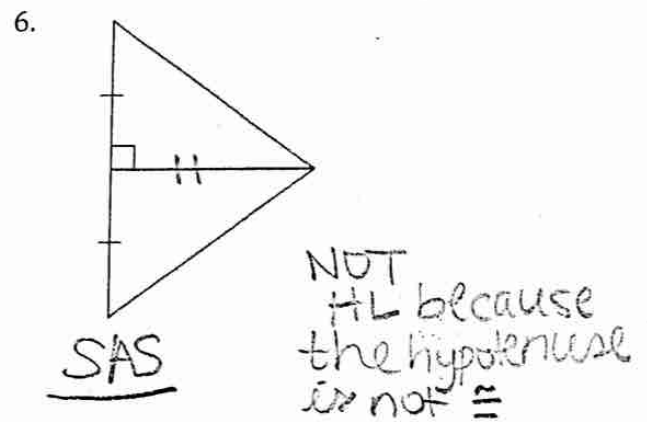
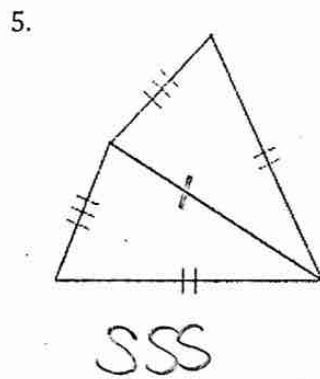
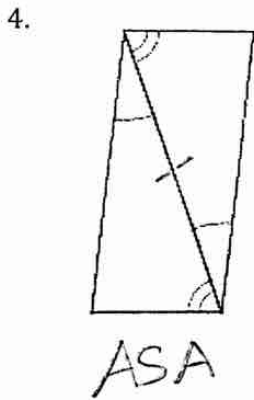
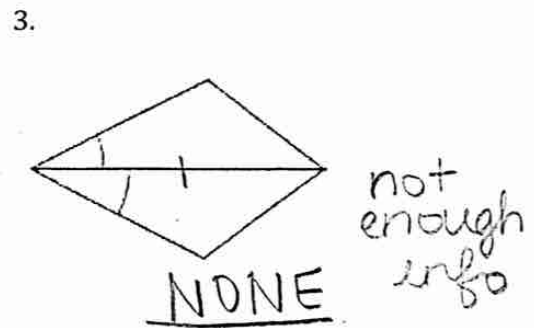
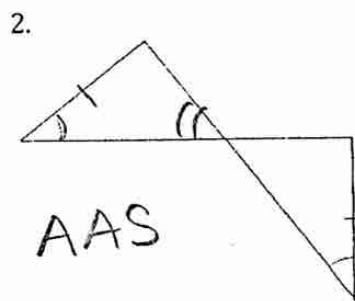
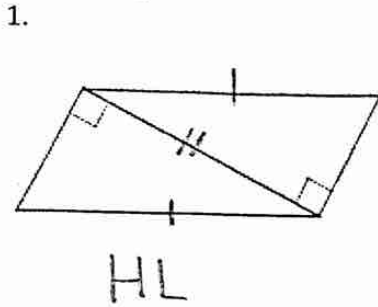


Geometry
 Congruent and Similar Triangles Test Review

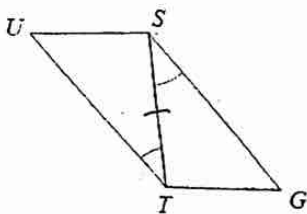
Name Answer Key
 Date _____ Block _____

State whether each pair of triangles is congruent by SSS, SAS, ASA, AAS, or HL; if none of these methods work, write NONE.



7. State what information is needed to prove the triangles are congruent using the given method and provide the triangle congruence statement.

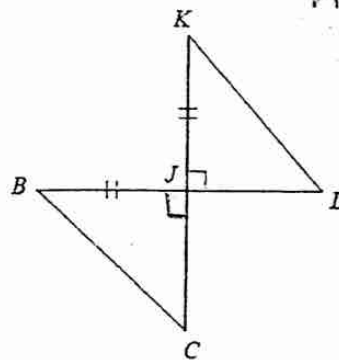
a) ASA



We don't need to know $ST \cong ST$ because we can assume that

$\triangle STU \cong \triangle TSG$
 Need to know: $\angle UST \cong \angle GST$

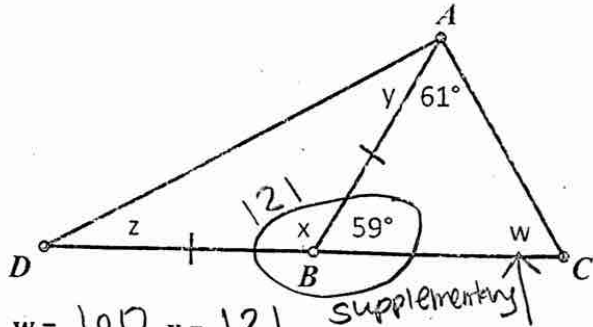
b) HL \rightarrow must know hypotenuse is equal



