

Unit 3 Midterm Review

Congruent Triangles

****REMEMBER: Congruent is different from similar!!!**

<p>SSS</p> <p>If the three sides of one triangle are congruent to the three sides of a second triangle, then the two triangles are congruent.</p>	<p style="text-align: center;">Side-Side-Side (SSS)</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>$\triangle XYZ \cong \triangle ABC$</p> </div> <div style="text-align: center;"> <p>$\triangle ABC \cong \triangle ADC$</p> </div> </div>
----------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

<p style="text-align: center;">Angle-Angle-Side (AAS)</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>$\triangle NMK \cong \triangle ABC$</p> </div> <div style="text-align: center;"> <p>$\triangle NMK \cong \triangle LMK$</p> </div> </div>	<p>If two angles and a <u>nonincluded</u> side of one triangle are congruent to two angles and the corresponding <u>side nonincluded</u> of a second triangle, then the two triangles are congruent.</p>
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

<p style="text-align: center;">Side-Angle-Side (SAS)</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>$\triangle SRT \cong \triangle LMN$</p> </div> <div style="text-align: center;"> <p>$\triangle SRT \cong \triangle QRP$</p> </div> </div>	<p>If two sides and the <u>included</u> angle of one triangle are congruent to two sides and the <u>included</u> angle of a second triangle, then the two triangles are congruent.</p>
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

<p style="text-align: center;">Angle-Side-Angle (ASA)</p> <div style="text-align: center;"> <p>$\triangle GHJ \cong \triangle FEG$</p> </div>	<p style="text-align: center;">Angle-Side-Angle (ASA)</p> <div style="text-align: center;"> <p>$\triangle GHJ \cong \triangle KHJ$</p> </div> <p>If two angles and the <u>included</u> side of one triangle are congruent to two angles and the <u>included</u> side of a second triangle, then the two triangles are congruent.</p>
-----------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

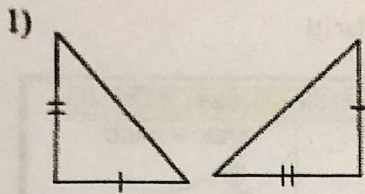
<p>HL</p> <p>If the hypotenuse and a leg of one right triangle is congruent to the hypotenuse and a leg of another right triangle, then the triangles are congruent</p>	<p style="text-align: center;">Hypotenuse-Leg (HL)</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>$\triangle DEF \cong \triangle CBA$</p> </div> <div style="text-align: center;"> <p>$\triangle NMJ \cong \triangle KMJ$</p> </div> </div>
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

SSS, AAS, SAS, ASA, HL

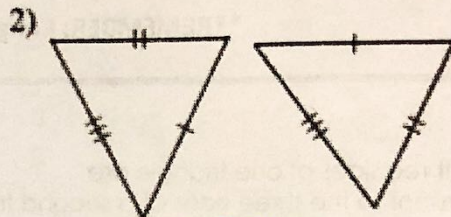
Unit 3 Midterm Review

Name: _____

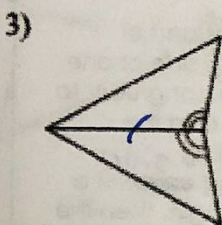
State if the two triangles are congruent. If they are, state how you know.



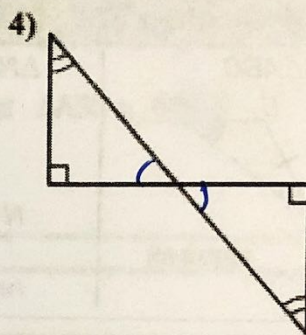
Not Congruent
→ only 2 sides \cong



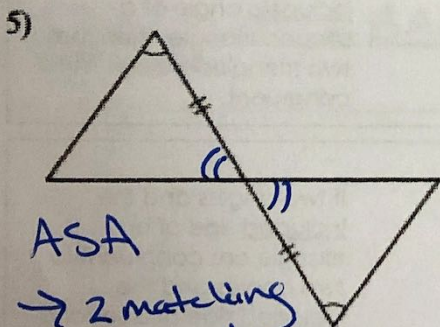
SSS
→ All 3 sides are congruent



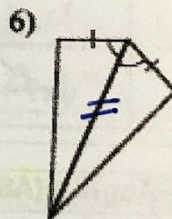
Not Congruent
→ only 1 matching side + 1 matching angle.



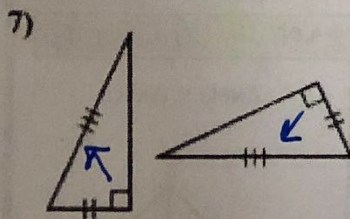
Not Congruent
→ only angles are congruent



ASA
→ 2 matching angles and an included side.



