Unit 11H: Triangles & Congruence Study Guide Name: ___________________Per: ______

Assn	UNIT 11 Triangles and Distance Learning Objective	A Day	B Day	Done	Core Std
11SG	Triangles and Distance				
11.1	Perimeter, distance and basic symbols	Mar 8	Mar 11		
11.2	SSS, SAS	Mar 12	Mar 13		
11.3	ASA, AAS, and CPCTC	Mar 14	Mar 15		
11.4	Prove It!	Mar 18	Mar 19		
11.5	PROOFS PART 2???	Mar 20	Mar 21		
11R	Unit 11 Review	Mar 22	Mar 25		
	Unit 11 EMT (Hand out 12 B4A)	Mar 26	Mar 27		

Targets	Sample Question	Ugh?	Meh	Got it	Assn
Use basic symbols about segments, angles, parallel, perpendicular and congruent	$\overline{AB} \cong \overline{CD}$, $\overline{AB} \parallel \overline{CD}, \overline{AB} \perp \overline{CD}$, $\angle A \cong \angle B$. $\Delta ABC \cong DEF$				11.1, 11.2
Triangle congruence (ASA, AAS, SSS, SAS)	Explain why (not) the triangles are (not) congruent				11.1-11R
Complete a two-column proof	Given the following image, prove that the triangles are congruent using a two-column proof.				11.2-11R
Use the Pythagorean Theorem to find the perimeter of polygons	Find the perimeter of the given image.				11.1, 11.4

Vocabulary

Pythagorean Theorem: ____

Perimeter: ____

Triangle Inequality Theorem: ____

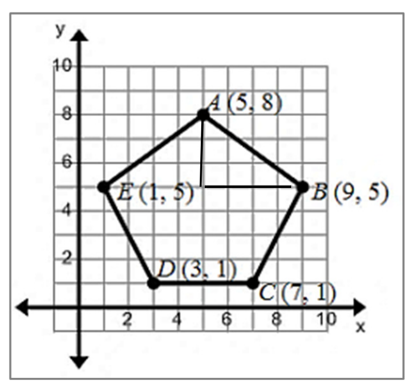
Congruent:____

Similar: ____

CPCTC:____

Finding the perimeter of a polygon on a grid:

You can use the Pythagorean Theorem ($a^2 + b^2 = c^2$) to find the ________________ of each side. (Use slope triangles with the polygon sides.) Add the side lengths to find the _________________ of shape ABCDE.



$\overline{AB}$ = =$\sqrt{3^2 + 4^2} = \sqrt{9 + 16} = \sqrt{25} = 5$

$\overline{BC}$ =______________________________ = _________

$\overline{CD}$ =______________________________ = _________

$\overline{DE}$ =______________________________ = _________

$\overline{EA}$ =______________________________ = _________

Add all of the lengths: _____ + _____+ _____+ _____+ ______

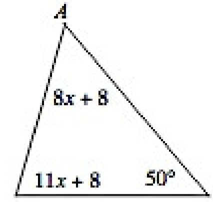
the perimeter of the polygon:____________

Triangle Inequality:

The sum of the **lengths** of any two sides of a triangle is ____________ than the length of the third side. State if the three numbers can be the measures of the sides of a triangle. **Explain**

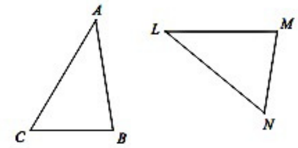
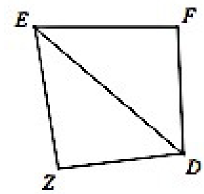
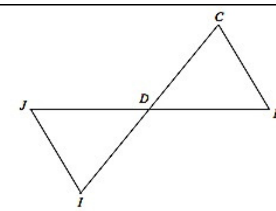
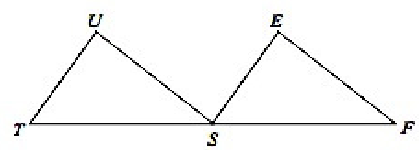
a. 18, 12, 7 b. 12, 6, 6 c. 10, 11, 23

Triangle Sum Theorem The sum of all three angles of a triangle =______°. Find the angles for the triangle to the right.



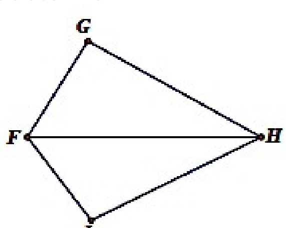
Corresponding Parts of Congruent Triangles are Congruent (CPCTC)

Mark the triangles to show congruence based on the names theorem with **proper congruent marks.**

Side-Side-Side (SSS) Congruence If three sides of one triangle are congruent to three sides of second triangle, then the two triangles are __________________.	**SSS** $\Delta ABC \cong \Delta L$____ 
Side-Angle-Side (SAS) Congruence If two sides and the included angle of one triangle are congruent to two sides and the included angle of a _______________ triangle, the two triangles are congruent.	**SAS** $\Delta ZED \cong \Delta$____D 
Angle-Side-Angle (ASA) Congruence If two angles and the included side of one triangle are congruent to two angles and the _________________ side of a second triangle, then the two triangles are congruent.	**ASA** $\Delta JID \cong \Delta$____ 
Angle-Angle-Side (AAS) Congruence If two angles and a non-included side of one triangle are congruent to two angles and the corresponding non-included side of a ______ triangle, then the two triangles are congruent.	**AAS** or **SAA** $\Delta UTS \cong$ Δ_____ 
Side-Side-Angle (SSA) This **DOES NOT** prove congruence.	**SSA** or **ASS** Example of **WHY NOT**.
Angle-Angle-Angle (AAA) This **DOES NOT** prove congruence. Triangles are _____________. Triangle sides will have a common ratio.	**AAA** or **AAA** Example of **WHY NOT**.

Two-Column Proofs Mostly require practice justifying EVERYTHING IN ORDER. Use the given information and the following image. Fill in the blanks to complete the proof. (See Assn 11.2-11.4 for practice.)

Given: $\angle G \cong \angle I$; $\overline{FH}$ bisects $\angle GFI$
Prove: $\Delta GFH \cong \Delta IFH$



Statements	Reasons
1. $\angle G \cong \angle I$; $\overline{FH}$ bisects $\angle GFI$	1.
2. $\angle GFH \cong \angle IFH$	2. Def. of _____________
3.	3. Reflexive Prop.
4.	4.