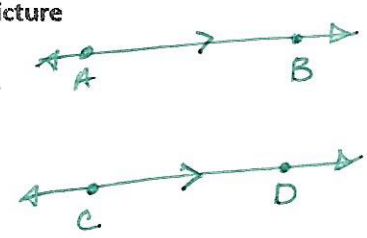
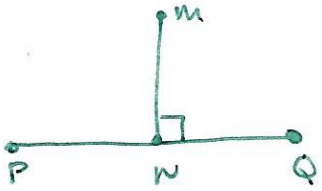
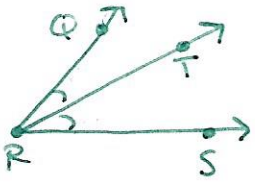
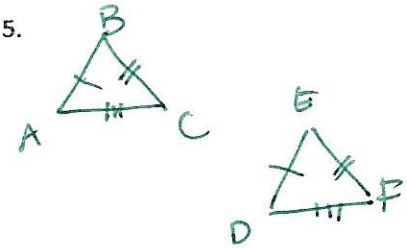
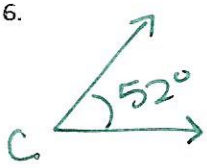
Name: Key
Date: _____ Period: _____

SECONDARY MATH II
Module 5 Study Guide: Geometric Figures

Directions: Show ALL work.

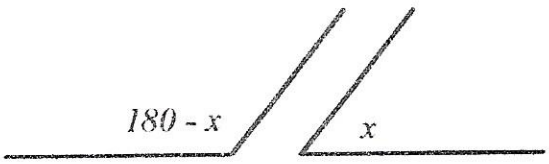
Using the proper symbolic notation, translate the statement into symbols AND draw a picture that is labeled correctly.

Statement	Symbolic Notation	Picture
1. Line AB is parallel to line CD.	1. $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$	1. 
2. Line segment MN is perpendicular to line segment PQ.	2. $\overline{MN} \perp \overline{PQ}$	2. 
3. Ray RT bisects angle QRS.	3. $\overrightarrow{RT}$ bisects $\angle QRS$	3. 
4. Point V bisects line segment WX.	4. V bisects $\overline{WX}$	4. 
5. Triangle ABC is congruent to triangle DEF.	5. $\triangle ABC \cong \triangle DEF$	5. 
6. The measure of angle C is equal to 52°.	6. $m\angle C = 52°$	6. 

Match each word/concept on the left with the picture depicting that word/concept that word/concept on the right.

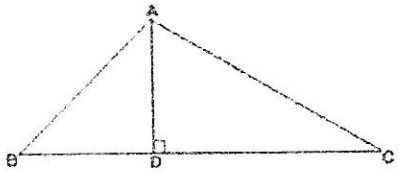
C 7. Linear Pair

a.



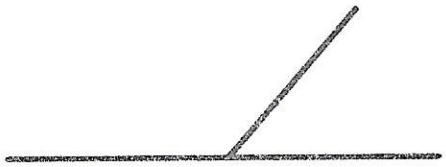
A 8. Supplementary Angles

b.



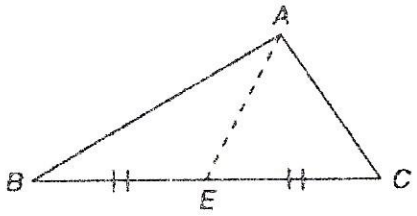
B 9. Altitude

c.



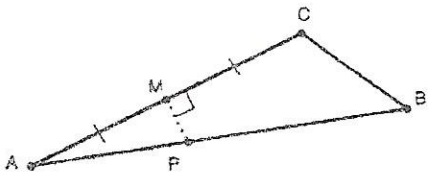
D 10. Median

d.

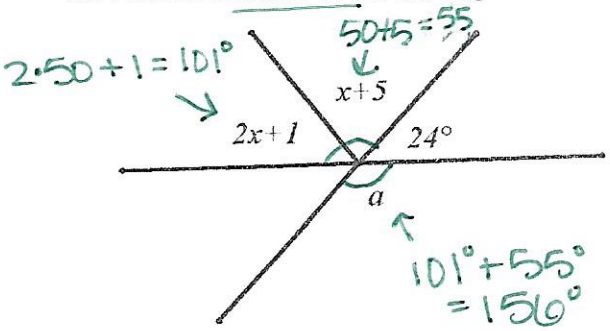


E 11. Perpendicular bisector of a side

e.



