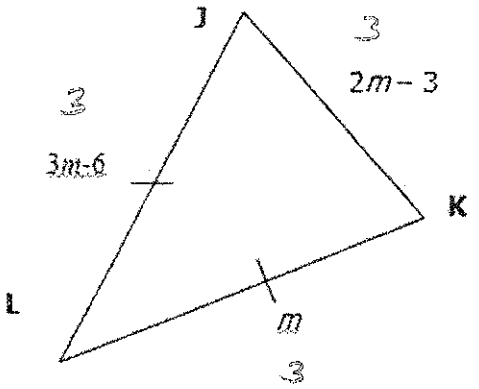
Honors Geometry

Name: Key

Triangles Test Review A

Date: _____ Period: _____

1. Find the value of the variable, answer the questions & then classify the triangle.



Given: $\overline{JL} \cong \overline{KL}$

$m = 3m - 6$

$2m = 6$

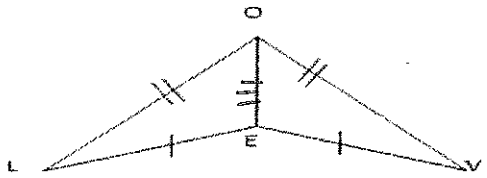
$m = 3$

$m =$ 3

Classify by Angle: (Acute) / Right / Obtuse *(circle one)*

Classify by Side: (Equilateral) / Isosceles / Scalene *(circle one)*

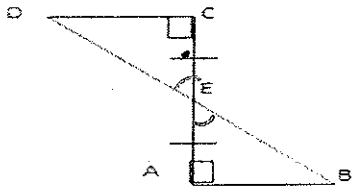
2. For each pair of triangles tell the following:
   a. Are they congruent? If they are congruent then
   b. Write the triangle congruency statement
   c. Give the postulate that makes them congruent



a. Yes

b. $\triangle$ LOE $\cong \triangle$ VOE

c. SSS

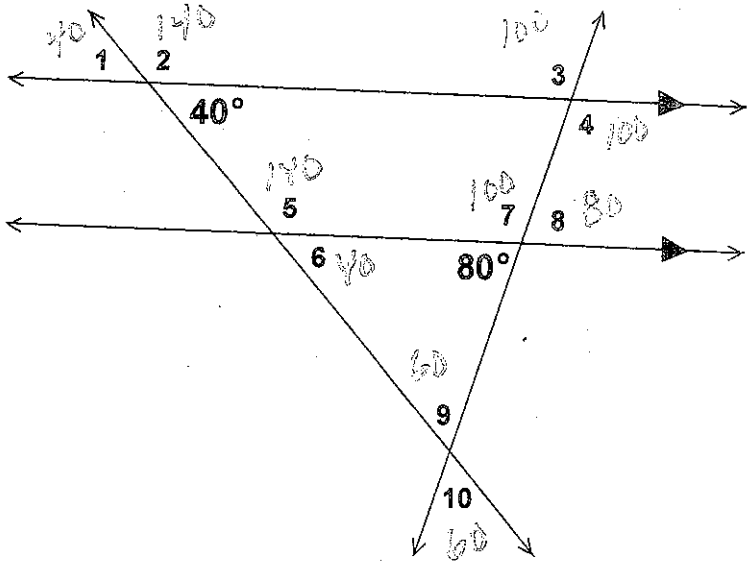


a. yes

b. $\triangle$ DCE $\cong \triangle$ BAE

c. ASA

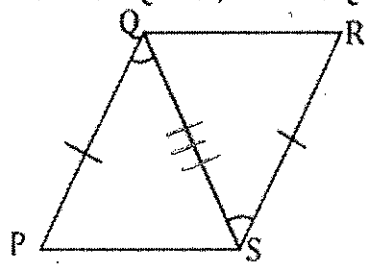
3. Use the diagram below to find each angle measure.



