

Geometry

Name: _____

Unit 3 Agenda - Congruent Triangles - PACKET #2

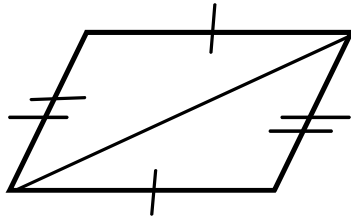
DATE	DAY	LESSON	PAGES	HOMEWORK
		PART 2!!!		
MON 10/10	3.10	Congruency Proofs	2 – 7	HW IN PACKET PAGE 6
TUES 10/11	3.11	CPCTC	8 – 11	HW IN PACKET PAGES 10 & 11
WED 10/12		PSAT DAY! & Practice		
THURS 10/13	3.12	Congruency Proofs Book		FINISH PAGES 6, 10, & 11
FRI 10/14	3.13	Quiz Review	12 – 14	Quiz Review and HW due tomorrow!
MON 10/17	3.14	Quiz today! Good luck!!	-----	
TUES 10/18	3.15	Medians & Centroids & Maze Practice	15 – 17	
WED 10/19	3.16	Putting It All Together		Start Test Review
THURS 10/20	3.17	Test Review	18 – 23	Test Review due tomorrow!
FRI 10/21	3.18	TEST TODAY!! GOOD LUCK!!!	-----	

Agenda is subject to change!!!

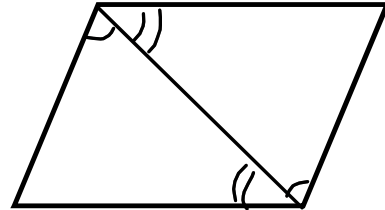
Warm-Up - DAY 3.10

Name: _____

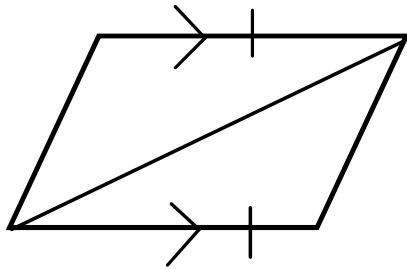
1. method: _____



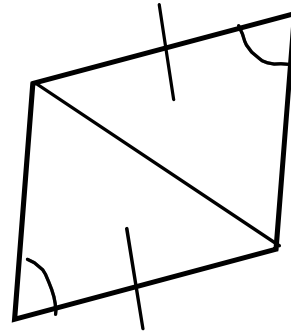
2. method: _____



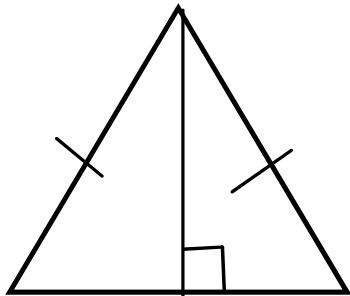
1. method: _____



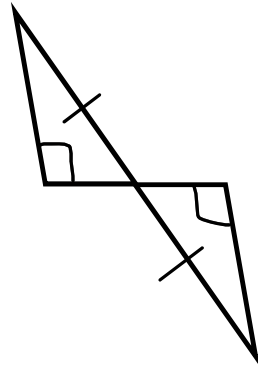
2. method: _____



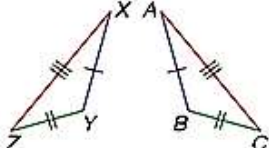
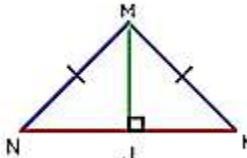
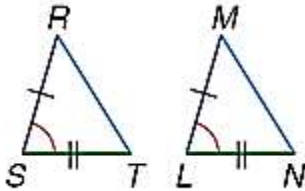
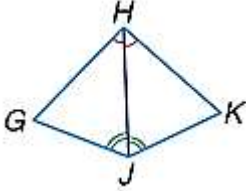
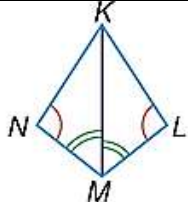
1. method: _____



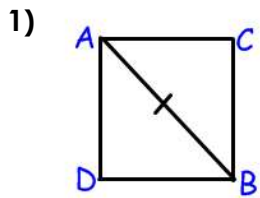
2. method: _____



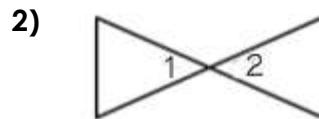
Remember the ways to prove triangles are congruent:

Theorem/Postulate	Picture
_____	
_____	
_____	
_____	
_____	

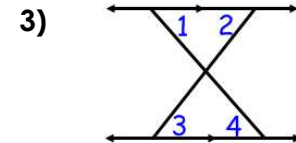
Special properties to remember:



$\overline{AB} \cong \underline{\hspace{1cm}}$ by **Reflexive** Property



$\angle 1 \cong \angle 2$ because _____



$\angle 1 \cong \angle \underline{\hspace{1cm}}$ $\angle 2 \cong \angle \underline{\hspace{1cm}}$
 by _____

_____ corresponding _____ parts of _____ congruent _____ triangles are _____ congruent OR

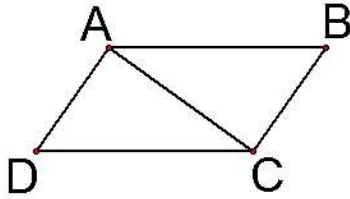
If $\triangle CAT \cong \triangle DOG$, then $\angle A \cong \underline{\hspace{1cm}}$ because of _____.

If $\triangle FJH \cong \triangle QRS$, then $\overline{JH} \cong \underline{\hspace{1cm}}$ and $\angle F \cong \underline{\hspace{1cm}}$ because of _____.

PROBLEM #1

Given: $\overline{AB} \cong \overline{CD}$
 $\overline{BC} \cong \overline{DA}$

Prove: $\triangle ABC \cong \triangle CDA$

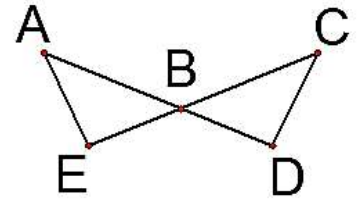


Statements	Reasons

PROBLEM #2

Given: $\overline{AB} \cong \overline{CB}$
 $\overline{EB} \cong \overline{DB}$

Prove: $\triangle ABE \cong \triangle CBD$

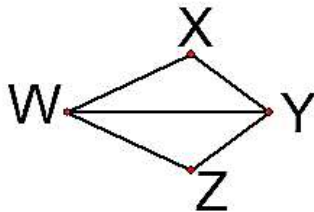


Statements	Reasons

PROBLEM #3

Given: $\angle XWY \cong \angle ZWY$
 $\angle XYW \cong \angle ZYW$

Prove: $\triangle WXY \cong \triangle WZY$

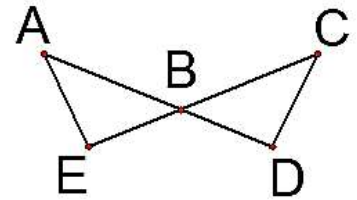


Statements	Reasons

PROBLEM #4

Given: $\angle A \cong \angle C$
 $\overline{BE} \cong \overline{BD}$

Prove: $\triangle ABE \cong \triangle CBD$

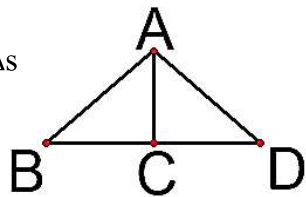


Statements	Reasons

PROBLEM #5

Given: $\triangle ABC$ & $\triangle ADC$ right \triangle s
 $\overline{AB} \cong \overline{AD}$

Prove: $\triangle ABC \cong \triangle ADC$



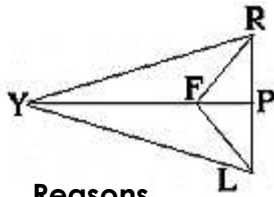
Statements	Reasons

CONGRUENCE PROOFS STEPS:

1. Mark the _____.
2. Mark the info implied by given.
 (_____ sides, _____ \angle 's, etc)
3. Choose a method. (SSS, SAS, ASA, AAS, HL)
4. List the parts.
5. Fill in the reasons. (why did you mark the parts?)
6. *SOON* If you are proving a side or angle is congruent (rather than just the triangles), then use CPCTC (corresponding parts of congruent triangles are congruent).

