

Warm-up

Make sure you have something to write with and a post it from Ms. Taylor

Warm-up

Without talking or looking at notes.

What is the rule for the following

1. Reflect over $y = x$ (y, x)
2. Rotate counter clockwise 90 degrees $(-y, x)$
3. Rotate 180 degrees clockwise $(-x, -y)$
4. A point shifted down 3 and right 5.
 y x $(x+5, y-3)$

Triangle Congruency Notes

Vocab:

Included Side: A side of a triangle between two angles.

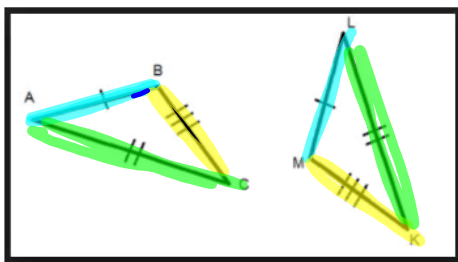
Included Angle: An angle between two sides of the triangle.

Hypotenuse: the side across from the right angle.

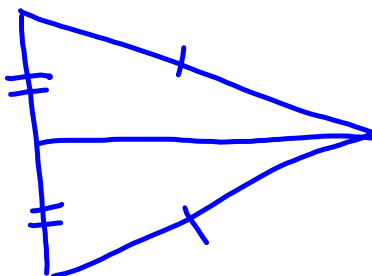
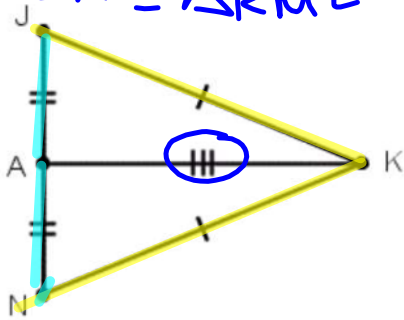
Leg: the side of a right triangle that connects to the right angle.

Postulates and Theorems:

Side- Side- Side postulate: three sides of one triangle are congruent to three sides of another triangle.



$\triangle BAC \cong \triangle MLK$
 $\triangle CBA \cong \triangle KML$



Triangle Congruency Statement

$\$ \overline{AB} \cong \overline{LM}$

$\$ \overline{BC} \cong \overline{MK}$ SSS

Postulate $\triangle ABC \cong \triangle LMK$

$\$ \overline{AC} \cong \overline{LK}$

$\$ \overline{KJ} \cong \overline{KN}$

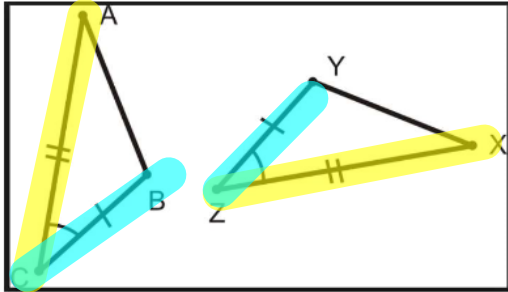
$\$ \overline{JA} \cong \overline{AN}$ SSS

Postulate $\triangle JAK \cong \triangle NAK$

$\$ \overline{AK} \cong \overline{AK}$

Reflexive property
 $\overline{AK} \cong \overline{KA}$

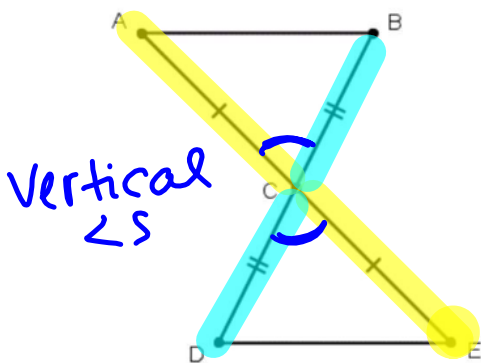
Side-Angle-Side: two sides and the included angle of one triangle are congruent to two sides and the included angle of another triangle.



$$\begin{aligned} &S \overline{CA} \cong \overline{ZX} \\ &\angle ACB \cong \angle XZY \\ &\Delta ACB \cong \Delta XZY \end{aligned}$$

Postulate

$$S \overline{BC} \cong \overline{ZY}$$

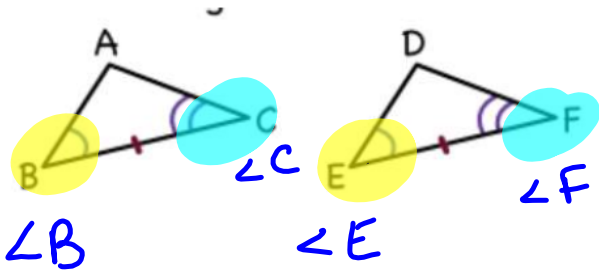


$$\begin{aligned} &S \overline{AC} \cong \overline{EC} \\ &\angle ACB \cong \angle ECD \\ &\Delta ACB \cong \Delta ECD \end{aligned}$$

