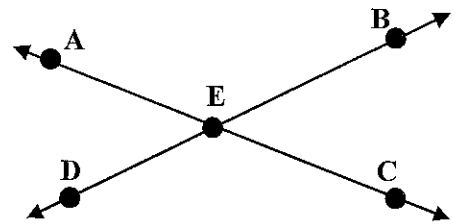


Core Geometry
Summative 1 Review

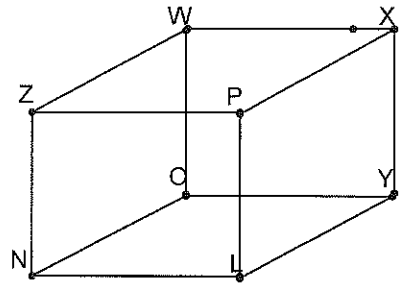
Name _____

I.

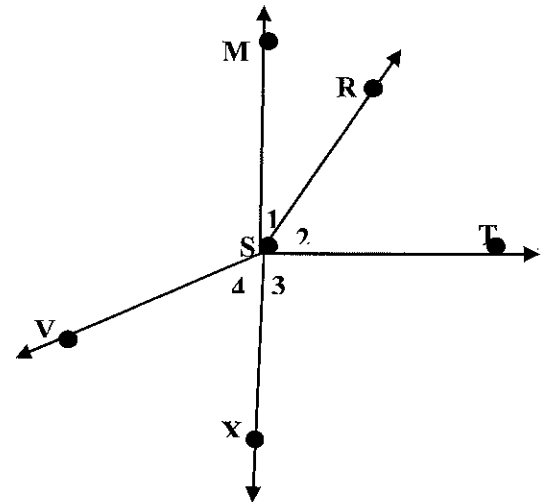
1. What is another name for \overline{BE} ? \overleftrightarrow{BD} OR \overleftrightarrow{DE}
2. Name two different rays that contain point B. \overrightarrow{BE} , \overrightarrow{BD}
3. Name three collinear points. A, E, C OR D, E, B
4. Name two different segments that contain point E.
 \overline{AE} , \overline{EC} , \overline{EB} , \overline{DE}



5. Name four coplanar points. Z, P, L, N
6. Name the intersection of planes PLYX and ZPLN. \overline{PL}
7. Name three planes that contain point Z.
plane ZNP, Plane ZWX, Plane ZWD



8. Name $\angle MSR$ in two other ways. $\angle 1$, $\angle RSM$
9. Name a pair of opposite rays. \overrightarrow{SM} , \overrightarrow{SX}
10. Name the vertex of $\angle TSX$. S
11. Name the sides of $\angle VSR$. \overrightarrow{SV} , \overrightarrow{SR}
12. Classify $\angle MSV$. obtuse



II.

1. Determine the measure of the complement of each angle measure.

- A. 55° 35° B. 89° 1° C. 105° none

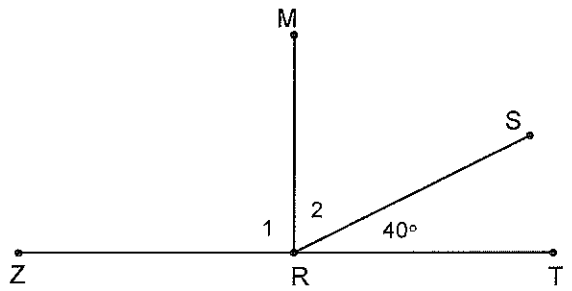
2. Determine the measure of the supplement of each angle measure.

