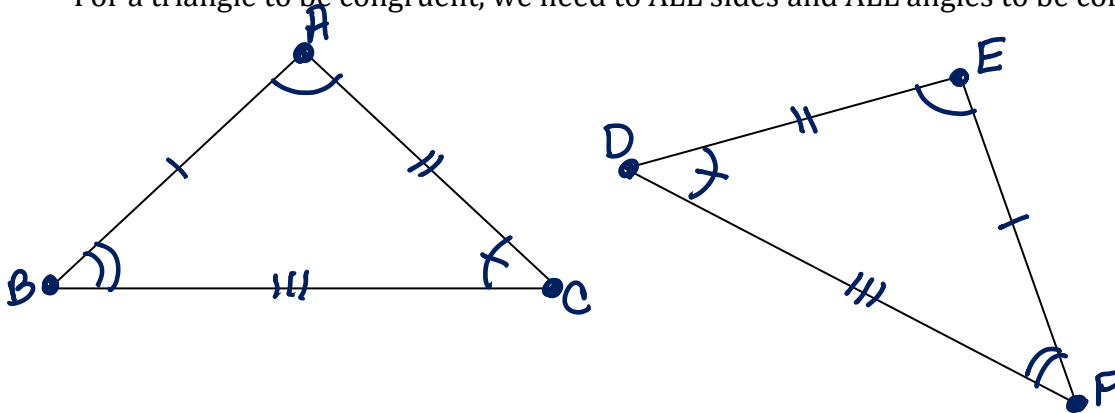


key

SECTION 4.5  
SSS AND SAS

For a triangle to be congruent, we need to ALL sides and ALL angles to be congruent.



$\triangle ABC \cong \triangle EFD$

BUT... To PROVE that a triangle is congruent, we only need \_\_\_ congruent pieces.  
Be careful...ORDER MATTERS!

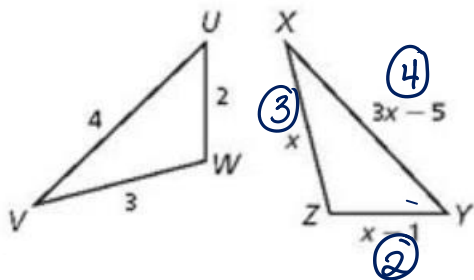
If these parts of two triangles are congruent.....	which looks like.....	Then the triangles are congruent for the reason.....
<p>3 sides  <math>\overline{EF} \cong \overline{JI}</math>  <math>\overline{EG} \cong \overline{HI}</math>  <math>\overline{FG} \cong \overline{IH}</math></p>		<p>SSS  <math>\triangle EFG \cong \triangle JIH</math></p>
<p>2 sides and  an included angle.  <math>\overline{DE} \cong \overline{GH}</math>  <math>\overline{EF} \cong \overline{IH}</math>  <math>\angle E \cong \angle H</math></p>		<p>SAS  <math>\triangle DEF \cong \triangle GHI</math></p>

Example 1: Decide whether or not enough information is given to prove the triangles congruent. If yes, give the triangle congruence statement and name the congruence postulate that proves them congruent.

<p>Yes or No?  <u>Yes</u>  <math>\triangle GOB \cong \triangle NLI</math>          By <u>SSS</u></p>	<p>Yes or No?  <u>Yes</u>  <math>\triangle GHL \cong \triangle OTU</math>          By <u>SAS</u></p>	<p>Yes or No?  <u>Yes</u>  <math>\triangle WEB \cong \triangle WSB</math>          By <u>SSS</u></p>
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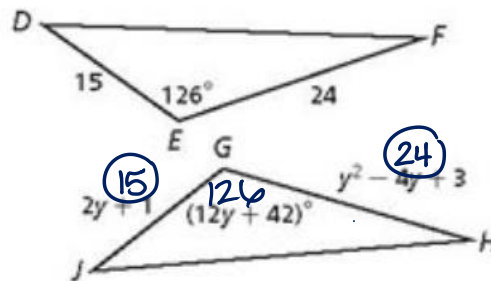
Examples 2: Show that the triangles are congruent.

a)  $\triangle UVW \cong \triangle YXZ, x = 3$



yes, by SSS  
 $\triangle UVW \cong \triangle YXZ$

b)  $\triangle DEF \cong \triangle JGH, y = 7$



yes, because SAS  
 $\triangle DEF \cong \triangle JGH$