Postulate

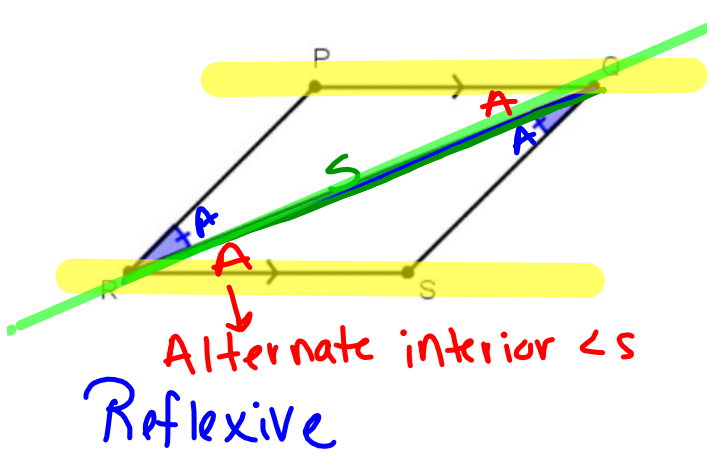
$$S \overline{BC} \cong \overline{DC}$$

Angle-Side-Angle: two angles and the included side of one triangle are congruent to two angles and the included side of another triangle.



$$\begin{aligned} &\angle ABC \cong \angle DEF \\ &\overline{BC} \cong \overline{EF} \\ &\angle BCA \cong \angle EFD \\ &\Delta CBA \cong \Delta FED \end{aligned}$$

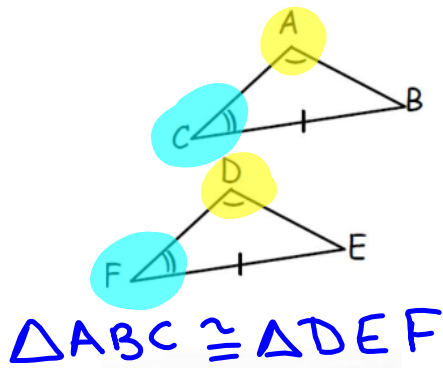
Postulate



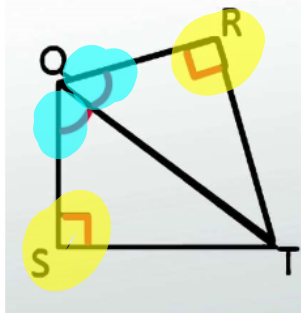
$$\begin{aligned} &\angle PRQ \cong \angle SQR \\ &\overline{RQ} \cong \overline{RQ} \\ &\angle RPQ \cong \angle RSQ \\ &\Delta RPQ \cong \Delta RSQ \end{aligned}$$

Postulate

Angle-Angle-Side: two angles and a following side of one triangle are congruent to two angles and a following side of another triangle.

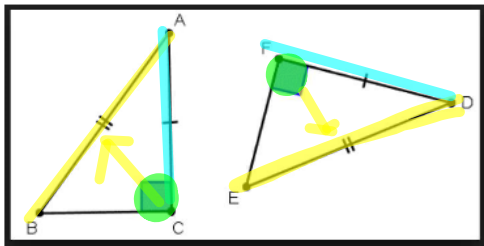


$\angle CAB \cong \angle FDE$
 $\angle ACB \cong \angle DFE$
 $CB \cong FE$
 AAS Theorem
 $\Delta CAB \cong \Delta FDE$



$\angle QRT \cong \angle SQT$
 $\angle RQT \cong \angle SQT$
 $QT \cong QT$
 AAS Theorem
 $\Delta RQT \cong \Delta SQT$
 Reflexive Prop

Hypotenuse-Leg: the hypotenuse and a leg of one triangle are congruent to the hypotenuse and a leg of another triangle.

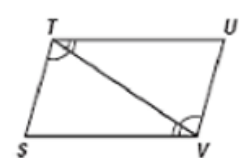
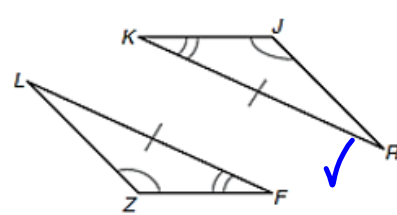
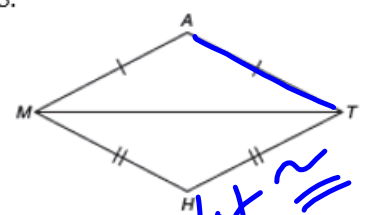
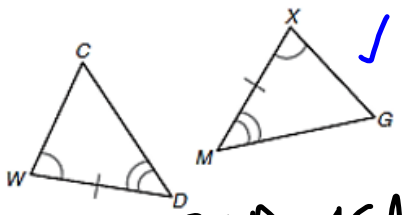
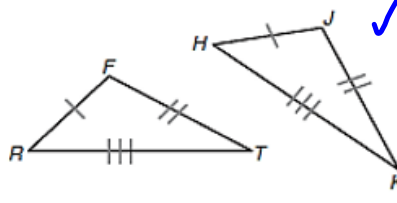
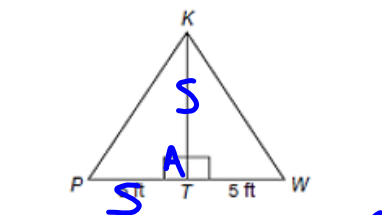