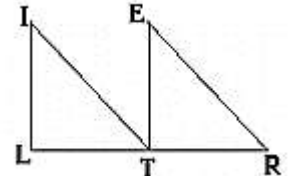
Proof Practice:

1. Given: $\angle YLF \cong \angle FRY$
 $\angle RFY \cong \angle LFY$
 Prove: $\triangle FRY \cong \triangle FLY$



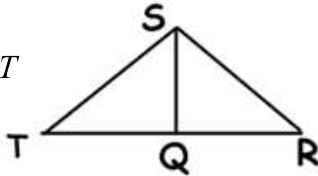
Statements	Reasons
1. $\angle YLF \cong \angle FRY$	1.
2. $\angle RFY \cong \angle LFY$	2.
3.	3. Reflexive Property
4.	4. AAS

2. Given: $\overline{LT} \cong \overline{TR}, \overline{IT} \parallel \overline{ER}$
 $\angle ILT \cong \angle ETR$
 Prove: $\triangle LIT \cong \triangle TER$



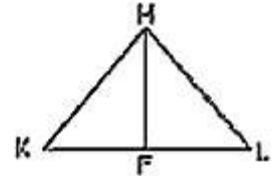
Statements	Reasons
1. $\overline{LT} \cong \overline{TR}$	1.
2.	2. Given
3. $\angle ILT \cong \angle ETR$	3.
4.	4. Corresponding \angle s of parallel lines are \cong
5. $\triangle LIT \cong \triangle TER$	5.

3. Given: $\angle R \cong \angle T$
 \overline{SQ} bisects $\angle RST$
 Prove: $\triangle QST \cong \triangle QSR$



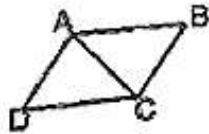
Statements	Reasons
1. $\angle R \cong \angle T$	1.
2. \overline{SQ} bisects $\angle RST$	2.
3. $\angle TSQ \cong \angle RSQ$	3.
4. $\overline{SQ} \cong \overline{SQ}$	4.
5. $\triangle QST \cong \triangle QSR$	5.

4. Given: $\overline{HF} \perp \overline{KL}$
 $\overline{HK} \cong \overline{HL}$
 Prove: $\triangle HKF \cong \triangle HLF$



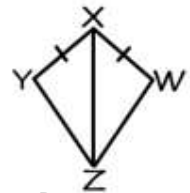
Statements	Reasons
1.	1. Given
2.	2.
3. $\angle HFK$ and $\angle HFL$ are right \angle s	3.
4. $\overline{HF} \cong \overline{HF}$	4.
5. $\triangle HKF \cong \triangle HLF$	5.

5. **Given: $\overline{AD} \parallel \overline{BC}$
 $\overline{AD} \cong \overline{BC}$
 Prove: $\overline{AB} \cong \overline{CD}$



Statements	Reasons
1.	1.
2.	2.
3. $\angle DAC \cong \angle BCA$	3.
4.	4. Reflexive Property
5. $\triangle ADC \cong \triangle BCA$	5.
6. $\overline{AB} \cong \overline{CD}$	6.

6. **Given: $\overline{YX} \cong \overline{WX}$
 \overline{ZX} bisects $\angle YXW$
 Prove: $\overline{YZ} \cong \overline{WZ}$



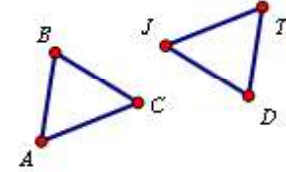
Statements	Reasons
1.	1. Given
2.	2.
3. $\angle YXZ \cong \angle WXZ$	3. Defn. of \angle bisector
4. $\overline{XZ} \cong \overline{XZ}$	4.
5.	5. SAS
6.	6. CPCTC

1. $\triangle HYZ$ is congruent $\triangle KLR$. Complete the following congruent statements.

$\angle L \cong \angle$ _____ $\overline{LR} \cong$ _____ $\angle H \cong \angle$ _____ $\overline{ZH} \cong$ _____

2. $\triangle ABC$ is congruent to $\triangle TDJ$. Complete the following congruent statements.

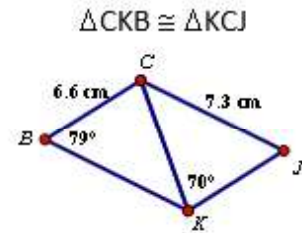
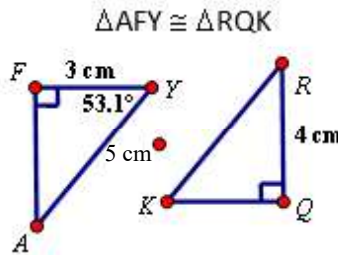
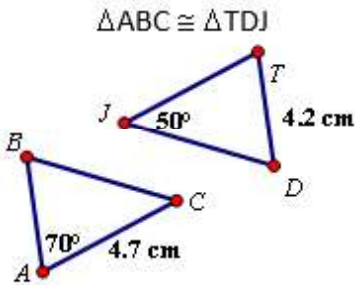
$\angle B \cong \angle$ _____ $\overline{JD} \cong$ _____
 $\angle T \cong \angle$ _____ $\overline{BC} \cong$ _____



3. $\triangle ABC$ is congruent to another triangle. Provided is some information about the two triangles, $\overline{AB} \cong \overline{AL}$ and $\overline{CA} \cong \overline{GA}$. From this information determine the triangle congruence statement.

$\triangle ABC \cong \triangle$ _____

4. Determine the missing information.



$m\angle C =$ _____ $TJ =$ _____ $m\angle K =$ _____ $AF =$ _____ $m\angle J =$ _____ $BK =$ _____
 $m\angle B =$ _____ $AB =$ _____ $m\angle A =$ _____ $KR =$ _____ $m\angle JCK =$ _____ $JK =$ _____

Proof Practice:

1. Given: $\overline{QS} \cong \overline{PR}$, $\overline{PS} \perp \overline{RS}$
 $\overline{QR} \perp \overline{RS}$
Prove: $\triangle PRS \cong \triangle QSR$

