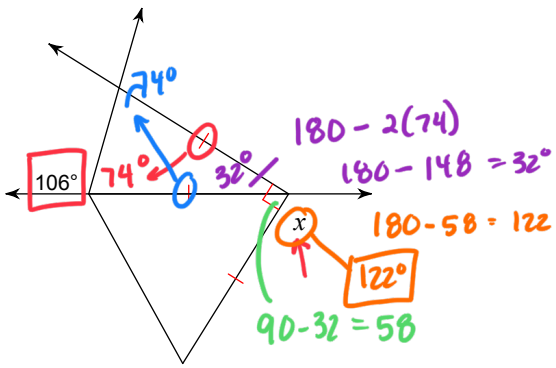
7)



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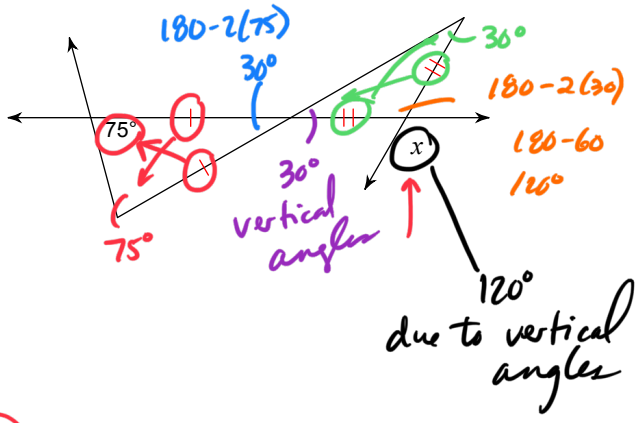

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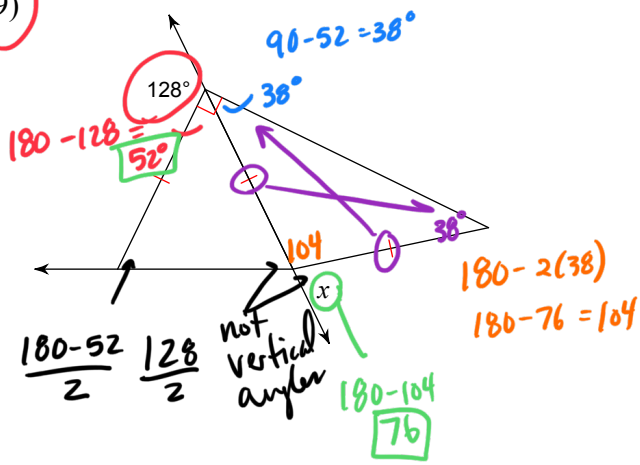

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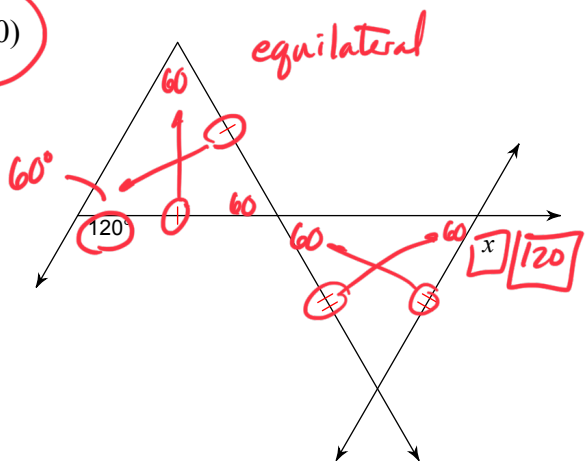

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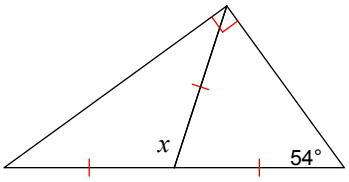

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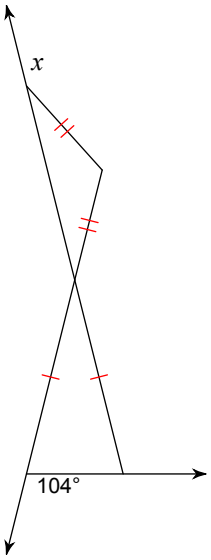

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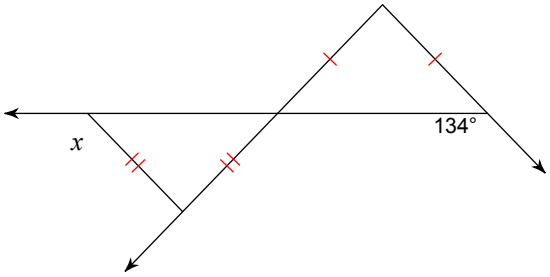


Geometry Chapter 4 Pre-Test

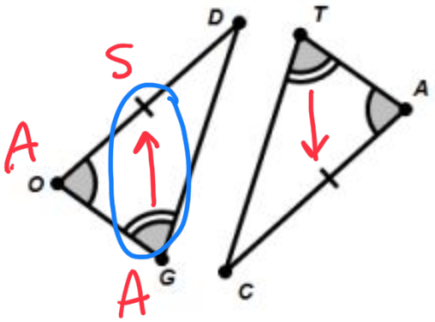
1.) (10 pts each, 60 pts total) Evaluate each of the following triangles. If they are congruent, state which theorem suggests they are congruent (SAS, ASA, SSS, AAS, ~~HL~~) and write a congruence statement.

a) Theorem: AAS

Triangle Congruence:

$\triangle DOG \cong \triangle CAT$

No 1 2 No 1 2

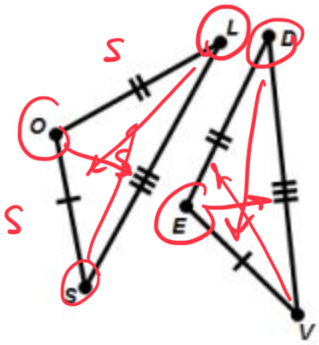


b) Theorem: SSS

Triangle Congruence:

$\boxed{\triangle LOS \cong \triangle DEV}$

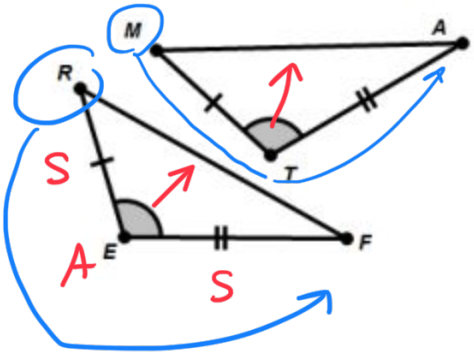
1 3 2 1 3 2



c) Theorem: SAS

Triangle Congruence:

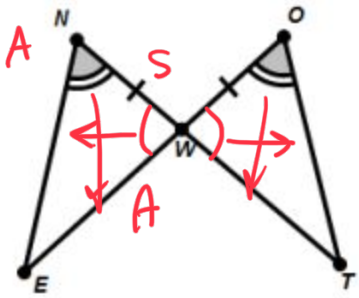
$\boxed{\triangle REF \cong \triangle MTA}$



d) Theorem: ASA

Triangle Congruence:

$\triangle NEW \cong \triangle OTW$

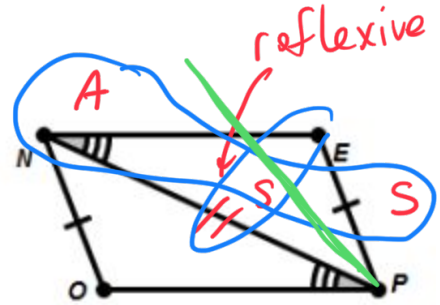


- Reflexive
- vertical
- Alt interior

e) Theorem:

Triangle Congruence:

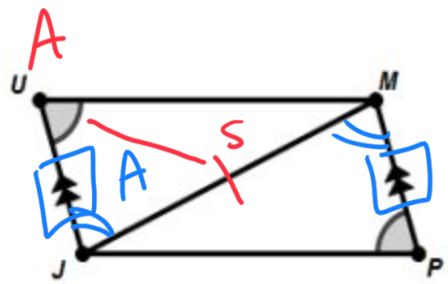
Not congruent



f) Theorem: AAS

Triangle Congruence:

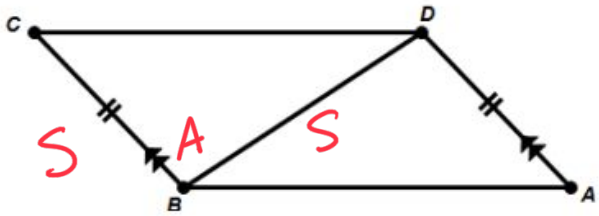
$\triangle UJM \cong \triangle PMJ$



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 $\overleftrightarrow{CB} \parallel \overleftrightarrow{AD}$



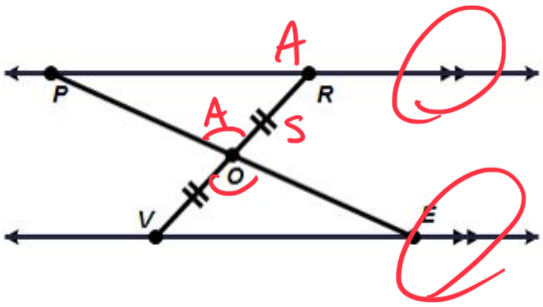
Prove $\overline{CD} \cong \overline{AB}$

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
5. $\Delta BCD \cong \Delta DAB$	SAS

6. $\overline{CD} \cong \overline{AB}$ CPCTC

b) (10 pts)

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



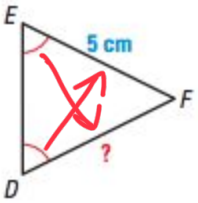
Prove: $\overline{PO} \cong \overline{EO}$

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

6. $\overline{PO} \cong \overline{EO}$ CPCTC

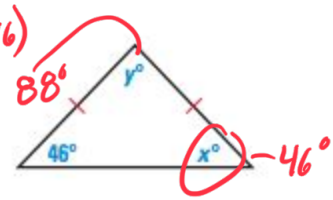
3.) (5 pts each, 20 pts total) Find the missing measurement or variable(s).

a) ? = 5cm



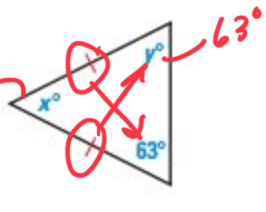
b) x = 46°
y = 88°

180 - 2(46)
180 - 92 = 88°



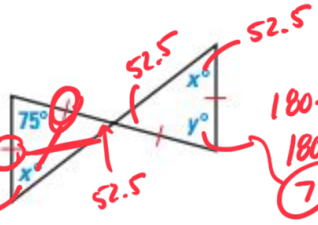
c) x = 54°
y = 63°

180 - 2(63)
180 - 126
54°



d) x = 52.5°
y = 75°

$\frac{180-75}{2}$
$\frac{105}{2} = 52.5°$



180 - 2(52.5)
180 - 105
75