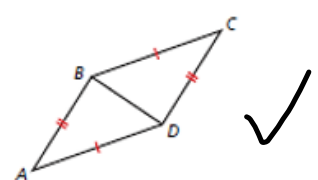
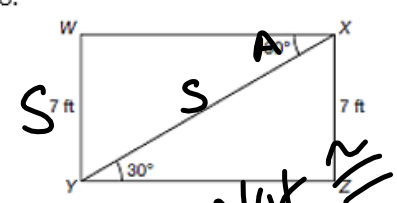
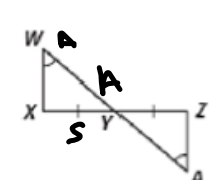
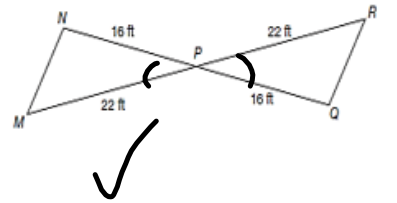
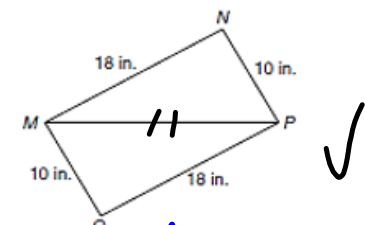
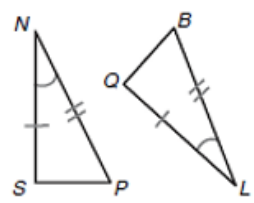
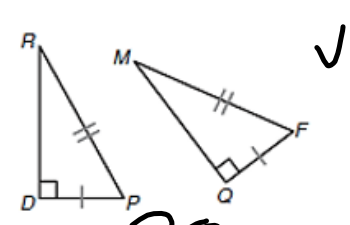
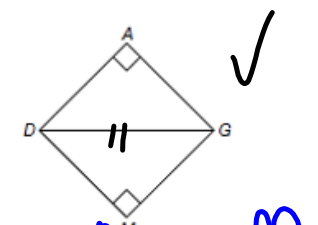
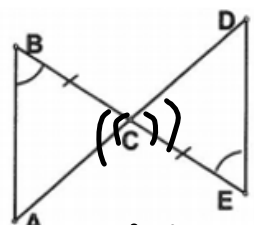
Hypotenuse
 $AB \cong DE$
 Leg
 $AC \cong DF$
 $\Delta ACB \cong \Delta DFE$
 HL

Independent practice for 30
minutes.

Be ready to answer questions on
board.

Determine if the following triangles are congruent. Create a congruence statement and name the theorem used to prove the triangles are congruent.

<p>1.</p>  <p>$\Delta TSV \cong \Delta VUT$ by <u>ASA</u></p>	<p>2.</p>  <p>$\Delta LFZ \cong \Delta RJF$ by <u>AAS</u></p>	<p>3.</p>  <p>$\Delta ATM \cong \Delta$ <u>Not \cong</u> by _____</p>
<p>4.</p>  <p>$\Delta CWX \cong \Delta GDM$ by <u>ASA</u></p>	<p>5.</p>  <p>$\Delta HJK \cong \Delta RFT$ by <u>SSS</u></p>	<p>6.</p>  <p>$\Delta KPT \cong \Delta KWT$ by <u>SAS</u></p>

<p>7.</p>  <p>$\triangle ABD \cong \triangle CDB$ by <u>SSS</u> ✓</p>	<p>8.</p>  <p>$\triangle WXY \cong \triangle$ <u>Not</u> by <u>SS</u> ✓</p>	<p>9.</p>  <p>$\triangle ZAY \cong \triangle XWY$ by <u>AAS</u> ✓</p>
<p>10.</p>  <p>$\triangle NMP \cong \triangle RQP$ by <u>SAS</u> ✓</p>	<p>11.</p>  <p>$\triangle PNM \cong \triangle MQP$ by <u>SSS</u> ✓</p>	<p>12.</p>  <p>$\triangle NSP \cong \triangle LOB$ by <u>SAS</u> ✓</p>
<p>13.</p>  <p>$\triangle FMQ \cong \triangle PRD$ by <u>HL</u> ✓</p>	<p>14.</p>  <p>$\triangle GMD \cong \triangle$ <u>NC</u> by <u>NC</u> ✓</p>	<p>15.</p>  <p>$\triangle CED \cong \triangle CBA$ by <u>ASA</u> ✓</p>

Quick Check