1.	40	2.	140
3.	100	4.	80
5.	140	6.	40
7.	100	8.	80
9.	60	10.	60

4. Write a **2-column** proof with the following information.

Given: $\overline{PQ} \cong \overline{RS}$, and $\angle PQS \cong \angle RSQ$

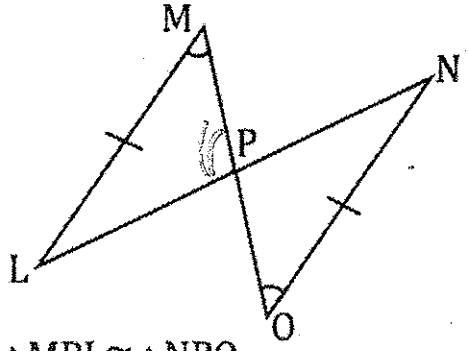


Prove: $\Delta PQS \cong \Delta RSQ$

$\overline{PQ} \cong \overline{RS}$	Given
$\angle PQS \cong \angle RSQ$	
$\overline{QS} \cong \overline{QS}$	Reflexive
$\Delta PQS \cong \Delta RSQ$	SAS

5. Write a **2-column** proof with the following information.

Given: $\overline{LM} \cong \overline{NO}$, and $\angle M \cong \angle O$

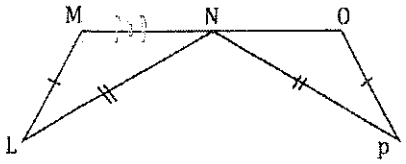


Prove: $\Delta MPL \cong \Delta NPO$

$\overline{LM} \cong \overline{NO}$	Given
$\angle M \cong \angle O$	
$\angle MPL \cong \angle NPL$	Vert. $\angle$s $\cong$
$\Delta MPL \cong \Delta NPO$	AAS

6. Write a **2-column** proof with the following information ☺

Given: N is the midpoint of $\overline{MO}$, $\overline{LM} \cong \overline{OP}$, and $\overline{LN} \cong \overline{PN}$



Prove: $\triangle LMN \cong \triangle PON$

1) $\overline{LN} \cong \overline{PN}$, $\overline{LM} \cong \overline{OP}$, N is midpoint of $\overline{MO}$	1) Given
2) $\overline{MN} \cong \overline{NO}$	2) Def. midpoint
3) $\triangle LMN \cong \triangle PON$	3) SSS

7. What best describes the triangle below?

A. scalene and right

B. isosceles and right

C. isosceles and acute

D. scalene and acute

E. equilateral and right

8. List the five ways we can use to prove triangles congruent. (theorems...sss, etc.)

SSS, SAS, ASA, AAS, HL

9. List the two ways we CANNOT use to prove triangles are congruent.

AA

SSA

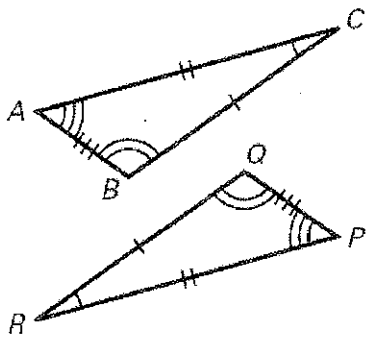
***REMEMBER...this is NOT your only study guide! Please study your quiz, notes, and homework!

Geometry Honors Name _____

Test Review Part B Period _____ Date _____

Triangle Congruency

1. Write a congruence statement for the triangles as well as congruency statements for all 3 sides and angles.



$\Delta ABC \cong$ ΔQPR

$\overline{AB} \cong \overline{QP}$ $\angle A \cong \angle P$

$\overline{BC} \cong \overline{RQ}$ $\angle B \cong Q$

$\overline{AC} \cong \overline{PR}$ $\angle C \cong R$

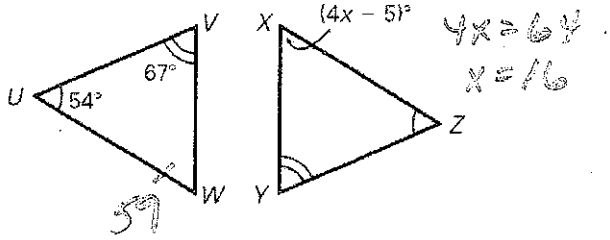
2. Complete the following statements if $\Delta BAT \cong \Delta GLV$.

a. $\overline{BA} \cong \overline{GL}$ **b.** $\angle A \cong \angle L$

c. $\overline{VG} \cong \overline{TB}$ **d.** $\Delta TBA \cong \Delta VGL$

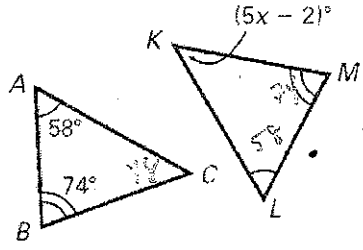
3. Find x for each pair of triangles below. **SHOW YOUR WORK.**

a.



