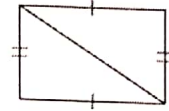
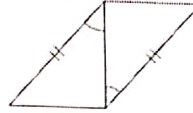
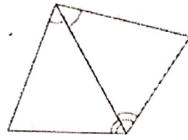
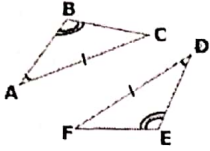
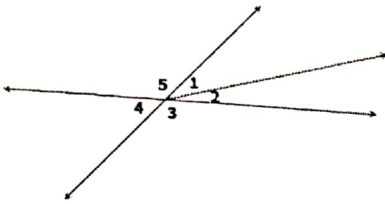


1. Which theorems or rule are used to prove that two triangles are congruent?

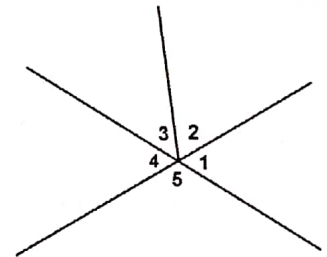
2. Consider the triangles shown. Which rule, if any, can be used to prove triangle congruency?



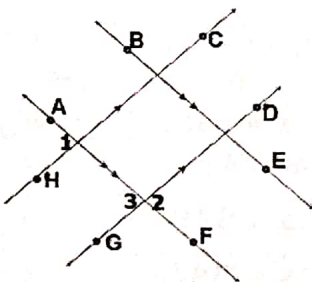
3. If $m\angle 1 = 45$, $m\angle 2 = 30$ in the diagram below, find $m\angle 3$ and $m\angle 4$.



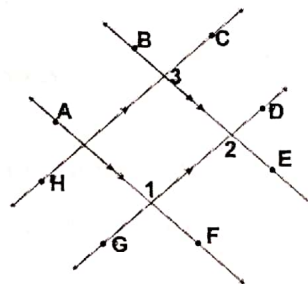
4. In the diagram below $m\angle 1 = 65$, $m\angle 4 = 3x + 5^\circ$. Find x and the measure of angle $\angle 4$.



5. Find $m\angle 3$ and $m\angle 2$, if $m\angle 1 = 85$ degrees.



6. Find $m\angle 1$ if $m\angle 2 = 5x$ and $m\angle 3 = 6x - 7$.

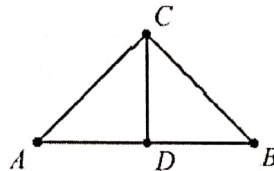


7. ΔPQR and ΔSTU are congruent triangles. Using this information, list the corresponding sides and corresponding angles.

8. For ΔEFG and ΔMNP , it is known that $\overline{EG} \cong \overline{MP}$, $\angle G \cong \angle P$, and $\overline{FG} \cong \overline{NP}$. Determine if the triangles are congruent, and if so, by which type of congruency.

- a. SSS c. ASA
 b. SAS D. It cannot be determined if the triangles are congruent.

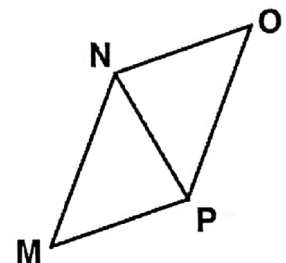
9. In this diagram, \overline{CD} is the perpendicular bisector of \overline{AB} . The two-column proof shows that \overline{AC} is congruent to \overline{BC} . Fill in the missing pieces of the proof. Bank: $AD = BD$, Vertical Angles, Reflexive Property, SSS, SAS, HL. **CPCTC**



Step	Statement	Reason
1	\overline{CD} is the perpendicular bisector of \overline{AB}	Given
2	$\overline{AD} \cong \overline{BD}$	Definition of bisector
3	$\overline{CD} \cong \overline{CD}$	
4		Definition of perpendicular lines
5	$\angle ADC \cong \angle BDC$	All right angles are congruent
6	$\Delta ADC \cong \Delta BDC$	
7	$\overline{AC} \cong \overline{BC}$	

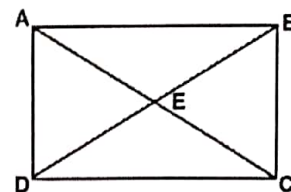
10. Given: $\overline{NO} \parallel \overline{MP}$ and $\overline{MN} \parallel \overline{OP}$
 Prove: $\overline{MN} \cong \overline{OP}$