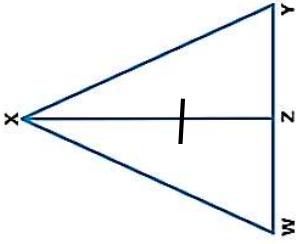
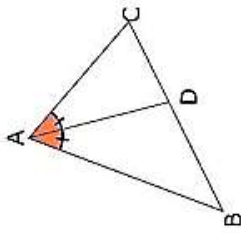
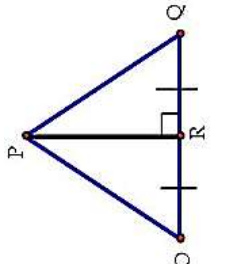
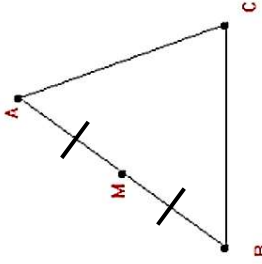
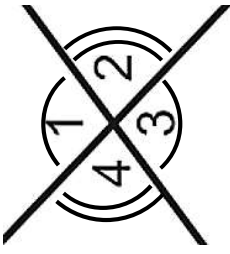
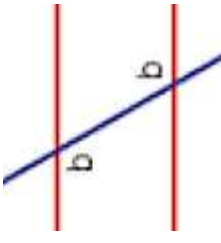
Statements	Reasons
<u>Reasons</u>	
1. $\overline{QS} \cong \overline{PR}$, $\overline{PS} \perp \overline{RS}$ $\overline{QR} \perp \overline{RS}$	1.
2. $\angle S$ and $\angle R$ are right \angle s	2.
3.	3. Reflexive Property
4. $\triangle PRS \cong \triangle QSR$	4.

2. Given: $\overline{PT} \cong \overline{RT}$; $\angle RTS \cong \angle PTS$

Prove: $\triangle TPS \cong \triangle TRS$

Statements	Reasons
1.	1. Given (all)
2.	2.
3.	3. SAS

PROPERTIES TO PROVE CONGRUENT TRIANGLES

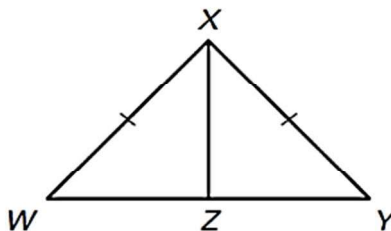
Reflexive Property	Definition of Angle Bisector	Definition of Segment Bisector	Definition of Midpoint	Vertical Angles	Alt. Interior Angles
<p>Gives you a set of congruent sides. When a quantity is equal to itself (shared side).</p>	<p>A ray/line in the interior of an angle creating two congruent angles.</p>	<p>Segment or ray that divides the segment into two congruent segments.</p>	<p>A point on the segment creating two congruent segments (middle of segment).</p>	<p>Angles in opposite locations form each other (in the corners of X). Gives you two congruent angles.</p>	<p>Formed by parallel lines and a transversal. Angles located inside parallel lines, and on opposite sides of transversal. Gives you two congruent angles.</p>
<p>$XZ \cong XZ$</p> 	<p>AD bisects $\angle BAC$.</p> 	<p>PR bisects OQ.</p> 	<p>M is the midpoint of AB.</p> 	<p>$\angle 1 \cong \angle 3$ and $\angle 2 \cong \angle 4$</p> 	

DO NOT ASSUME ANYTHING IF IT IS NOT IN THE GIVEN!

Fill in the missing statements and reasons in the proofs below.

1. Given: $\overline{WX} \cong \overline{YX}$
 Z is the midpoint of \overline{WY}

Prove: $\triangle WXY \cong \triangle YXZ$

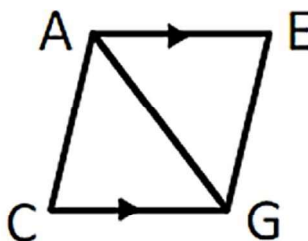


STATEMENTS	REASONS
$\overline{WX} \cong \overline{YX}$	
	Given
$\overline{WZ} \cong \overline{ZY}$	
	Reflexive Property
$\triangle WXY \cong \triangle YXZ$	

HOW IS THIS NEXT PROBLEM DIFFERENT?!?!

2. Given: $\angle C \cong \angle E$
 $\overline{CG} \parallel \overline{AE}$

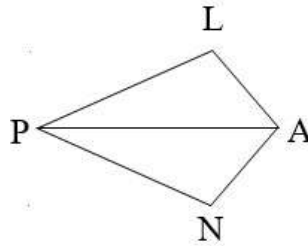
Prove: $\overline{AC} \cong \overline{GE}$



STATEMENTS	REASONS
	Given
	Given
$\overline{AG} \cong \overline{AG}$	
	Alternate Interior Angles are congruent
$\triangle CGA \cong \triangle EAG$	
$\overline{AC} \cong \overline{GE}$	

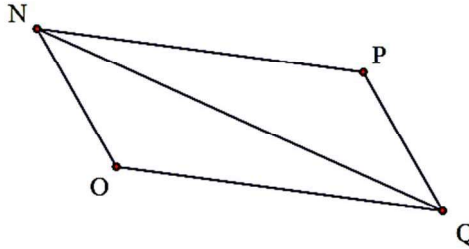
What does CPCTC stand for?! _____

3. Given: \overline{PA} bisects $\angle LAN$
 $\overline{LA} \cong \overline{AN}$
 Prove: $\angle PLA \cong \angle PNA$



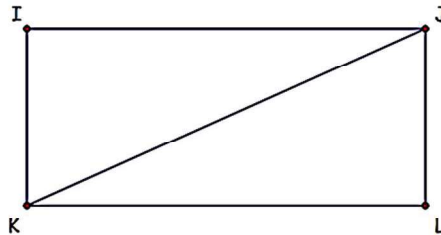
STATEMENTS	REASONS
\overline{PA} bisects $\angle LAN$	
$\angle LAP \cong \angle NAP$	
	Reflexive Property
$\angle PLA \cong \angle PNA$	

4. Given: $\overline{NO} \cong \overline{PQ}$
 $\angle ONQ \cong \angle PQN$
 Prove: $\overline{NP} \cong \overline{OQ}$



STATEMENTS	REASONS

5. Given: $\overline{IJ} \cong \overline{KL}$
 $\overline{IK} \cong \overline{JL}$
 Prove: $\angle I \cong \angle L$



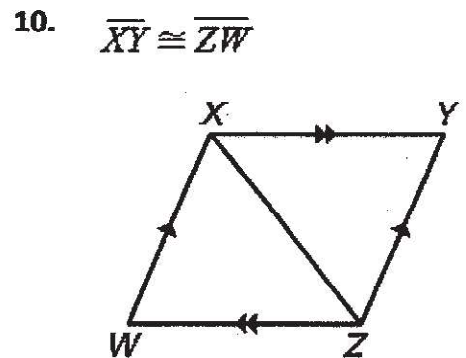
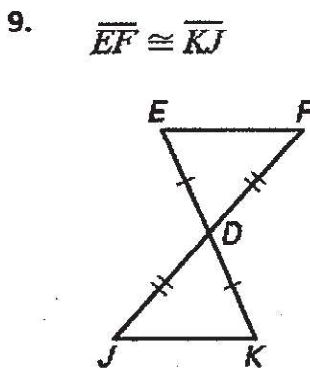
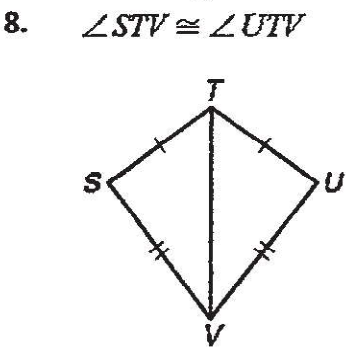
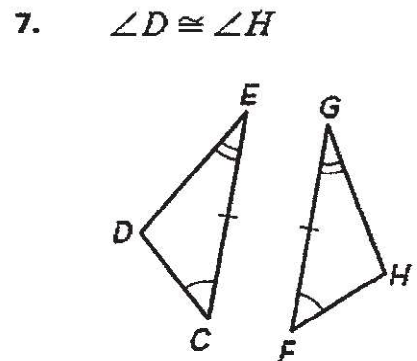
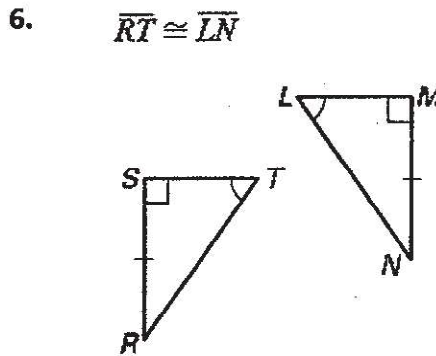
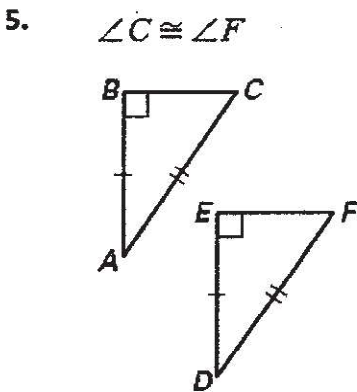
STATEMENTS	REASONS