$\triangle JBC \cong \triangle JKL$
 Need: $\overline{BC} \cong \overline{KL}$

13. In each figure below, solve for the missing variable

a)



$$w = 60 \quad x = 121$$

$$y = 29.5 \quad z = 29.5$$

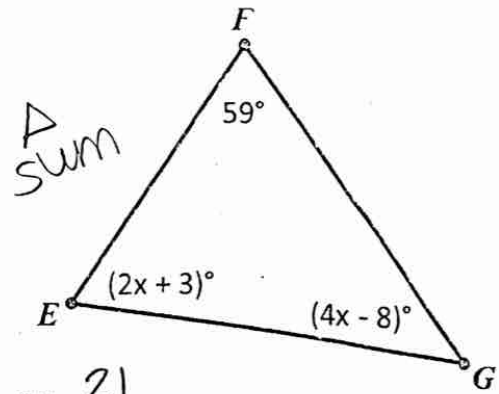
These are the same so $180 - 121 = 59$ then \div by 2

$$w + 59 + 61 = 180$$

$$w + 120 = 180$$

$$w = 60$$

b)

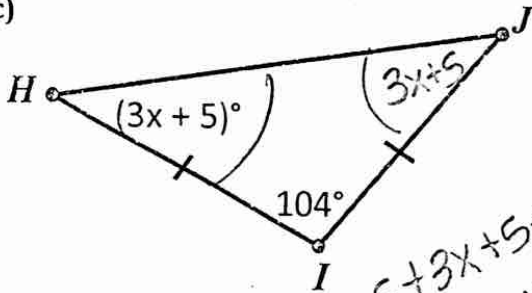


$$x = 21$$

$$2x + 3 + 59 + 4x - 8 = 180$$

$$6x + 54 = 180$$

c)



$$3x + 5 + 3x + 5 + 104 = 180$$

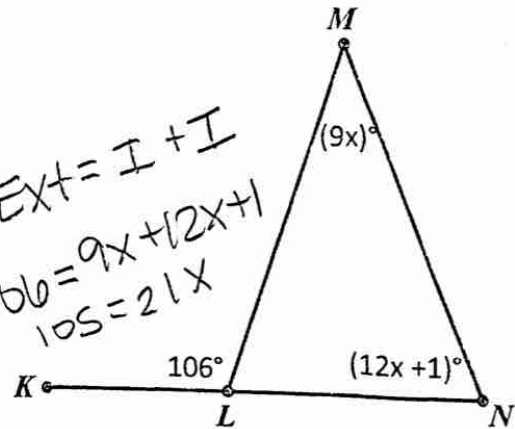
$$6x + 114 = 180$$

$$6x = 66$$

$$x = 11$$

$$x = 11$$

d)



$$Ext = I + I$$

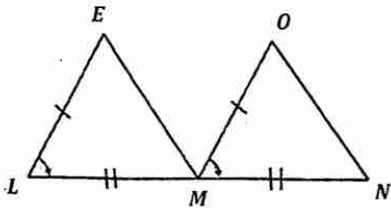
$$106 = 9x + (12x + 1)$$

$$105 = 21x$$

$$x = 5$$

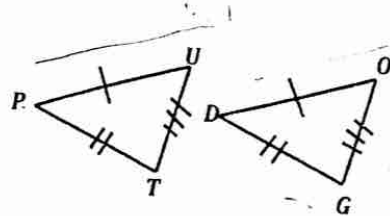
20. Given the following triangles, determine how they are congruent and complete the triangle congruence statement.

a)



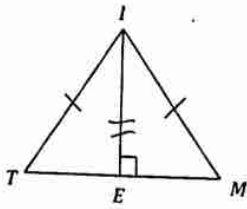
$$\triangle LEM \cong \triangle MON \text{ by } \underline{SAS}$$

b)



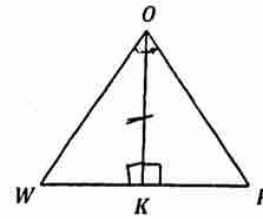
$$\triangle PUT \cong \triangle DOG \text{ by } \underline{SSS}$$

c)



$\triangle TIE \cong \triangle MIE$ by HL

d)



$\triangle KOW \cong \triangle KOR$ by ASA

State if the triangles are similar. If so, state how you know, complete the similarity statement and give all common ratios used.