- A. 67° 113° B. 140° 40° C. 90° 90°

↙ add up to 90°

↙ add up to 180°

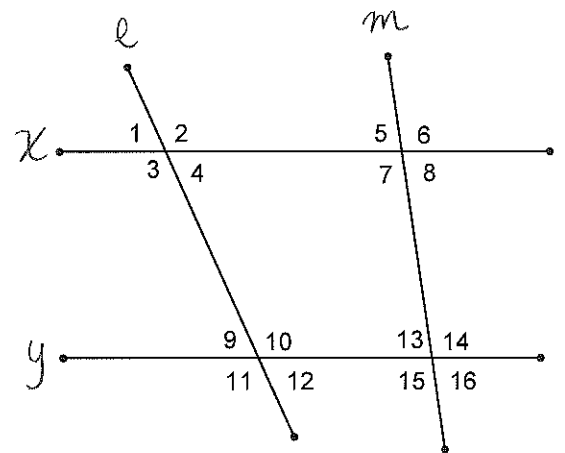
3. $\overline{MR} \perp \overline{ZT}$
 A. $m\angle 1 = 90^\circ$
 B. $m\angle 2 = 50^\circ$



4. Name an angle that is adjacent to $\angle MRS$.
 $\angle ZRM, \angle SRT$
5. Name two angles which form a linear pair.
 $\angle ZRM$ & $\angle MRT$ OR $\angle ZRS$ & $\angle SRT$
6. Name an angle that is supplementary to $\angle TRS$.
 $\angle ZRS$
7. Name an angle that is complementary to $\angle TRS$.
 $\angle MRS$

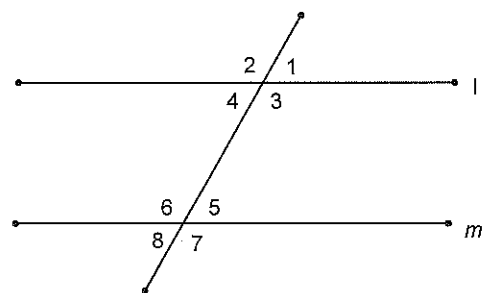
III. State the transversal and lines that form each special angle pair. Identify each pair (*alternate interior, alternate exterior, consecutive interior, consecutive exterior, corresponding, linear pair, vertical, or none*).

	Transversal	Special Angle Pair
1. $\angle 13$ and $\angle 8$	<u>m</u>	<u>Alternate Interior</u>
2. $\angle 6$ and $\angle 10$	<u>N/A</u>	<u>NONE</u>
3. $\angle 14$ and $\angle 13$	<u>y</u>	<u>Linear Pair</u>
4. $\angle 14$ and $\angle 6$	<u>m</u>	<u>Corresponding</u>
5. $\angle 1$ and $\angle 8$	<u>x</u>	<u>Alternate Exterior</u>
6. $\angle 12$ and $\angle 2$	<u>l</u>	<u>Consecutive Exterior</u>
7. $\angle 7$ and $\angle 13$	<u>m</u>	<u>Consecutive Interior</u>



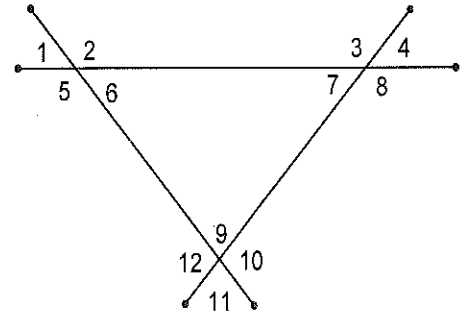
IV. If $l \parallel m$, solve each of the following.

1. If $m\angle 7 = 100^\circ$, find $m\angle 3$. 100°
 Congruent
2. If $m\angle 4 = 20^\circ$, find $m\angle 7$. 160°
 Supplementary
3. If $m\angle 3 = 140^\circ$, find $m\angle 1$. 40°
 Supplementary