12. Find the measure of *a* in the diagram below



$2x+1+x+5+24=180$

$3x+30=180$

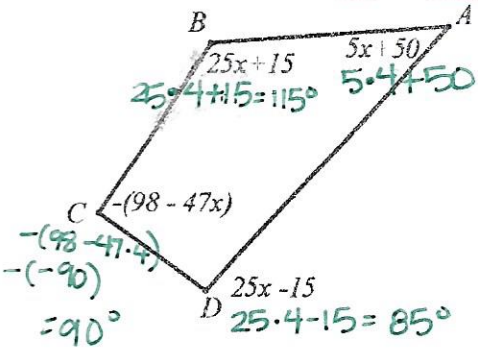
$-30 \quad -30$

$\frac{3x}{3}=\frac{150}{3}$

$x=50$

$m\angle a = 156°$

13. Find the measure of all of the angles for the quadrilateral below.



$25x+15+5x+50+25x-15+-(98-47x)=360$

$55x+50-98+47x=360$

$102x-48=360$

$+48 \quad +48$

$\frac{102x}{102}=\frac{408}{102}$

$x=4$

$25\cdot4+15=115°$

$5\cdot4+50=70°$

$-(98-47\cdot4)$

$-(-90)$

$=90°$

$25\cdot4-15=85°$

$m\angle A=70°$

$m\angle B=115°$

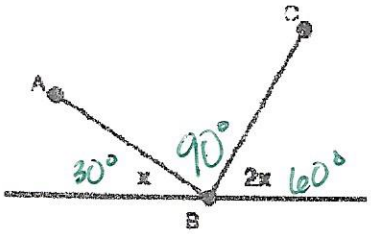
$m\angle C=90°$

$m\angle D=85°$

14. Find the measure of the missing angle.

$180-155=25°$

15. Given $m\angle ABC = 90°$, what does x equal?



$x+2x+90=180$

$3x+90=180$

$-90 \quad -90$

$\frac{3x}{3}=\frac{90}{3}$

$x=30$

16. Given the following sides, sketch the triangles, write a congruence statement, and decide what triangle congruence pattern (ASA, SSS, or SAS) allows you to say those triangles are congruent.

$\overline{CY} \cong \overline{RP}, \overline{EY} \cong \overline{BP}, \angle Y \cong \angle P$

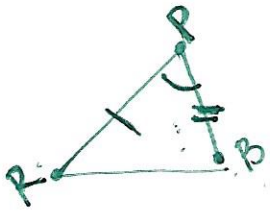
Triangles:

Congruence Statement:

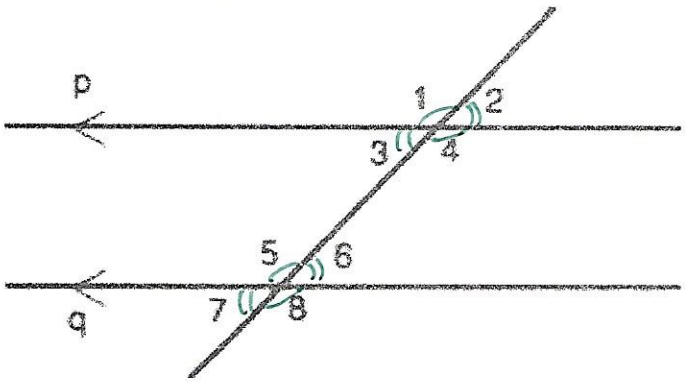
$\triangle CYE \cong \triangle RPB$ (OR $\triangle YEC \cong \triangle PBR$, $\triangle ECY \cong \triangle BRP$, $\triangle CEY \cong \triangle RBP$, $\triangle EYC \cong \triangle BPR$, $\triangle YCE \cong \triangle PRB$)

Congruence Pattern:

SAS



List each pair of angles as congruent or supplementary, given that lines p and q are parallel.



17. $\angle 1$ *and* $\angle 2$

supplementary

18. $\angle 1$ *and* $\angle 4$

congruent

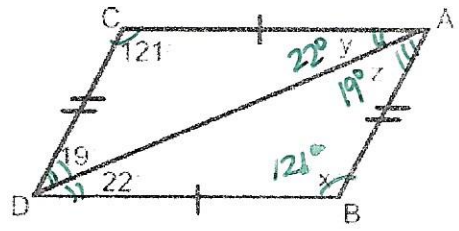
19. $\angle 4$ *and* $\angle 6$

supplementary

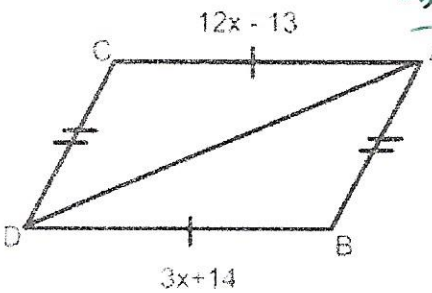
20. $\angle 2$ *and* $\angle 8$

supplementary

21. Determine what x, y, and z equal.

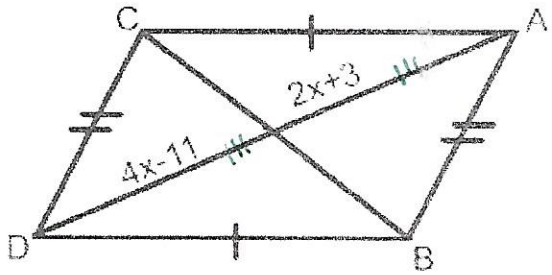


22. Determine what x equals.



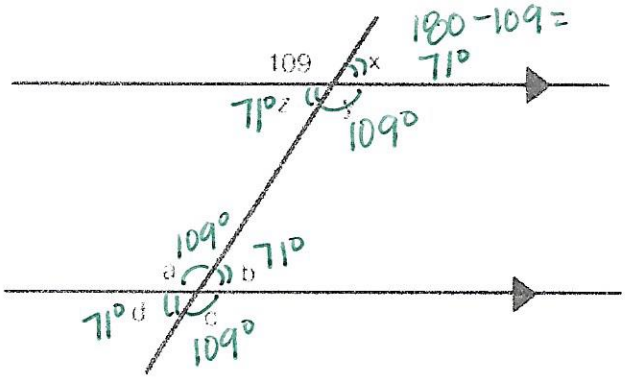
$12x-13 = 3x+14$
$-3x \quad -3x$
$9x-13 = 14$
$+13 \quad +13$
$\frac{9x}{9} = \frac{27}{9}$
$x = 3$

23. Solve for x.



$4x-11 = 2x+3$
$-2x \quad -2x$
$2x-11 = 3$
$+11 \quad +11$
$\frac{2x}{2} = \frac{14}{2}$
$x = 7$

24. Label each missing angle with the correct angle measure.



$180 - 109 =$
$71°$