Similarity Reasons \rightarrow SSS, AA, SAS or NDT

21. Circle one: Yes or No

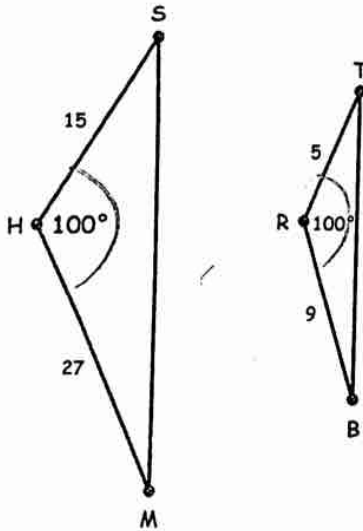
If yes, postulate or theorem: SAS

$\triangle SHM \sim \triangle TRB$

22. Circle one: Yes or No

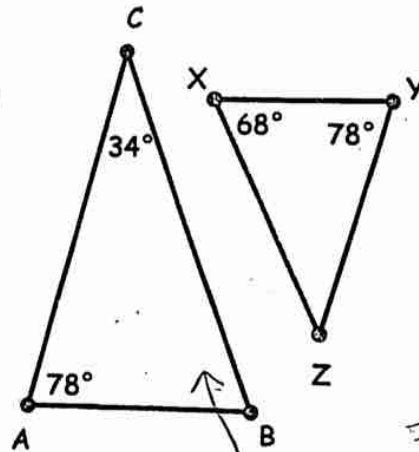
If yes, postulate or theorem: AA

$\triangle CAB \sim \triangle ZYX$



"Test sides"

$$\frac{15}{5} = \frac{27}{9} = 3 \checkmark$$



find this

$$78 + 34 + \angle B = 180$$

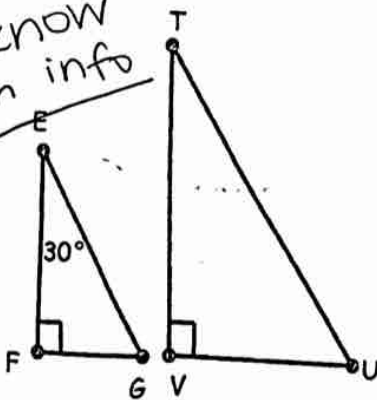
$$\angle B = 68$$

23. Circle one: Yes or No

If yes, postulate or theorem: _____

$\triangle EFG \sim \triangle$ _____

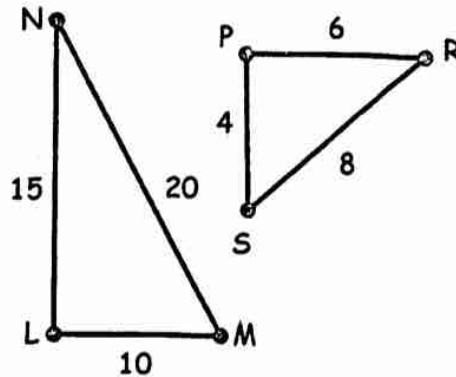
Don't know enough info



24. Circle one: Yes or No

If yes, postulate or theorem: SSS

$\triangle NLM \sim \triangle RPS$

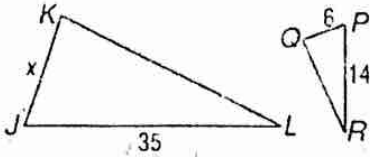


"Test sides"

$$\frac{10}{4} = \frac{15}{6} = \frac{20}{8} = 2.5 \checkmark$$

Solve using Triangle Proportionality.

25. If $\triangle JKL \sim \triangle PQR$, find x .



$KJ \sim QP$
 $JL \sim PR$

~~$\frac{x}{6} = \frac{35}{14}$~~
 $14x = 210$
 $x = 15$

27. In the diagram, $\triangle BTW \sim \triangle ETC$.

a. Find the $m\angle TEC$. 79°

$EC \parallel BW$ so $\angle TEC$ is corresponding with the 79° angle

b. Find ET and BE .

↑
 find this first
 you can call
 it x so

~~$\frac{x}{20} = \frac{3}{12}$~~

$12x = 60$
 $x = 5$

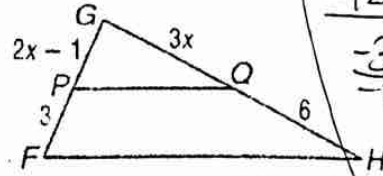
so $ET = 5$ meaning then the BE is 15

because $BE + TE = 20$

$BE + 5 = 20$

$BE = 15$

26. If $\triangle GPQ \sim \triangle GFH$, find x .



$9x = 12x - 6$
 $-12x \quad -12x$
 $-3x = -6$
 $-3 \quad -3$
 $x = 2$

~~$\frac{2x-1}{3} = \frac{3x}{6}$~~

use distributive property