$4x - 5 = 19$
$4x = 24$
$x = 6$

b.



$5x - 2 = 48$
$5x = 50$

$x =$ 6 $x =$ 10

4. Given: $\Delta BCD \cong \Delta EFG$. $m\angle B = (4x + 10)°$. $m\angle C = (5x - 2)°$. $m\angle F = (6x - 10)°$. Find...

a. $x =$ 8 **b.** $m\angle B =$ 42

c. $m\angle C =$ 38 **d.** $m\angle D =$ 100°

e. $m\angle E =$ 42 **f.** $m\angle F =$ 38

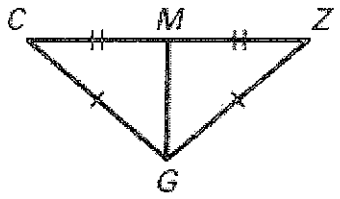
g. $m\angle G =$ 100

$5x - 2 = 6x - 10$

$x = 8$

5. For each figure, **MARK** the angles and sides we know *must* be congruent, then determine if we can say the triangles are congruent. If so, complete the congruence statement and state the reason (SSS, etc.). If not, write "not enough information."

a.

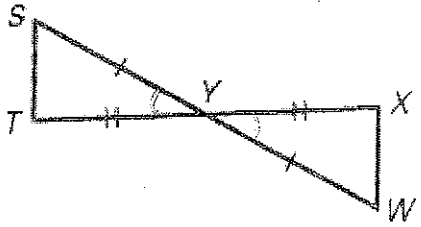


ΔMZG ≅ ΔMGZ

by SSS (SSS, etc.)

or: Not Enough Information

b.

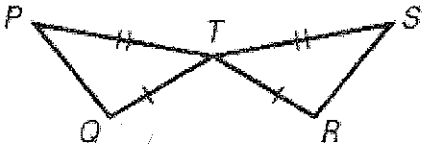


ΔSTY ≅ ΔWXY

by SAS (SSS, etc.)

or: Not Enough Information

c.



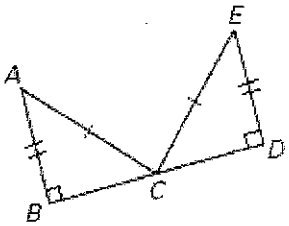
(Careful: Are these really vertical angles?)

ΔQPT ≅ _____

by _____ (SSS, etc.)

or: Not Enough Information

d.

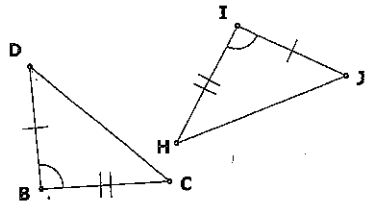


ΔCDE ≅ ΔCBA

by AA (SSS, etc.)

or: Not Enough Information

e.

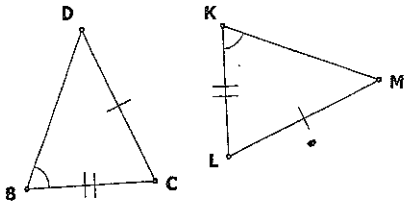


ΔBCD ≅ ΔIHJ

by SAS (SSS, etc.)

or: Not Enough Information

f.

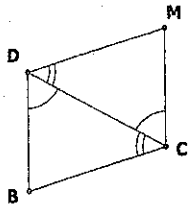


ΔBCD ≅ _____

by _____ (SSS, etc.)

or: Not Enough Information

g.

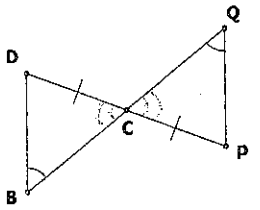


ΔBCD ≅ ΔMDC

by ASA (SSS, etc.)

or: Not Enough Information

h.



ΔBCD ≅ ΔQCP

by AAS (SSS, etc.)

or: Not Enough Information

G is the centroid of $\triangle ABC$, $AD = 8$, $AG = 10$, and $CD = 18$. Find the length of the segment.

1. $\overline{BD}$ 8

2. $\overline{AB}$ 16

3. $\overline{EG}$ 5

4. $\overline{AE}$ 15

5. $\overline{CG}$ 12

6. $\overline{DG}$ 6