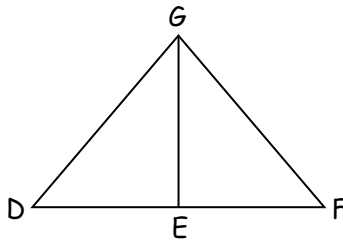
A	$\cong$
S	$\cong$
A	$\cong$

- A. Use the given information to mark all congruent parts in the diagram.  
 B. Identify the postulate or theorem that proves the two triangles are congruent.  
 If they are not congruent, write *not congruent*.  
 C. If they are congruent, write a congruence statement.

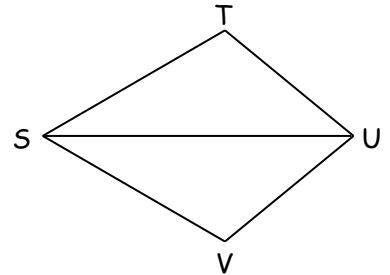
15.  $\angle JMK$  and  $\angle LKM$  are right angles;  $\overline{KJ} \cong \overline{LM}$



16. E is the midpoint of  $\overline{DF}$ ;  $\overline{DG} \cong \overline{FG}$

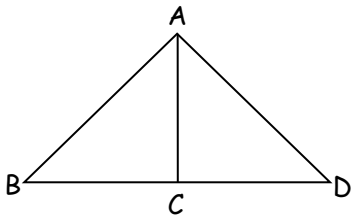


17.  $\angle T \cong \angle V$ ;  $\overline{TU} \cong \overline{VU}$



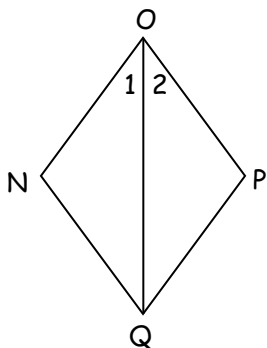
Mark your diagrams appropriately and complete the 2-column proofs below.

18. Given: C is the midpoint of  $\overline{BD}$   
 $\overline{AC} \perp \overline{BD}$   
 Prove:  $\overline{AB} \cong \overline{AD}$



Statement	Reason
1. C is the midpoint of $\overline{BD}$	1. Given
2. _____	2. _____
3. $\overline{AC} \perp \overline{BD}$	3. Given
4. _____	4. _____
5. _____	5. _____
6. $\triangle ABC \cong \triangle$ _____	6. _____
7. $\overline{AB} \cong \overline{AD}$	7. _____

19. Given:  $\overline{OQ}$  bisects  $\angle NOP$ ;  
 $\angle N \cong \angle P$   
 Prove:  $\angle NQO \cong \angle PQO$



Statement	Reason
1. $\overline{OQ}$ bisects $\angle NOP$ ; $\angle N \cong \angle P$	1. Given
2. _____	2. _____
3. _____	3. _____
4. _____	4. _____
5. $\angle NQO \cong \angle PQO$	5. _____