Steps	Statements	Reasons
1	$\overline{NO} \parallel \overline{MP}$ and $\overline{MN} \parallel \overline{OP}$	
2	$\angle MNP \cong \angle OPN$	Alt. Interior \angle s are \cong .
3	$\angle NPM \cong \angle ONP$	Alt. Interior \angle s are \cong .
4	$\overline{NP} \cong \overline{NP}$	
5	$\Delta MNP \cong \Delta OPN$	



11. Given: E is the midpoint of \overline{AC} and \overline{DB} Bank: $\triangle AEB \cong \triangle CED$, vertical angles, Defn of midpoint $BE = ED$
 Prove: $\triangle ABE \cong \triangle CED$

Steps	Statements	Reasons
1	E is the midpoint of \overline{AC} and \overline{DB}	Given
2	$\overline{AE} \cong \overline{EC}$	
3		Definition of a midpoint
4	$\angle AEB \cong \angle CED$	
5		SAS



12. $\triangle DEF$ and $\triangle TUV$ are congruent triangles. Which statement is known to be true?

- a. $\overline{DE} \cong \overline{TU}$
- b. $\overline{DF} \cong \overline{TU}$
- c. $\overline{DF} \cong \overline{UV}$
- d. $\overline{DE} \cong \overline{TV}$

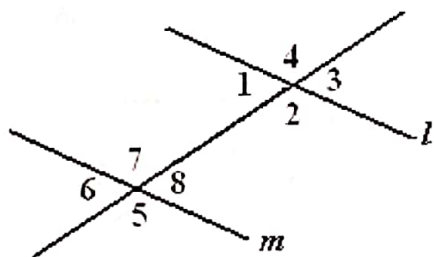
13. For $\triangle ABC$ and $\triangle DEF$, the following is given: $\angle C \cong \angle F$, $\overline{AB} \cong \overline{DE}$, and $\overline{BC} \cong \overline{EF}$. By which triangle congruence statement can it be concluded that the triangles are congruent?

- a. SSS
- b. SAS
- c. ASA
- d. It cannot be determined if the triangles are congruent.

14. $\triangle UVW$ and $\triangle XYZ$ are congruent triangles. Which statement is known to be true?

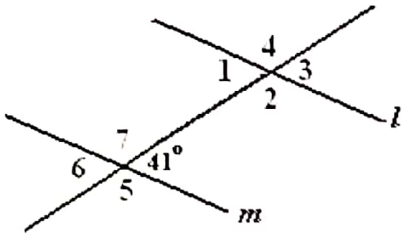
- a. $\angle U \cong \angle V$
- b. $\angle W \cong \angle X$
- c. $\angle V \cong \angle X$
- d. $\angle V \cong \angle Y$

15. Name one set of each type of angles below.



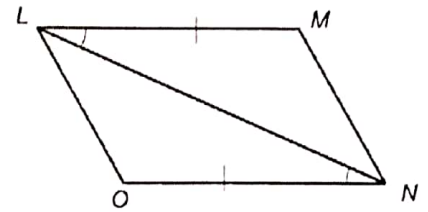
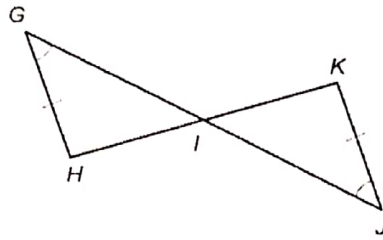
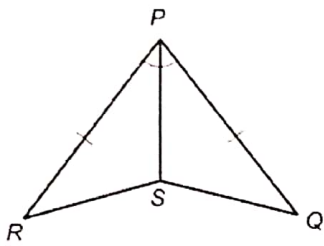
- Corresponding _____
- Alternate Interior _____
- Alternate Exterior _____
- Vertical _____
- Same side interior _____

16. Identify all angle measures.



Congruent Triangles

17. Determine whether each pair of triangles is congruent. If so, write a congruence statement, and explain why the triangles are congruent.



Theorems about Lines and Angles

19. Name the relationship and then find the missing angle measures by solving for x .

