

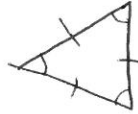
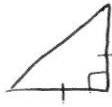
AK

Name: \_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_

Unit 5 Triangles Practice Test 1

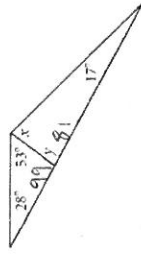
1) Can you construct the following triangles? If so, sketch an example.

- a. Right Equilateral
- b. Isosceles Right
- c. Equilateral Acute Equiangular
- d. Obtuse Scalene



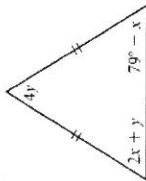
No

2) Find x and y.  
 $x = 82, y = 81$



3) Find x and y (Hint: Set up a system of equations)

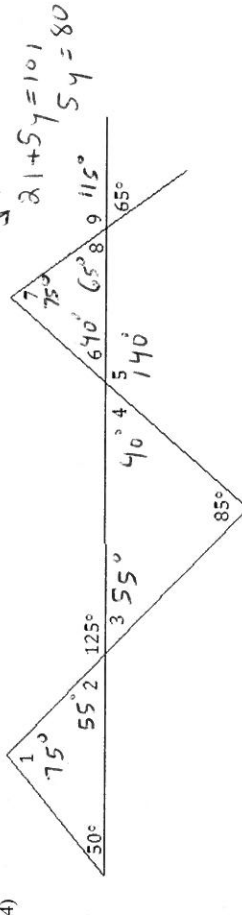
$x = 21, y = 16$



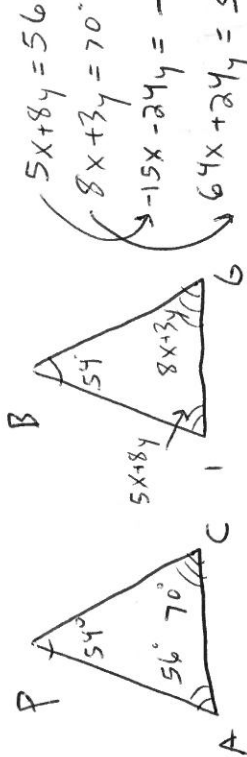
$4y + 2x + y + 79 - x = 180$

$x + 5y = 101$   
 $2x + y = 79 - x$   
 $3x + y = 79$

$x + 5y = 101$   
 $-15x - 5y = -395$   
 $-14x = -294$   
 $x = 21$

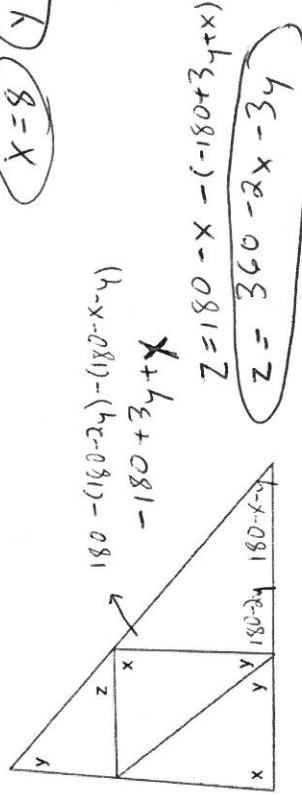


5) Given  $\triangle PAC \cong \triangle BIG$ ,  $\angle G = (8x + 3y)^\circ$ ,  $\angle A = 56^\circ$ ,  $\angle B = 54^\circ$ ,  $\angle I = (5x + 8y)^\circ$ , find x and y.



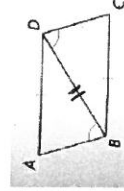
6) Express angle z in terms of x and y.

$49x = 392$   
 $x = 8$   
 $y = 2$



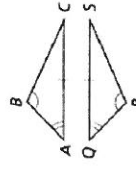
7) Decide if the triangles are congruent. If so, provide a shortcut that proves they are congruent. Then write a congruence statement. If they are not congruent, give a reason why.

$\triangle ABD$  and  $\triangle CDB$



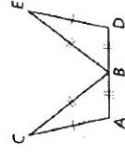
Not  $\cong$ ,  
 SSA.