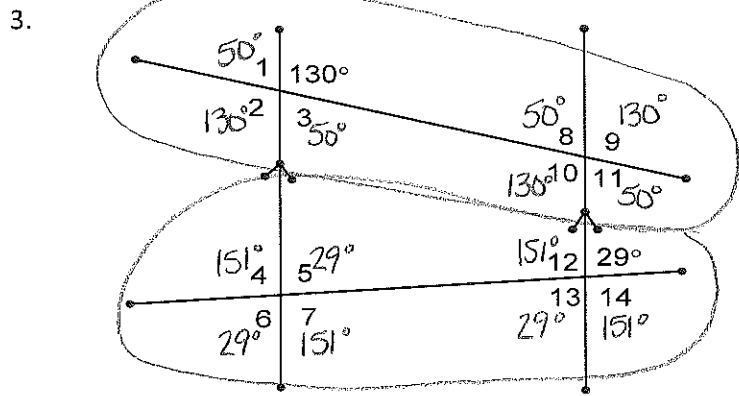
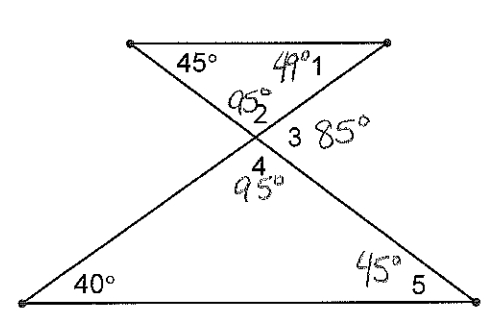
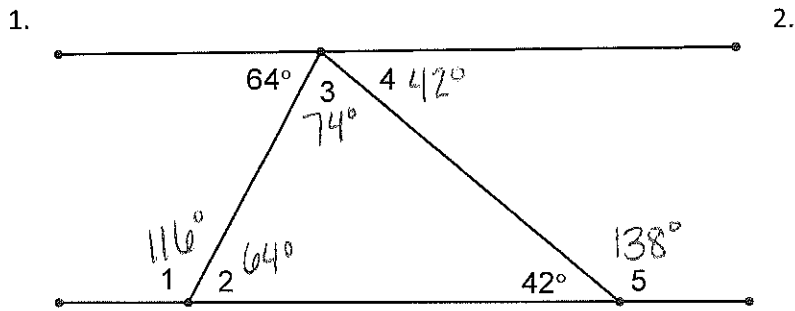


V. For each exterior angle, name its adjacent interior and its remote interior angles.

	Adjacent Interior Angle	Remote Interior Angles
1. $\angle 2$	<u>$\angle 6$</u>	<u>$\angle 7$ & $\angle 9$</u>
2. $\angle 12$	<u>$\angle 9$</u>	<u>$\angle 6$ & $\angle 7$</u>
3. $\angle 8$	<u>$\angle 7$</u>	<u>$\angle 6$ & $\angle 9$</u>



VI. Find each numbered angle.



VII.

1. If $\triangle ILO \cong \triangle VEM$ list all six congruent parts. prove triangles

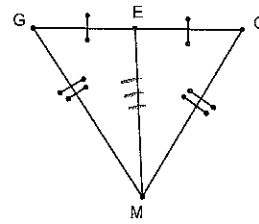
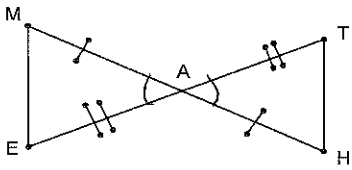
- $\angle I \cong \angle V$
- $\angle L \cong \angle E$
- $\angle O \cong \angle M$
- $\overline{IL} \cong \overline{VE}$
- $\overline{LO} \cong \overline{EM}$
- $\overline{OI} \cong \overline{MV}$

2. List all of the theorems that you can use to congruent.

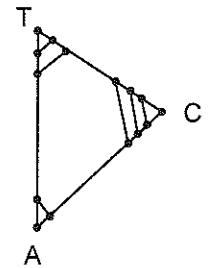
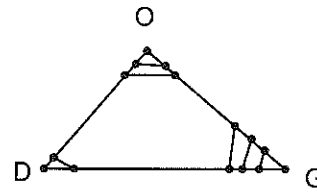
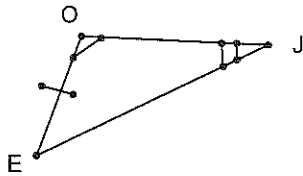
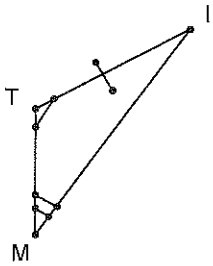
- SSS, ASA, SAS, SAA, RHL
- NOT: AAA, SSA

VIII. Determine whether the following pairs of triangles are congruent. If the triangles are congruent, then state the theorem why and complete the congruence statement for each pair. If the triangles are not congruent, then write not congruent.

