

Geometry Chapter 4 Pre-Test

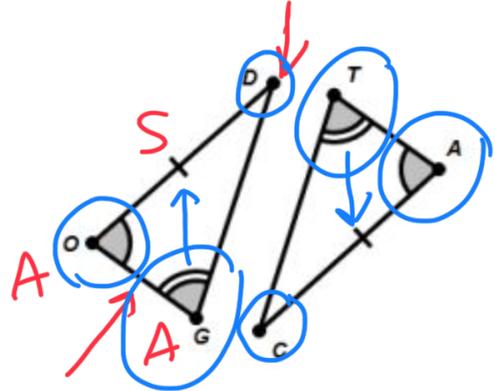
1.) (10 pts each, 60 pts total) Evaluate each of the following triangles. If they are congruent, state which theorem suggests they are congruent (SAS, ASA, SSS, AAS, HL) and write a congruence statement.

a) Theorem: **(8) AAS**

Triangle Congruence:

(2)

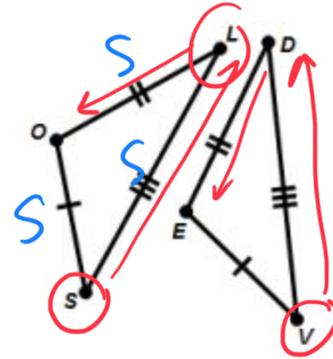
$$\triangle DOG \cong \triangle CAT$$



b) Theorem: **SSS**

Triangle Congruence:

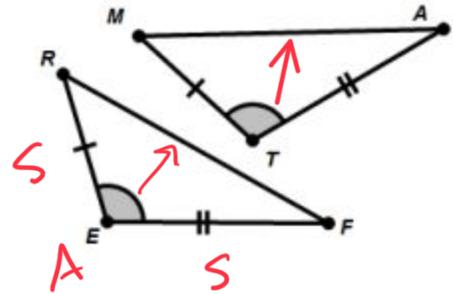
$$\triangle SLO \cong \triangle VDE$$



c) Theorem: **SAS**

Triangle Congruence:

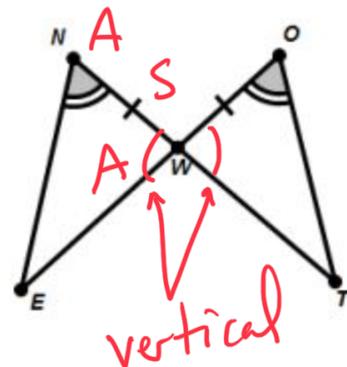
$$\triangle MTA \cong \triangle REF$$



d) Theorem: **ASA**

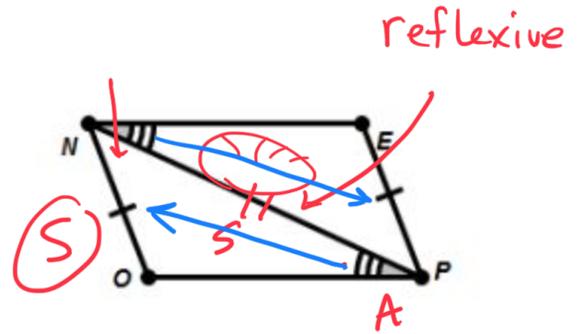
Triangle Congruence:

$$\triangle NWE \cong \triangle OWT$$



e) Theorem: *Not congruent*

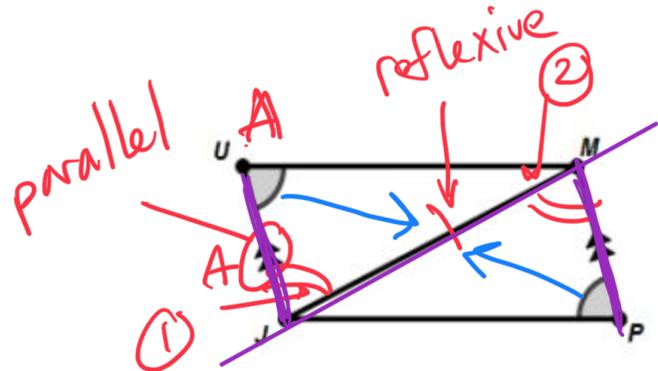
Triangle Congruence:



f) Theorem: *AAS*

Triangle Congruence:

$$\triangle VMJ \cong \triangle PJM$$

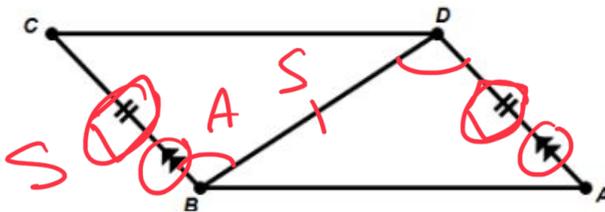


2.) (10 pts each, 20 pts total) Prove which of the following triangles congruent if possible by filling in the missing blanks:

a) (10 pts)

No Prove → No CPCTC

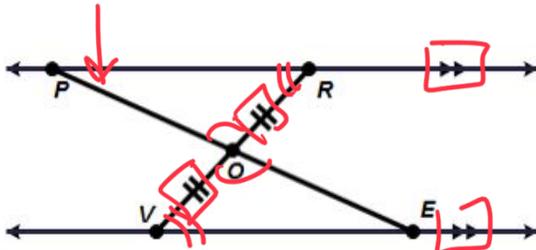
a. Given $\overline{CB} \cong \overline{AD}$ and $\overline{CB} \parallel \overline{AD}$



Statements	Reasons
1. $\overline{CB} \cong \overline{AD}$	Given
2. $\overline{CB} \parallel \overline{AD}$	Given
3. $\angle CBD \cong \angle ADB$	Alt. Interior Angles
4. $\overline{BD} \cong \overline{BD}$	Reflexive Property
5. $\triangle BCD \cong \triangle DAB$	SAS

b) (10 pts)

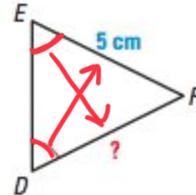
c. Given $\overline{VO} \cong \overline{RO}$ and $\overline{PR} \parallel \overline{VE}$



Statements	Reasons
1. $\overline{VO} \cong \overline{RO}$	Given
2. $\overline{PR} \parallel \overline{VE}$	Given
3. $\angle POR \cong \angle EOV$	Vertical Angles
4. $\angle PRO \cong \angle EVO$	Alt. Int. Angles
5. $\triangle PRO \cong \triangle EVO$	ASA

3.) (5 pts each, 20 pts total) Find the missing measurement or variable(s).

a) ? = 5 cm



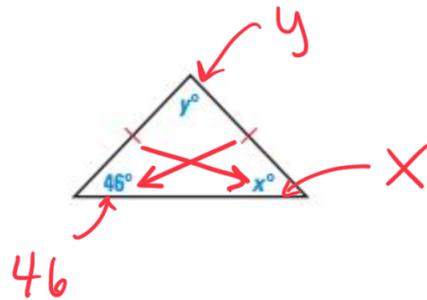
b) $x = 46^\circ$
 $y = 88^\circ$

$$180^\circ = 46 + x + y$$

$$180^\circ = 46 + 46 + y$$

$$180^\circ = 92 + y$$

$$\begin{array}{r} -92 \\ \hline 88 = y \end{array}$$



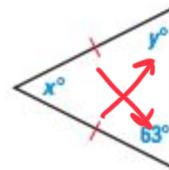
c) $x = 54$
 $y = 63$

$$180^\circ = 63 + x + y$$

$$180^\circ = 63 + x + 63$$

$$180 = 126 + x$$

$$\begin{array}{r} -126 \\ \hline 54 = x \end{array}$$



d) $x = 52.5$
 $y = 75$

$$180 = 75 + 2x$$

$$\begin{array}{r} -75 \\ \hline 105 = 2x \\ \frac{105}{2} = \frac{2x}{2} \end{array}$$

$$x = 52.5$$