4.6 (CPCTC) Worksheet

1. What does CPCTC stand for? _____

2. What must you show in your prove BEFORE using CPCTC? _____
3. What do you use CPCTC for in a proof? _____

Tell how the triangles are congruent (SSS, SAS, ASA, AAS, or HL) if you want to state the given segments or angles congruent. BE CAREFUL...YOU DON'T USE THOSE GIVEN SEGMENTS OR ANGLES TO HELP GET YOUR ANSWER!!!



Match each statement to its correct congruency method at the right.

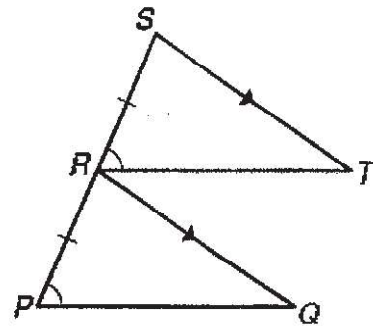
11. Right triangles that have a pair of hypotenuses and a pair of legs congruent.
12. Triangles that have 2 pairs of sides congruent and 1 pair of included angles congruent.
13. Triangles that have 2 pairs of angles congruent and 1 pair of non-included sides congruent.
14. Triangles that have 3 pairs of sides congruent.
15. Triangles that have 2 pairs of angles congruent and 1 pair of included sides congruent.

- | |
|--------|
| A. SSS |
| B. SAS |
| C. ASA |
| D. AAS |
| E. HL |

Complete each proof.

16. Given: $\overline{ST} \parallel \overline{RQ}$, $\overline{SR} \cong \overline{RP}$, $\angle SRT \cong \angle RPQ$

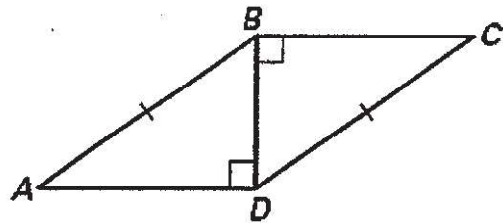
Prove: $\overline{RT} \cong \overline{PQ}$



Statements	Reasons
1.	1.
2. $\angle RST \cong \angle PRQ$	2.
3. $\triangle RST \cong \triangle RPQ$	3.
4.	4.

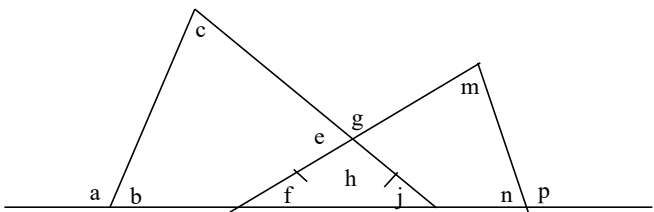
17. Given: $\overline{AB} \cong \overline{CD}$, $\angle ADB$ and $\angle DBC$ are right angles

Prove: $\angle ABD \cong \angle CDB$

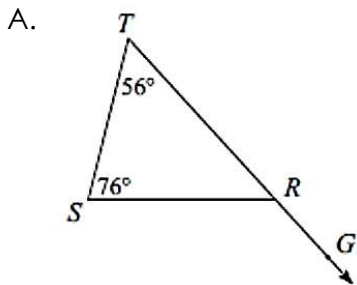


Statements	Reasons
1.	1.
2.	2. Reflexive
3.	3. HL
4.	4.

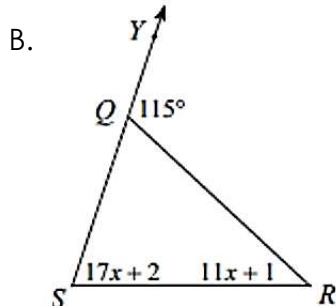
1. Using the following image, find each missing angle measurement.

 <p style="text-align: center;">$m\angle a = 110^\circ, m\angle f = 42^\circ, m\angle m = 75^\circ$</p>	<p>$m\angle c = \underline{\hspace{2cm}}$ $m\angle j = \underline{\hspace{2cm}}$</p> <p>$m\angle e = \underline{\hspace{2cm}}$ $m\angle n = \underline{\hspace{2cm}}$</p> <p>$m\angle g = \underline{\hspace{2cm}}$ $m\angle p = \underline{\hspace{2cm}}$</p> <p>$m\angle h = \underline{\hspace{2cm}}$</p>
---	--

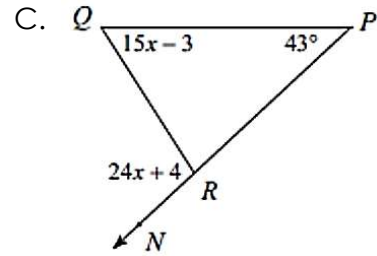
2. Using the following figures, solve the needed values.



$m\angle SRG = \underline{\hspace{2cm}}$
 $m\angle TRS = \underline{\hspace{2cm}}$

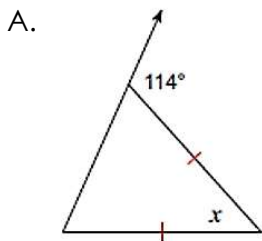


$x = \underline{\hspace{2cm}}$
 $m\angle R = \underline{\hspace{2cm}}$



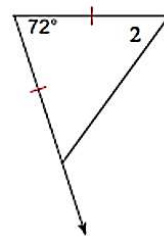
$x = \underline{\hspace{2cm}}$
 $m\angle PRQ = \underline{\hspace{2cm}}$
 $m\angle Q = \underline{\hspace{2cm}}$

3. Using the Isosceles triangles, solve for the missing information.



$x = \underline{\hspace{2cm}}$

B. $m\angle 2 = 7x - 2$



$x = \underline{\hspace{2cm}}$
 $m\angle 2 = \underline{\hspace{2cm}}$

4. State whether these triangles are congruent by SSS, SAS, ASA, AAS, HL, or none and **circle the answer**.

Write a Congruence Statement if and only if the triangles are congruent.

