Geometry Chapter 4 Pre-Test

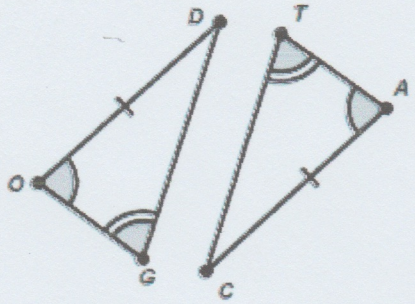
Key

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:

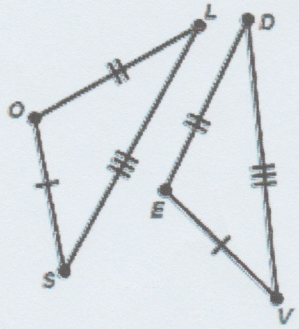
$\triangle OGD \cong \triangle ATC$



b) Theorem: SSS

Triangle Congruence:

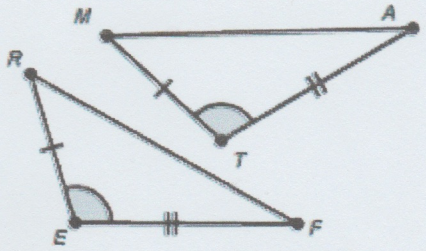
$\triangle SOL \cong \triangle VED$



c) Theorem: SAS

Triangle Congruence:

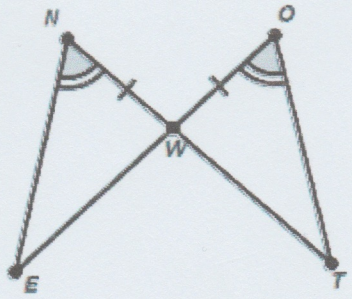
$\triangle REF \cong \triangle MTA$



d) Theorem: ASA

Triangle Congruence:

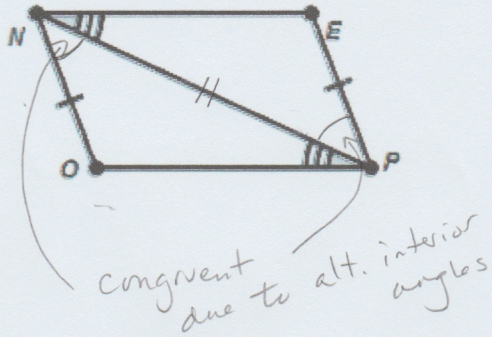
$\triangle NWE \cong \triangle OWT$



e) Theorem: SAS

Triangle Congruence:

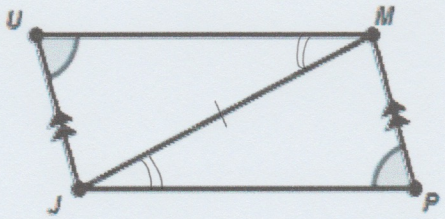
$\triangle ONP \cong \triangle EPN$



f) Theorem: AAS

Triangle Congruence:

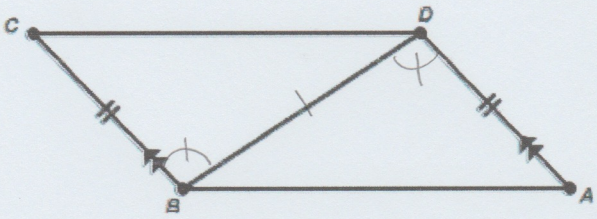
$\triangle UMJ \cong \triangle PJM$



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)

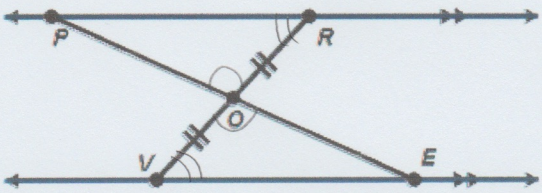
a. Given $\overline{CB} \cong \overline{AD}$ and $\overleftrightarrow{CB} \parallel \overleftrightarrow{AD}$



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

b) (10 pts)

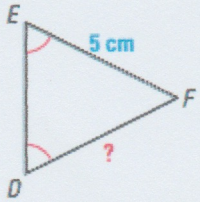
c. Given $\overline{VO} \cong \overline{RO}$ and $\overleftrightarrow{PR} \parallel \overleftrightarrow{VE}$



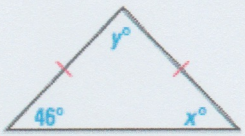
Statements	Reasons
1. $\overline{VO} \cong \overline{OR}$	Given
2. $\overline{PR} \parallel \overline{VE}$	Given
3. $\angle POR \cong \angle EOV$	Vertical Angles
4. $\angle PRO \cong \angle EVO$	Alt. Interior Angles
5. $\Delta PRO \cong \Delta EVO$	ASA

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

a) ? = 5cm



b) x = 46°
y = 88°

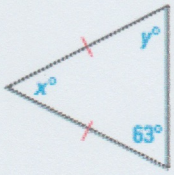


$46° + 46° + y° = 180°$

$92° + y° = 180°$
$-92° \quad -92°$

$y° = 88°$

c) x = 54°
y = 63°

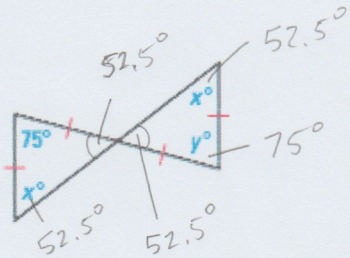


$63° + 63° + x° = 180°$

$126° + x° = 180°$
$-126° \quad -126°$

$x° = 54°$

d) x = 52.5°
y = 75°



$x° + x° + 75° = 180°$
$-75 \quad -75°$

$\frac{2x°}{2} = \frac{105°}{2}$

$x = 52.5°$