

Geometry Chapter 4 Pre-Test

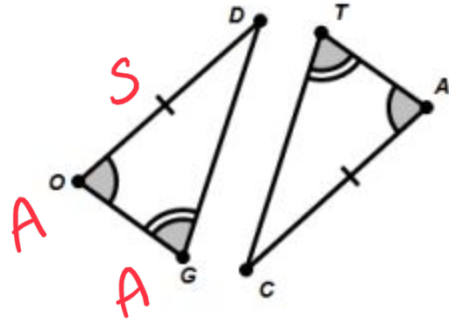
*Key*

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: *AAS*

Triangle Congruence:

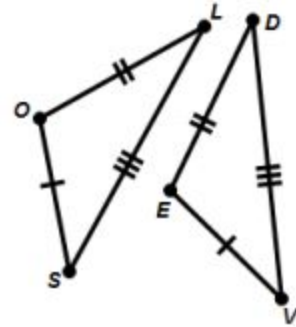
$$\triangle DOG \cong \triangle CAT$$



b) Theorem: *SSS*

Triangle Congruence:

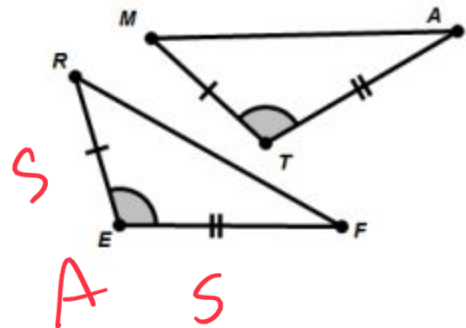
$$\triangle SOL \cong \triangle VED$$



c) Theorem: *SAS*

Triangle Congruence:

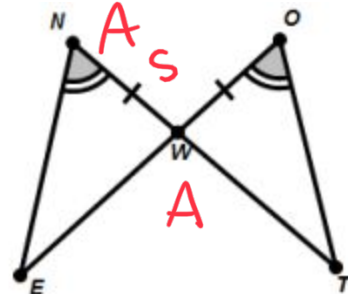
$$\triangle REF \cong \triangle MTA$$



d) Theorem: *ASA*

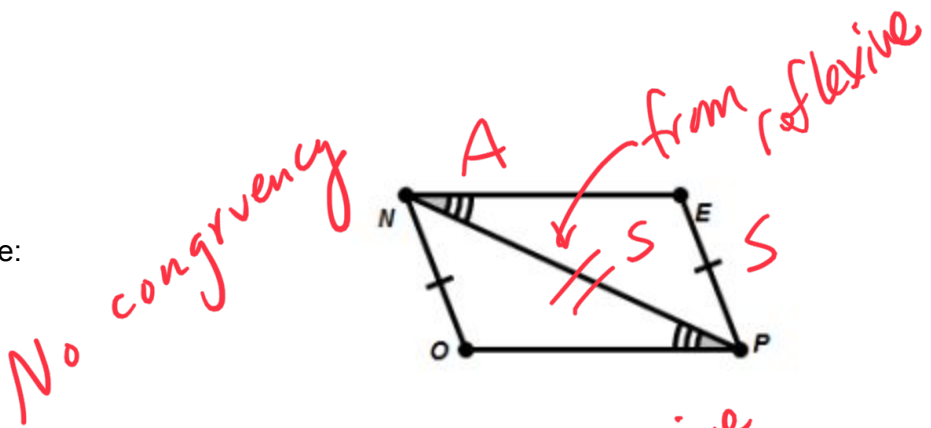
Triangle Congruence:

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



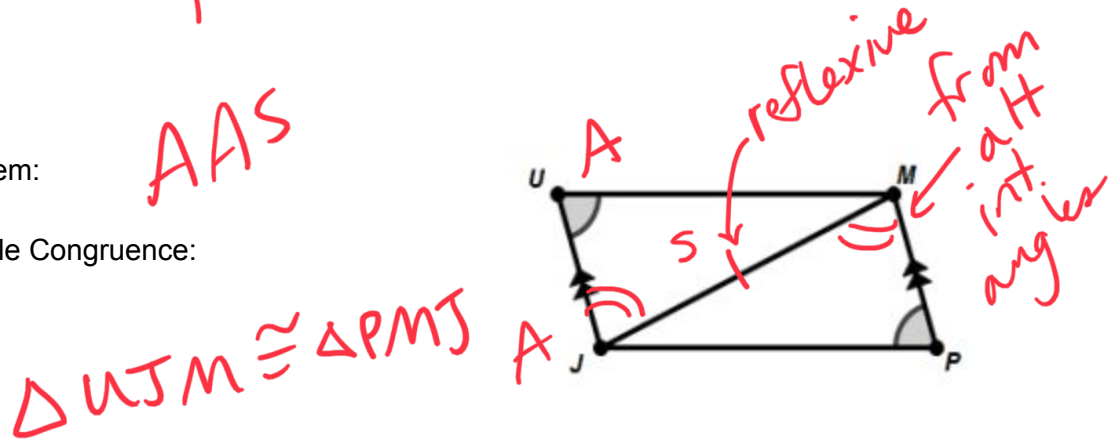
e) Theorem:

Triangle Congruence:



f) Theorem:

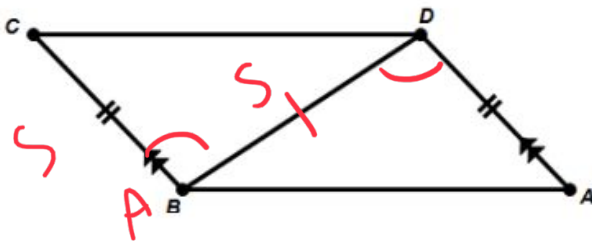
Triangle Congruence:



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)

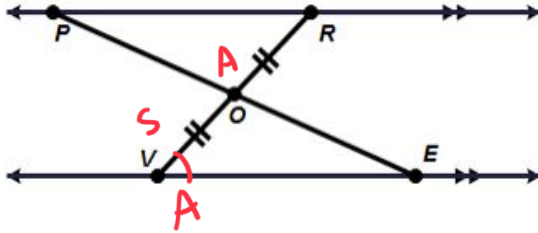
a. Given  $\overline{CB} \cong \overline{AD}$  and  $\overline{CB} \parallel \overline{AD}$



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
5. $\triangle BCD \cong \triangle ADB$	SAS

b) (10 pts)

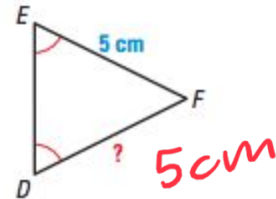
c. Given  $\overline{VO} \cong \overline{RO}$  and  $\overline{PR} \parallel \overline{VE}$



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. Interior angles
5. $\triangle PRO \cong \triangle EVO$	ASA

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

a) ? = 5cm



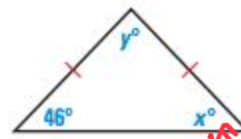
b) x = 46  
y = 98

$$180 = y + 46 + x$$

$$180 = y + 46 + 46$$

$$180 = y + 92$$

$$-92 \quad -92$$



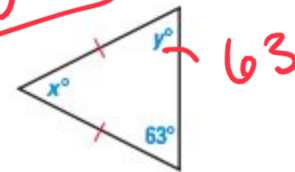
c) x = 54  
y = 63

$$180 = x + 63 + y$$

$$180 = x + 63 + 63$$

$$180 = x + 126$$

$$-126 \quad -126$$



d) x = 52.5  
y = 75

$$180 = x + 75 + 75$$

$$180 = x + 150$$

$$-150 \quad -150$$



$$x = 54$$

$$180 = 75 + 2x$$

$$-75 \quad -75$$

$$\frac{105}{2} = \frac{2x}{2}$$

$$x = 52.5$$