$\triangle ABC$ ,  $\triangle QRS$



$ABC \cong QRS$   
 by AAS

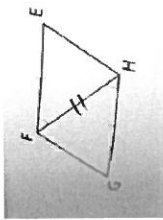
$\triangle ABC$ ,  $\triangle DBE$



$ABC \cong DBE$   
 by SSS.

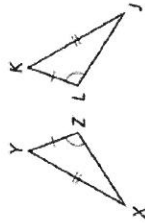
(question 7 continued)

$\triangle EFH$  and  $\triangle GHF$



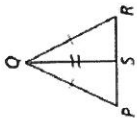
$EFH \cong GHF$   
by SAS

$\triangle XYZ$ ,  $\triangle JKL$

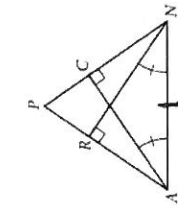


Not  $\cong$   
SSA

$\triangle PQS$ ,  $\triangle RQS$

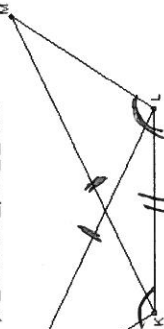


Not  $\cong$ ,  
Not enough info.



$\triangle ANR \cong \triangle NAC$   
by AAS

$\overline{IL} \cong \overline{MK}$  and  $\angle JKL \cong \angle MLK$

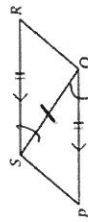


$\triangle MKL \cong \triangle JLK$   
Not  $\cong$ , SSA

8) Prove the following.

Given:  $\overline{PQ} \parallel \overline{SR}$  and  $\overline{PQ} \cong \overline{SR}$

Show:  $\overline{SP} \cong \overline{QR}$



$PQ \parallel SR$  given  
 $PQ \cong SR$  given

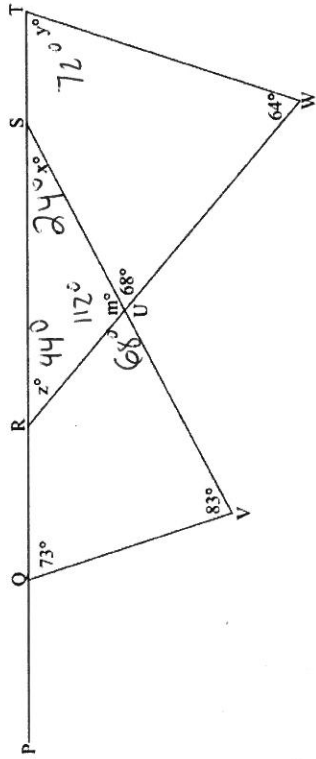
$\angle PQS \cong \angle RSQ$  Alt. Int. Angles Thm.

$SQ \cong SQ$  Reflexive

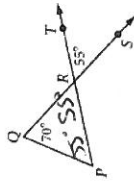
$\triangle PQS \cong \triangle RSQ$  SAS

$\overline{SP} \cong \overline{QR}$  CPCTC

9) Example 3: Determine the measures of all unknown angles in the figure below:



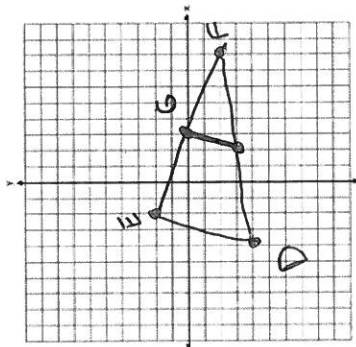
10) Use the diagram to explain why  $\triangle PQR$  is isosceles.



Because the base angles are equal

11)

On the set of axes below, graph and label  $\triangle DEF$  with vertices at  $D(-4, -4)$ ,  $E(-2, 2)$ , and  $F(8, -2)$ . If  $G$  is the midpoint of  $\overline{EF}$  and  $H$  is the midpoint of  $\overline{DF}$ , state the coordinates of  $G$  and  $H$  and label each point on your graph. Explain why  $\overline{GH} \parallel \overline{DE}$ .



$G(3, 0)$

$H(2, -3)$

Because their slopes are equal.

slope = 3

$$DE \text{ slope } = \frac{-4 - 2}{-4 - 2} = \frac{-6}{-2} = 3$$