<p>SAS SSS ASA AAS HL NONE</p> <p>Statement: $\triangle ABE \cong$ _____</p>	<p>SAS SSS ASA AAS HL NONE</p> <p>Statement: $\triangle GHF \cong$ _____</p>
<p>SAS SSS ASA AAS HL NONE</p> <p>Statement: $\triangle OLN \cong$ _____</p>	<p>SAS SSS ASA AAS HL NONE</p> <p>Statement: $\triangle RSQ \cong$ _____</p>

5. If $\triangle FUN \cong \triangle DAY$, then:

a. $\angle F \cong$ _____

b. $\angle U \cong$ _____

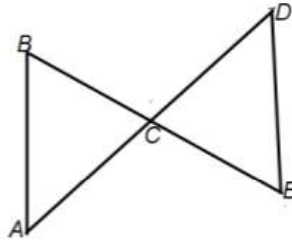
c. $\angle N \cong$ _____

d. $\overline{FU} \cong$ _____

e. $\overline{UN} \cong$ _____

f. $\overline{FN} \cong$ _____

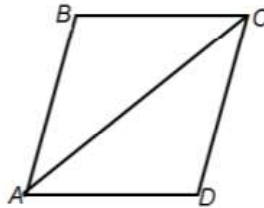
6. **Given:** $\overline{BA} \cong \overline{ED}$
 C is the midpoint of \overline{BE} and \overline{AD}



Prove: $\triangle ABC \cong \triangle DEC$

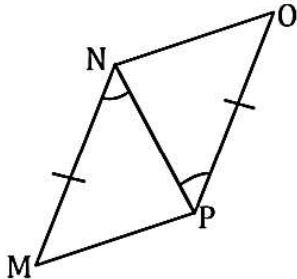
Statement	Reason
1. $\overline{BA} \cong \overline{ED}$	
2. C is the midpoint of \overline{BE} and \overline{AD}	
3. $\overline{BC} \cong \overline{EC}$	
4. $\overline{AC} \cong \overline{DC}$	
5. $\triangle ABC \cong \triangle DEC$	

7. **Given:** $\overline{BC} \cong \overline{DA}$
 \overline{AC} bisects $\angle BCD$
- Prove:** $\triangle ABC \cong \triangle CDA$



Statement	Reason
1. $\overline{BC} \cong \overline{DA}$	
2. \overline{AC} bisects $\angle BCD$	
3. $\angle BCA \cong \angle DCA$	
4. $\overline{AC} \cong \overline{AC}$	
5. $\triangle ABC \cong \triangle CDA$	

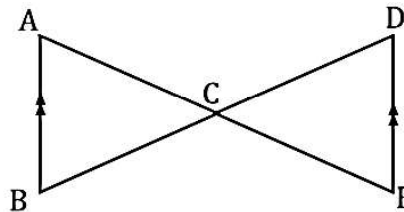
8. **Given:** $\angle MNP \cong \angle OPN$, and $\overline{MN} \cong \overline{OP}$



Prove: $\overline{MP} \cong \overline{NO}$

Statements	Reasons
1.	1. Given
2. $\overline{MN} \cong \overline{OP}$	2.
3. $\overline{NP} \cong \overline{NP}$	3.
4. $\triangle MNP \cong \triangle OPN$	4.
5.	5. CPCTC

9. **Given:** $\overline{AB} \parallel \overline{DE}$, \overline{AE} bisects \overline{BD}



Prove: $\overline{AC} \cong \overline{EC}$

Statements	Reasons
1.	1.
2.	2. Given
3. $\angle ABC \cong \angle EDC$	3.
4. $\angle ACB \cong \angle DCE$	4.
5.	5. Def of Bisect
6. $\triangle ABC \cong \triangle EDC$	6.
7.	7.

Geometry DAY 3.15

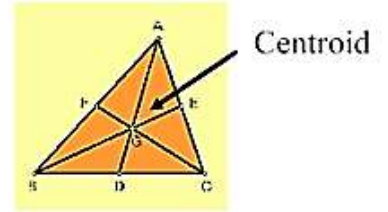
Medians and Centroids

Name: _____

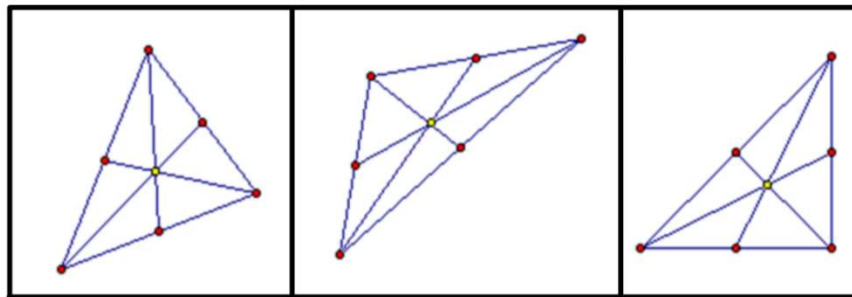
Date: _____

Median of a Triangle

- A line segment that connects a _____ to the _____ of the opposite side.
- There are _____ medians in a triangle. These 3 line segments are _____.
- The point where the 3 medians meet is called the _____. This is the _____ (balancing point) of the triangle.



Locations of the Centroid: **Acute Triangle:** Inside Triangle Outside Triangle On Triangle
Obtuse Triangle: Inside Triangle Outside Triangle On Triangle
Right Triangle: Inside Triangle Outside Triangle On Triangle



Acute Triangle
Inside

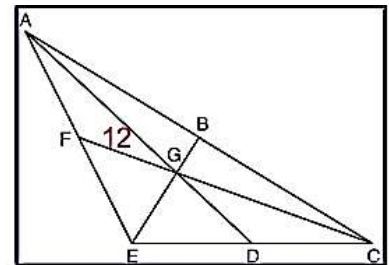
Obtuse Triangle
Inside

Right Triangle
Inside

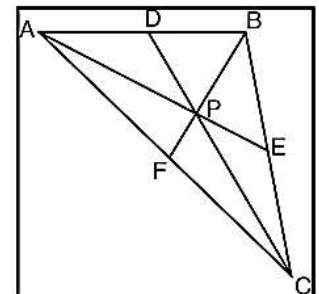
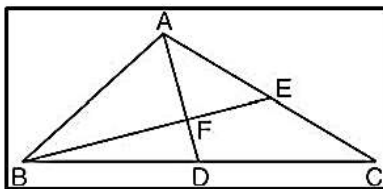
The Centroid

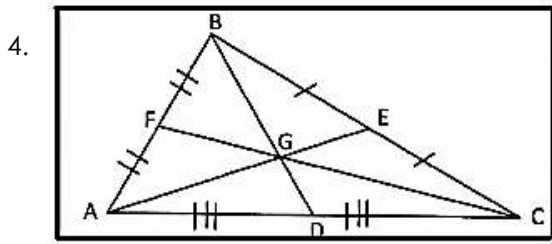
The centroid divides the medians into a _____ ratio. The section of the median nearest the vertex is twice as long as the section near the midpoint of the triangle's side.

- In the diagram below of $\triangle ACE$, medians \overline{AD} , \overline{EB} , and \overline{CF} intersect at G . The length of \overline{FG} is 12 cm. What is the length, in centimeters, of \overline{GC} ?



- In the diagram of $\triangle ABC$ medians \overline{AD} and \overline{BE} intersect at point F . If $AF = 6$, what is the length of \overline{FD} ?
- In $\triangle ABC$ shown below, P is the centroid and $BF = 18$. What is the length of \overline{BP} ?