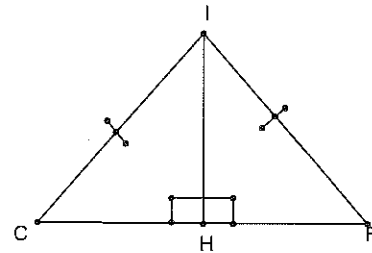
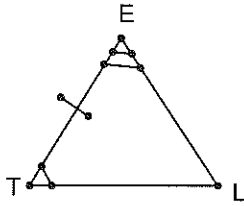
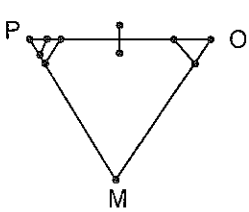
1. YES or NO Reason SAS $\triangle MAE \cong \triangle HAT$ 2. YES or NO Reason SSS $\triangle GEM \cong \triangle DEM$



3. YES or NO Reason AAS $\triangle TIM \cong \triangle DEJ$ 4. YES or NO Reason AAA $\triangle DOG \cong \triangle X$



5. YES or NO Reason ASA $\triangle MOP \cong \triangle LTE$ 6. YES or NO Reason RHL $\triangle CHI \cong \triangle RHI$

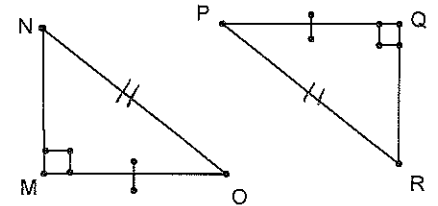
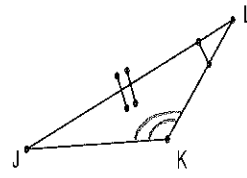
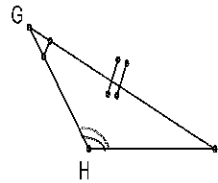
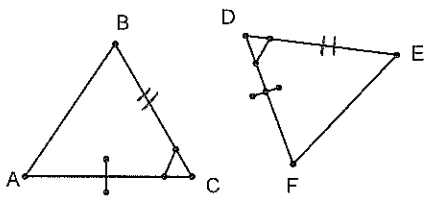


IX. What third part needs to be congruent to prove each pair of triangles congruent by the indicated method?

1. SAS $\overline{BC} \cong \overline{DE}$

2. AAS $\angle H \cong \angle K$

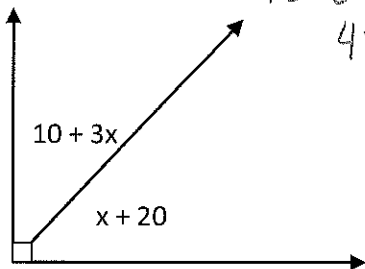
3. RHL $\overline{ND} \cong \overline{PR}$



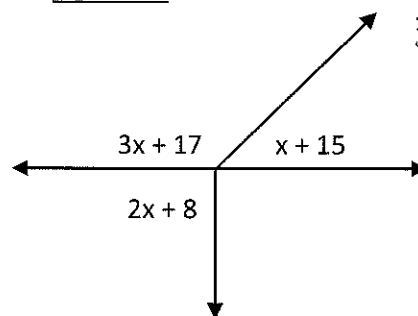
X. Find each indicated measure.

1. $x = 15$

2. $x = 37$

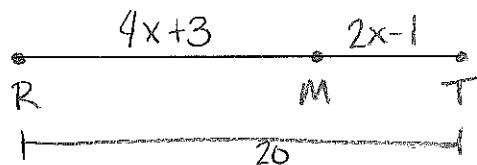


$$\begin{aligned} 10 + 3x + x + 20 &= 90 \\ 4x + 30 &= 90 \\ 4x &= 60 \\ x &= 15 \end{aligned}$$



$$\begin{aligned} 3x + 17 + x + 15 &= 180 \\ 4x + 32 &= 180 \\ 4x &= 148 \\ x &= 37 \end{aligned}$$