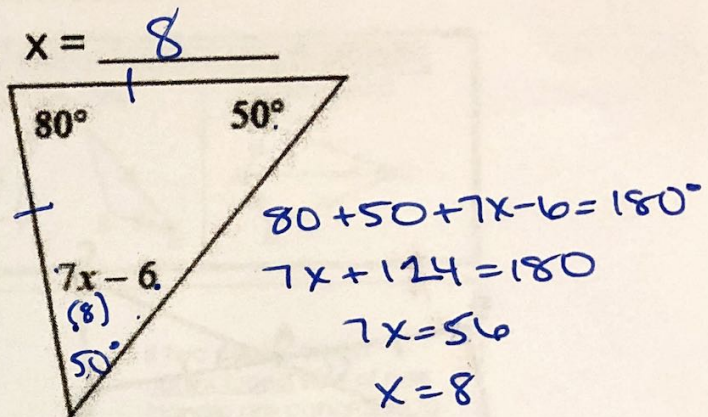
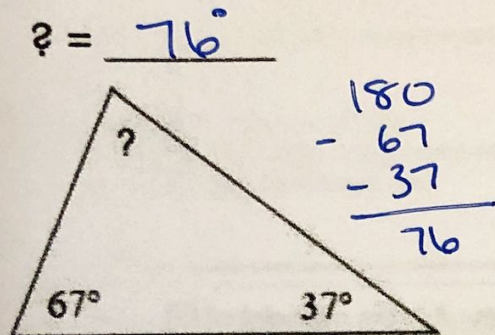
SAS
→ 2 matching sides and an included angle



HL
→ Right Triangle with a matching hypotenuse and a matching leg.

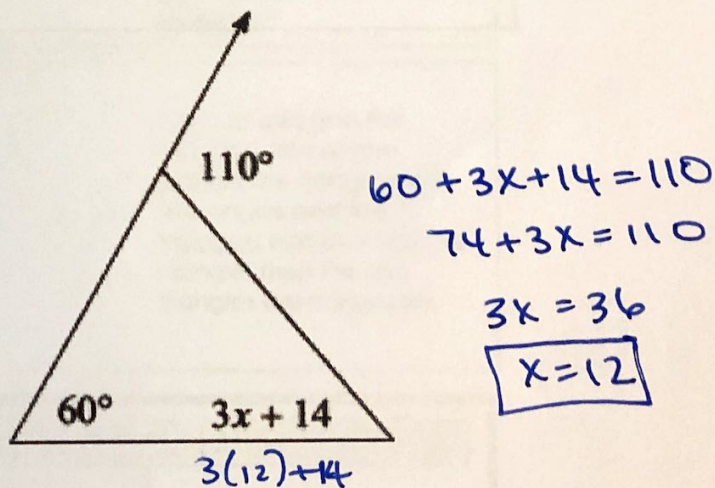
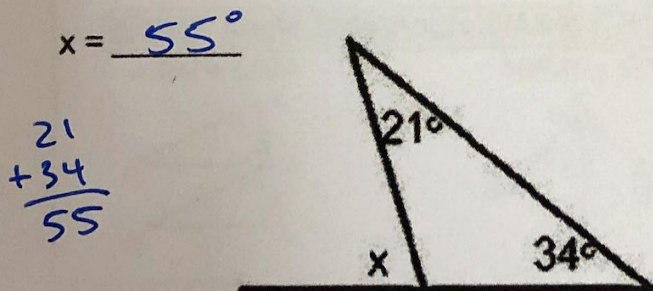
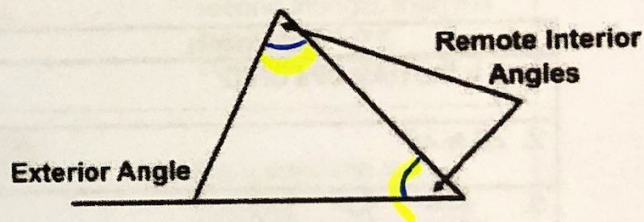
TRIANGLE SUM

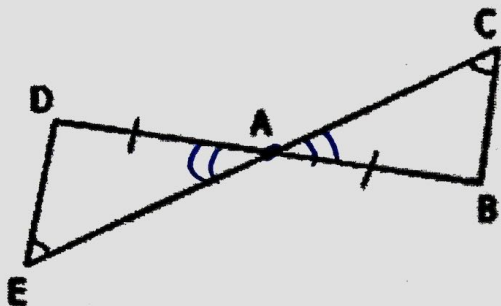
The sum of the measures of the interior angles of a triangle is 180°.



EXTERIOR ANGLE THEOREM

The measure of an exterior angle of a triangle is equal to the Sum of the measures of the two remote interior angles.





Given: A is the midpoint of \overline{BD} ✓
 $\angle E \cong \angle C$ ✓

Prove: $\triangle ABC \cong \triangle ADE$

Statements	Reasons
1. A is the midpoint of BD	1. Given
2. $\angle E \cong \angle C$	2. Given
3. $\overline{AD} \cong \overline{AB}$	3. Definition of midpoint
4. $\angle DAE \cong \angle BAC$	4. Vertical Angles
5. $\triangle ABC \cong \triangle ADE$	5. AAS (Angle Angle Side)