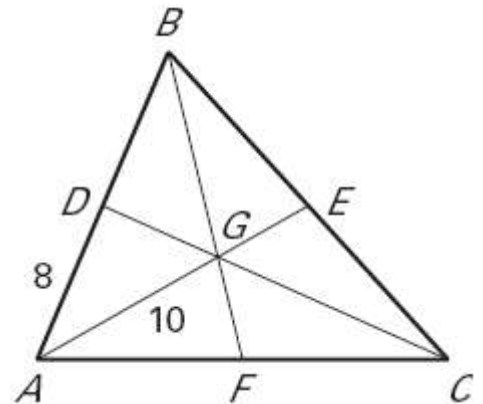


- If $GE = 4$, find AE and AG .
- If $CF = 15$, find FG and CG .
- If $BG = 14$, find BD .

PRACTICE

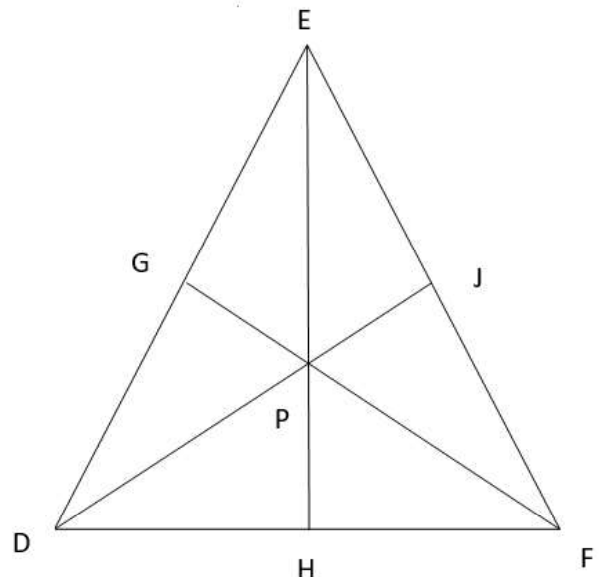
A. Point G is the centroid of $\triangle ABC$, $AD = 8$, $AG = 10$, $BE = 10$, $AC = 16$ and $CD = 18$. Find the length of each segment.

- If Point G is the **centroid**, then Point G is the point of concurrency of the _____.
- $DB =$ _____
- $EA =$ _____
- $CG =$ _____
- $BA =$ _____
- $GE =$ _____
- $GD =$ _____
- $BC =$ _____
- $AF =$ _____



B. P is the centroid of $\triangle DEF$, $\overline{EH} \perp \overline{DF}$, $m\angle JFH = 70^\circ$, $DH = 9$, $DG = 5x - 3$, $GE = x + 9$, $EP = 8$, and $DE = EF$.

- $FH =$ _____
- $EH =$ _____
- $PH =$ _____
- $x =$ _____
- $EG =$ _____
- $EF =$ _____
- $m\angle PHF =$ _____
- $m\angle EDF =$ _____

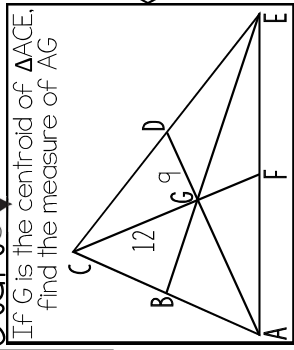


Centroid Maze

Some boxes might not be used

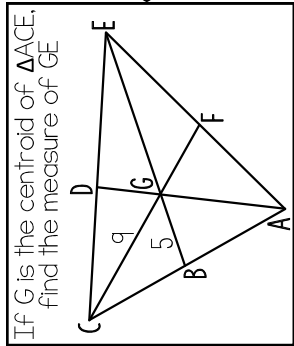
Begin at the "Start" box and work your way through until you reach the "Finish" box