3. M is between R and T. If $RM = 4x + 3$, $MT = 2x - 1$, and $RT = 20$, find x .



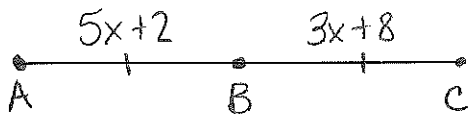
$$4x + 3 + 2x - 1 = 20$$

$$6x + 2 = 20$$

$$6x = 18$$

$$x = 3$$

4. B is the midpoint of \overline{AC} . If $AB = 5x + 2$ and $BC = 3x + 8$, find x .

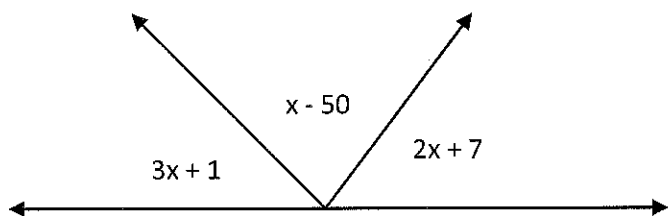


$$5x + 2 = 3x + 8$$

$$2x = 6$$

$$x = 3$$

5. Find x .



$$3x + 1 + x - 50 + 2x + 7 = 180$$

$$6x - 42 = 180$$

$$6x = 222$$

$$x = 37$$

6. If $\angle A$ is the complement of $\angle B$, and $m\angle A = x + 3$, $m\angle B = 5x + 9$, find x .

adds to 90°

$$x + 3 + 5x + 9 = 90$$

$$6x + 12 = 90$$

$$6x = 78$$

$$x = 13$$

XI.

1. If the conditional statement is $p \rightarrow q$, then what symbols can we use to represent the

Converse: $q \rightarrow p$

Inverse: $\sim p \rightarrow \sim q$

Contrapositive: $\sim q \rightarrow \sim p$

2. For the conditional statement below state the inverse, converse, and contrapositive.

$\begin{matrix} p & q \\ \text{If it is cold outside, then I will make hot chocolate.} \end{matrix}$

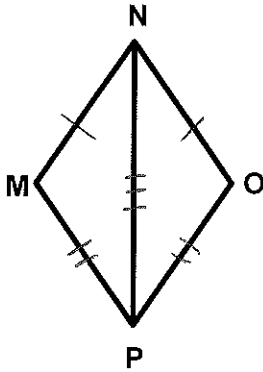
Converse: If I make hot chocolate, then it is cold outside.

Inverse: If it is not cold outside, then I will not make hot chocolate.

Contrapositive: If I do not make hot chocolate, then it is not cold outside.

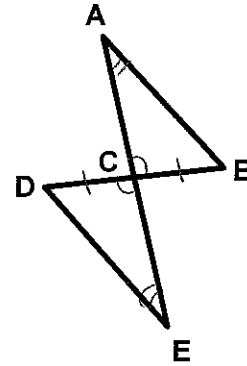
XII. For each proof, mark the given statements on each triangle and formally write a two column proof.

1. Given: $\overline{MN} \cong \overline{NO}$, $\overline{MP} \cong \overline{OP}$



Prove: $\angle O \cong \angle M$

2. Given: \overline{AE} bisects \overline{BD} , $\angle A \cong \angle E$



Prove: $\triangle ABC \cong \triangle EDC$

Statement	Reason
1) $\overline{MN} \cong \overline{NO}$	given
2) $\overline{MP} \cong \overline{OP}$	given
3) $\overline{NP} \cong \overline{NP}$	reflexive Prop
4) $\triangle MNP \cong \triangle ONP$	SSS
5) $\angle O \cong \angle M$	CPCTC

Statement	Reason
1) \overline{AE} bisects \overline{BD}	given
2) $\overline{DC} \cong \overline{CB}$	definition of bisect
3) $\angle A \cong \angle E$	given
4) $\angle ACB \cong \angle ECD$	Vertical angles are congruent
5) $\triangle ABC \cong \triangle EDC$	AAS