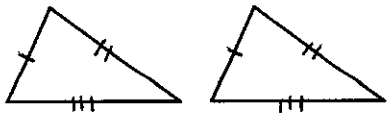
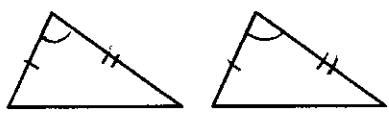
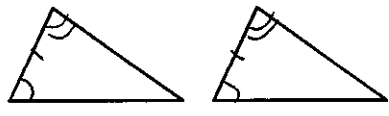
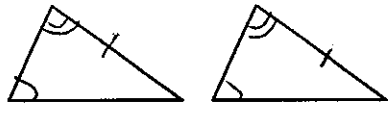
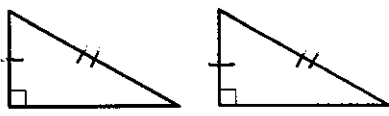
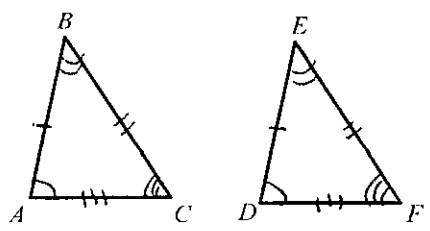


# PROVING TRIANGLES CONGRUENT

Reference!

Ways to Prove Triangles are Congruent:		
<p><b>SSS</b> (Side-Side-Side)</p>	<p>Three pairs of congruent sides.</p>	
<p><b>SAS</b> (Side-Angle-Side)</p>	<p>Two sides and an included angle.</p>	
<p><b>ASA</b> (Angle-Side-Angle)</p>	<p>Two angles and an included side.</p>	
<p><b>AAS</b> (Angle-Angle-Side)</p>	<p>Two angles and a side opposite them.</p>	
<p><b>HL</b> (Hypotenuse-Leg)</p>	<p>The hypotenuse and any one leg of a right triangle.</p>	

<p><b>Reasons <i>Sides</i> are Congruent</b></p>	<ul style="list-style-type: none"> <li>• It's Given ☺</li> <li>• Definition of Midpoint (A midpoint will create two congruent sides.)</li> <li>• Reflexive Property (A side is congruent to itself.)</li> </ul>
<p><b>Reasons <i>Angles</i> are Congruent</b></p>	<ul style="list-style-type: none"> <li>• It's Given ☺</li> <li>• Vertical Angles</li> <li>• Alternate Interior Angles</li> <li>• Alternate Exterior Angles</li> <li>• Definition of Angle Bisector (A bisector will create two congruent angles.)</li> </ul> <p style="margin-left: 20px;">} Must have parallel lines!</p>

<p><b>CPCTC</b> Corresponding Parts of Congruent Triangles are Congruent</p>	<p>If <math>\triangle ABC \cong \triangle DEF</math>, then</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-bottom: 1px solid black; padding: 5px;"><math>\overline{AB} \cong \overline{DE}</math></td> <td style="border-bottom: 1px solid black; padding: 5px;"><math>\angle A \cong \angle D</math></td> </tr> <tr> <td style="border-bottom: 1px solid black; padding: 5px;"><math>\overline{BC} \cong \overline{EF}</math></td> <td style="border-bottom: 1px solid black; padding: 5px;"><math>\angle B \cong \angle E</math></td> </tr> <tr> <td style="border-bottom: 1px solid black; padding: 5px;"><math>\overline{AC} \cong \overline{DF}</math></td> <td style="border-bottom: 1px solid black; padding: 5px;"><math>\angle C \cong \angle F</math></td> </tr> </table>	$\overline{AB} \cong \overline{DE}$	$\angle A \cong \angle D$	$\overline{BC} \cong \overline{EF}$	$\angle B \cong \angle E$	$\overline{AC} \cong \overline{DF}$	$\angle C \cong \angle F$	
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$\overline{AC} \cong \overline{DF}$	$\angle C \cong \angle F$							