Start



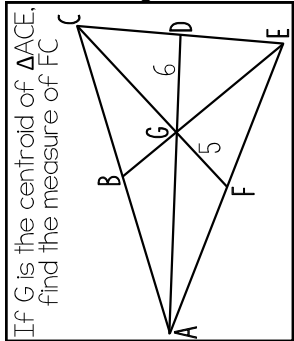
18

15



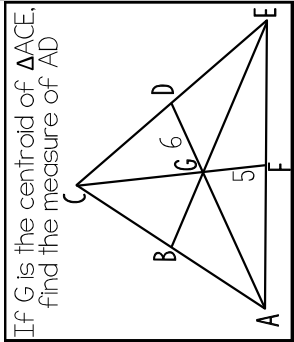
14

10

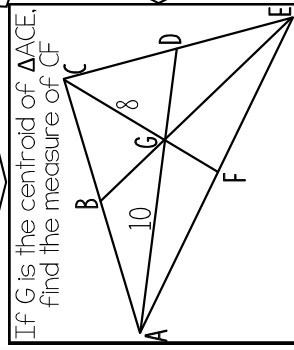


16

9

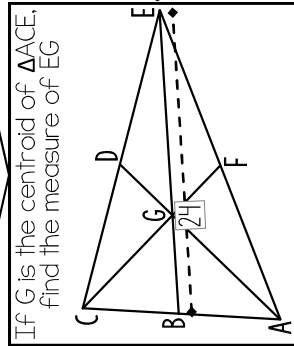


15



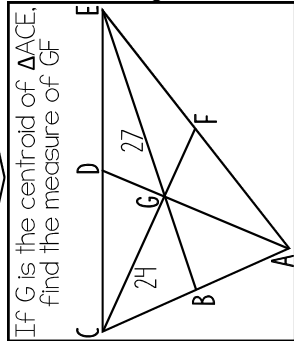
9

6



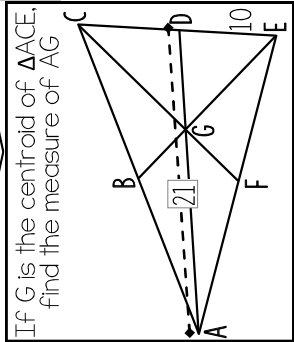
16

18

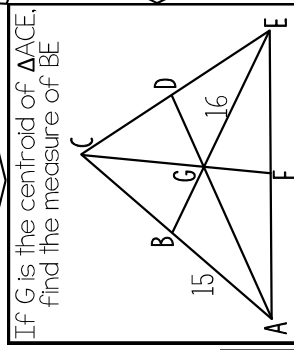


14

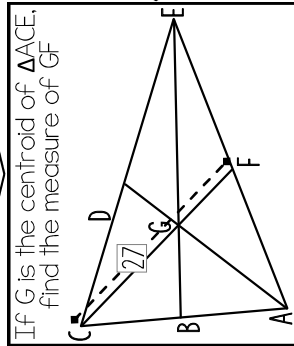
12



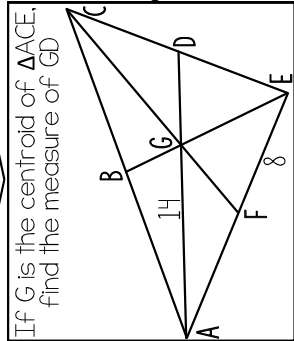
14



10



6



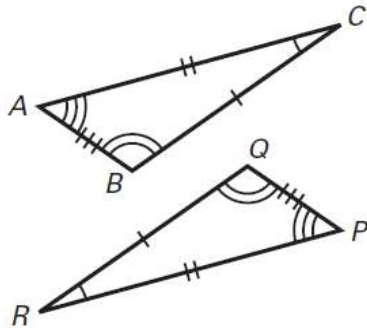
14

16

Finish

Triangle Congruency

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



$\triangle ABC \cong$ _____

$\overline{AB} \cong$ _____ $\angle A \cong$ _____

$\overline{BC} \cong$ _____ $\angle B \cong$ _____

$\overline{AC} \cong$ _____ $\angle C \cong$ _____

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

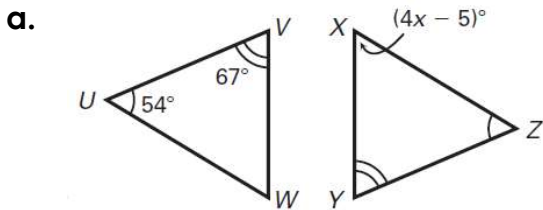
a. $\overline{BA} \cong$ _____

b. $\angle A \cong$ _____

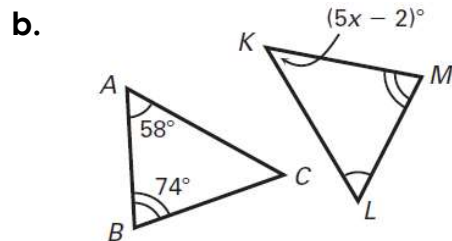
c. $\overline{VG} \cong$ _____

d. $\triangle TBA \cong$ _____

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



$x =$ _____



$x =$ _____

4. Given: $\triangle BCD \cong \triangle EFG$. $m\angle B = (4x + 10)^\circ$. $m\angle C = (5x - 2)^\circ$. $m\angle F = (6x - 10)^\circ$. Find... (hint: draw a picture)

a. $x =$ _____

b. $m\angle B =$ _____

c. $m\angle C =$ _____

d. $m\angle D =$ _____

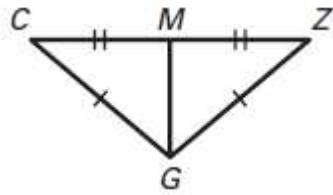
e. $m\angle E =$ _____

f. $m\angle F =$ _____

g. $m\angle G =$ _____

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.

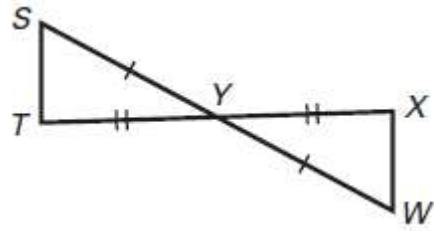


$\triangle MZG \cong$ _____

by _____ (SSS, etc.)

or: Not Enough Information

b.

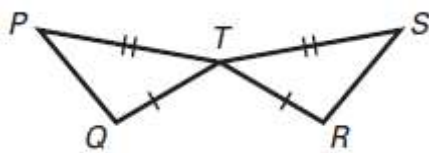


$\triangle STY \cong$ _____

by _____ (SSS, etc.)

or: Not Enough Information

c.



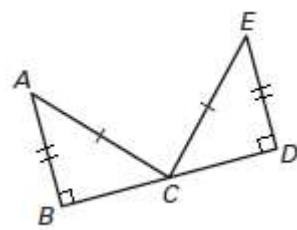
(Careful: Are these really vertical angles?)

$\triangle QPT \cong$ _____

by _____ (SSS, etc.)

or: Not Enough Information

d.

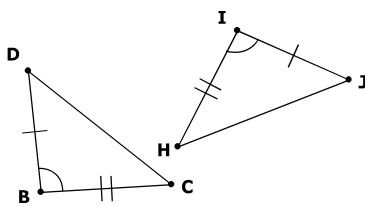


$\triangle CDE \cong$ _____

by _____ (SSS, etc.)

or: Not Enough Information

e.

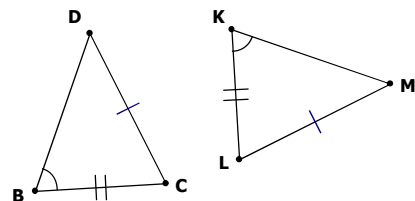


$\triangle BCD \cong$ _____

by _____ (SSS, etc.)

or: Not Enough Information

f.

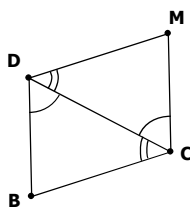


$\triangle BCD \cong$ _____

by _____ (SSS, etc.)

or: Not Enough Information

g.

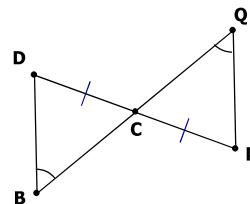


$\triangle BCD \cong$ _____

by _____ (SSS, etc.)

or: Not Enough Information

h.



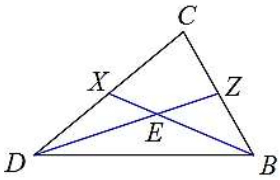
$\triangle BCD \cong$ _____

by _____ (SSS, etc.)

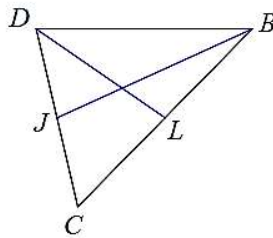
or: Not Enough Information

6. Medians

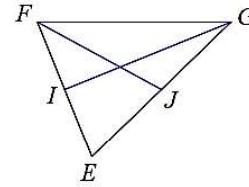
a. Find XD if $CD = 24$



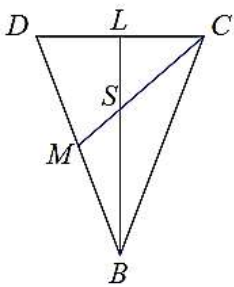
b. Find CB if $LB = 1$



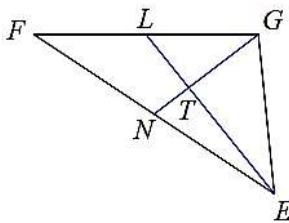
c. Find x if $JG = 2x - 11$ and $JE = x - 4$



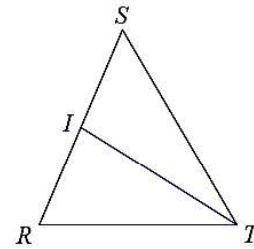
d. Find BS if $BL = 12$



e. Find TL if $EL = 5.1$

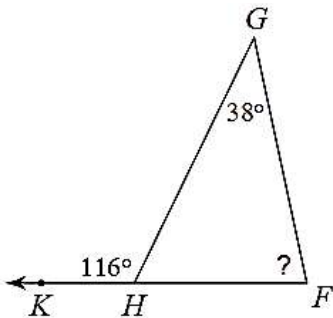


f. Find x if $IR = 2x - 8$ and $IS = x - 2$

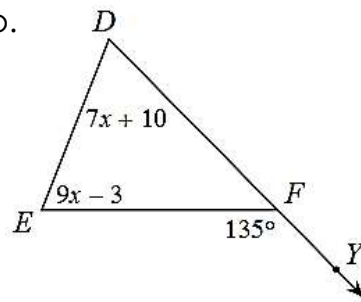


7. Angles in Triangles

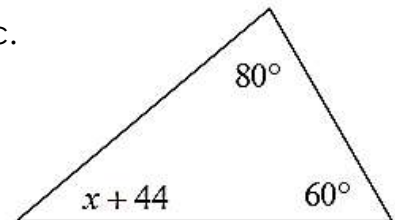
a.



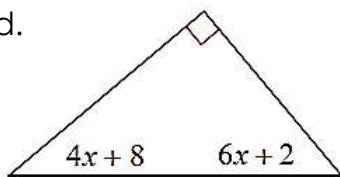
b.



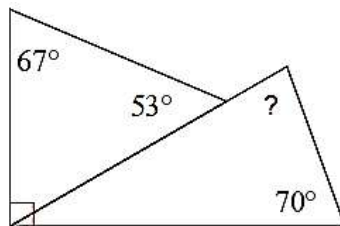
c.



