Geometry Reflective Portfolio

Unit #4: Triangle congruence and CPCTC

Section #1: Vocabulary (words and/or diagrams)

Reflexive property	**Addition property of equality**
Subtraction property of equality	**Substitution property**

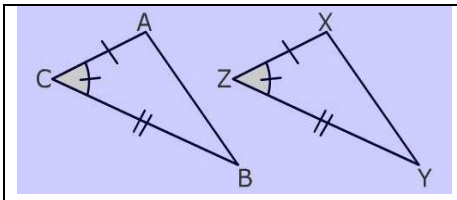
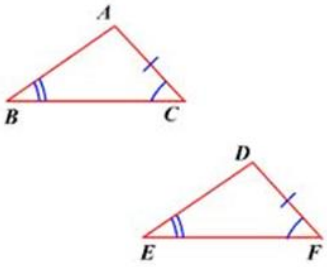
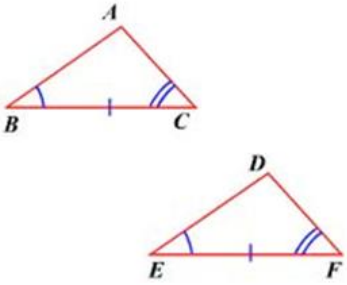
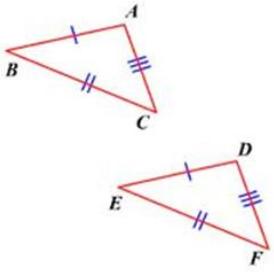
Section #2: Formulas/Equations/Theorems

- **Which transformations will result in yielding congruent triangles?**

  _____, _____, _____

  What do we call this group of transformations? _____

- **Write the 4 Triangle Congruence Theorems that match each diagram:**

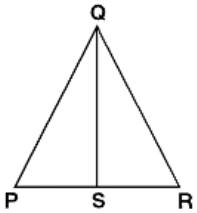
	
	

- **What is the special congruence theorem you may use to prove *right triangles* are congruent?** _____

  Label the diagram:

  Given: $\overline{PQ} \cong \overline{RQ}$, $\overline{QS} \perp \overline{PR}$

  Prove: $\Delta PQS \cong \Delta RQS$



- **CPCTC means**_____

  _____

Write out each:

- **Isosceles triangle theorem**

_____

_____

- **Converse of isosceles triangle theorem**

_____

_____

Section #3: Key methods and concepts (write out the process and/or a solved example)

1) Given: $\overline{ABCD}$ with $\overline{AB} \cong \overline{CD}$

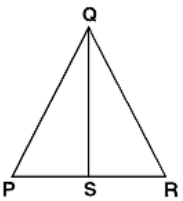
Prove: $\overline{AC} \cong \overline{BD}$

Statements	Reasons
1. $\overline{ABCD}$ with $\overline{AB} \cong \overline{CD}$	1. Given
2. $\overline{CB} \cong \overline{CB}$	2.
3. $\overline{AB} + \overline{BC} \cong \overline{CD} + \overline{BC}$	3.
4. $\overline{AB} + \overline{BC} \cong \overline{AC}$ $\overline{CD} + \overline{BC} \cong \overline{BD}$	4.
5. $\overline{AC} \cong \overline{BD}$	5.

2) Complete the 2 column proof:

Given: $\overline{QS} \perp \overline{PR}$ and $\overline{QS}$ bisects $\angle PQR$

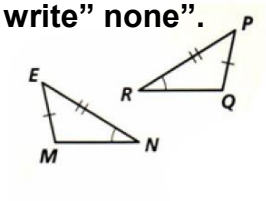
Prove: $\overline{PS} \cong \overline{RS}$



Statements	Reasons
1) $\overline{QS} \perp \overline{PR}$ and $\overline{QS}$ bisects $\angle PQR$	1)Given
2) $m\angle PSQ = 90^o$ *and* $m\angle RSQ = 90^o$	2)
3)	3) All right angles are congruent.
4) $\angle PQS \cong \angle RQS$	4)
5)	5) Reflexive property
6) $\Delta PQS \cong \Delta RQS$	6)
7) $\overline{PS} \cong \overline{RS}$	7)

3) Write a triangle congruence theorem that may be used to prove the triangles congruent or write" none".

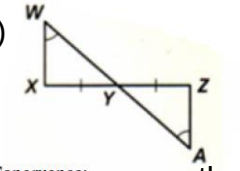
a)



Congruence: _____thm

$\Delta EMN \cong \Delta$ _____

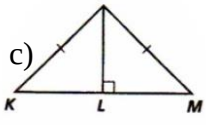
b)



Congruence: _____thm.

$\Delta WXY \cong \Delta$ _____

c)



Congruence: _____thm.

$\Delta KLP \cong \Delta$ _____