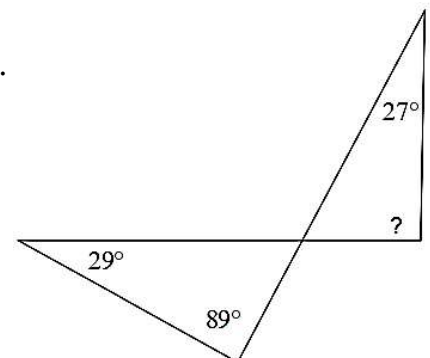
d.



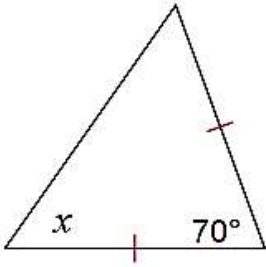
e.



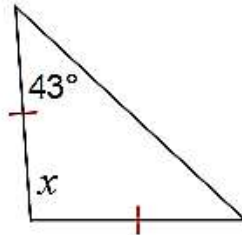
f.



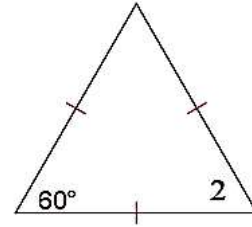
g.



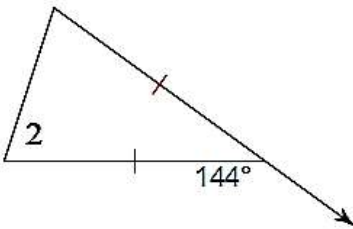
h.



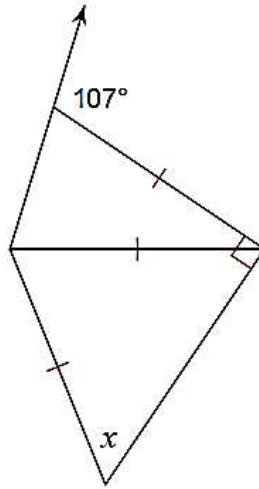
i. $m\angle 2 = 7x + 4$



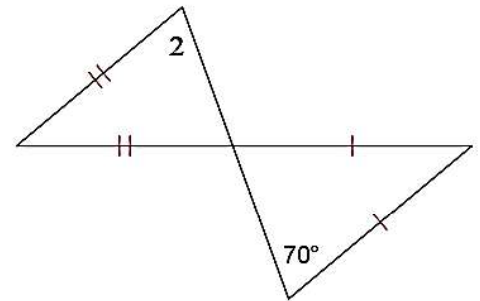
j. $m\angle 2 = 5x + 12$



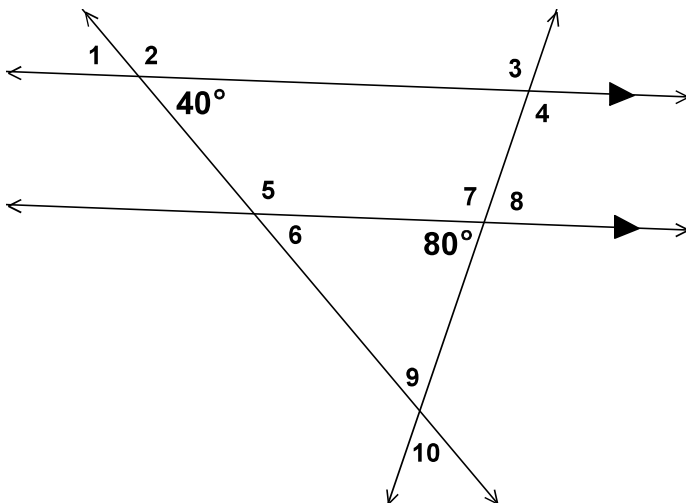
k.



l. $m\angle 2 = x + 78$



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



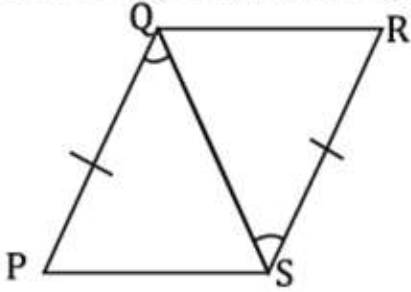
1. _____	2. _____
3. _____	4. _____
5. _____	6. _____
7. _____	8. _____
9. _____	10. _____

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

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

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

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

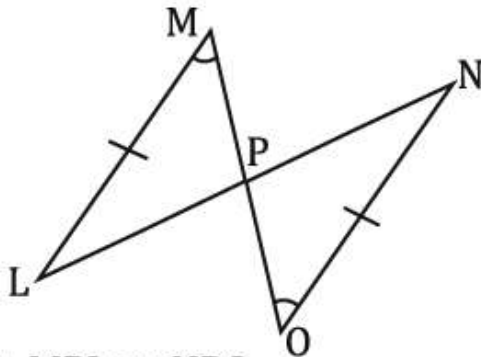


Prove: $\triangle PQS \cong \triangle RSQ$

Statements	Reasons

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

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

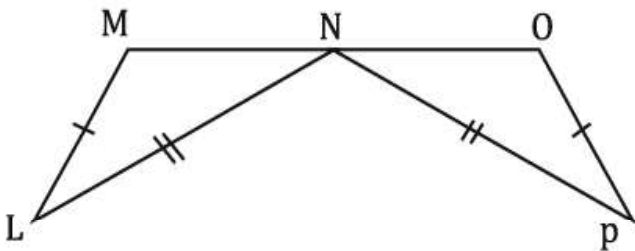


Prove: $\triangle MPL \cong \triangle NPO$

Statements	Reasons

13. Write a proof with the following information ©

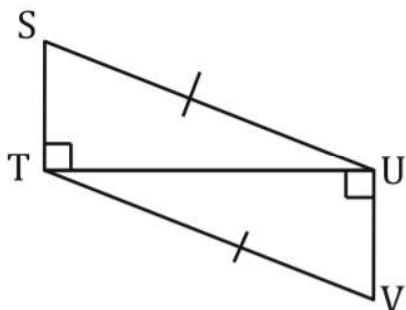
Given: N is the midpoint of \overline{MO} , $\overline{LM} \cong \overline{OP}$, and $\overline{LN} \cong \overline{PN}$



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

Statements	Reasons

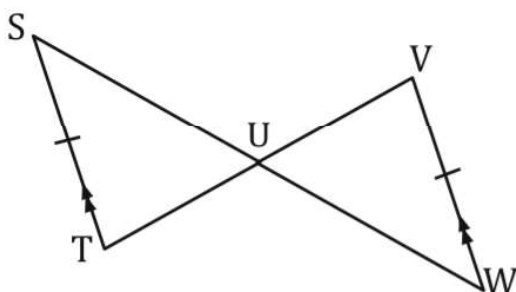
14. Given: $\overline{SU} \cong \overline{VT}$



Statements	Reasons
1. $\overline{SU} \cong \overline{VT}$	1.
2.	2.
3.	3. HL
4.	4. CPCTC

Prove: $\overline{ST} \cong \overline{UV}$

15. Given: $\overline{ST} \parallel \overline{VW}$, and $\overline{ST} \cong \overline{VW}$



Statements	Reasons
1.	1. Given
2.	2. Given
3.	3. Alternate Interior
4. $\angle SUT \cong \angle WUV$	4.
5.	5. AAS
6.	6.

Prove: $\overline{SU} \cong \overline{WU}$

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