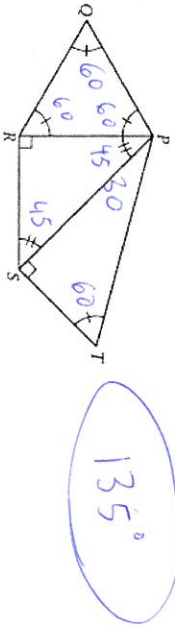Name: _____ Period: _____ Date: _____
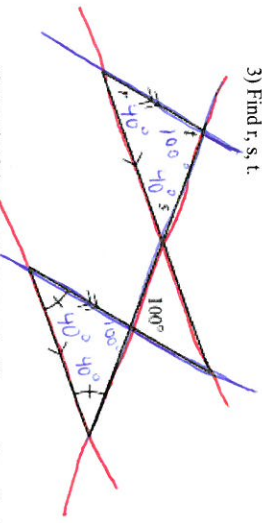
Unit 5 Triangles Practice Test 2

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

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

Not Possible   *Not Possible*   *Not Possible*

(isosceles equilateral triangle sketched)   (right scalene triangle sketched with 3, 4, 5)
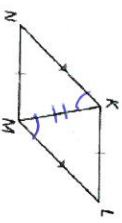
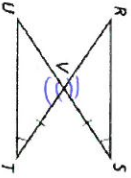2) Find the measure of $\angle QPT$.

$135°$

3) Find r, s, t.

4) Decide if the triangle congruent. If so, provide a shortcut that proves they are congruent. Then write a congruence statement.
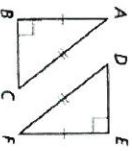
$\triangle KLM$ and $\triangle MNK$

Not ≅, SSA

$\triangle RSV, \triangle UTV$
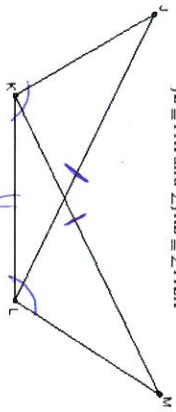

$\triangle SVR \cong \triangle UTV$ by ASA

$\triangle ABC, \triangle FED$

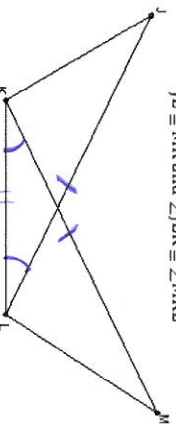$\triangle ABC \cong \triangle FED$ by HL

(question 4 continued)

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

Not ≅, SSA

$\overline{JL} \cong \overline{MK}$ and $\angle JLK \cong \angle MKL$

$\triangle JLK \cong \triangle MKL$ by SAS

5) Prove the following.

Given: Isosceles $\triangle ABC$ with $\overline{AC} \cong \overline{BC}$ and altitude $\overline{CD}$

Show: $\overline{CD}$ is a median

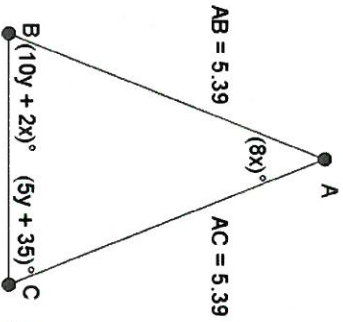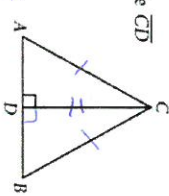|	
$\overline{AC} \cong \overline{BC}$	Given
$m\angle ADC = m\angle BDC = 90°$	Definition of Altitude
$\overline{CD} \cong \overline{CD}$	Reflexive Property
$\triangle ADC \cong \triangle BDC$	HL
$\overline{AD} \cong \overline{DB}$	CPCTC
D is a midpoint	Definition of a Midpoint
$\overline{CD}$ is a median	Definition of a median

6) Find x and y.

AB = 5.39
AC = 5.39

$8x + 10y + 2x + 5y + 35 = 180$

$10y + 2x = 5y + 35$

$2x + 5y = 35$ $(x-3)$

$10y + 15y = 145$ $(x-3)$
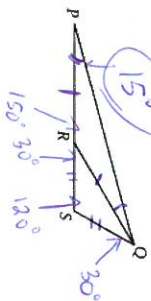
$10x + 15y = 145$
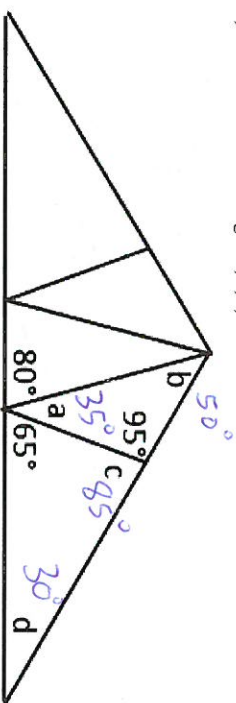
$-6x - 15y = -105$

$4x = 40$

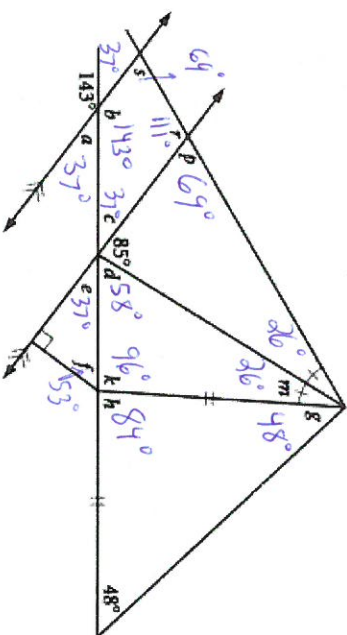$x = 10$

$x = 10$

$2(10) + 5y = 35$

$5y = 15$

$5y = 15$

$y = 3$

7) $PR = QR$ and $QS = RS$. If $m\angle RSQ = 120°$, what is $m\angle QPR$?
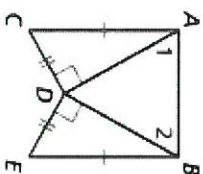

8) Find the measures of angles a, b, c, d.

9) Find the measures of the missing angles.

10) Find the range of possible lengths for a third side of a triangle with side lengths 3 and 15.

$12 < X < 18$

11) Prove angles 1 and 2 are congruent with the given information.
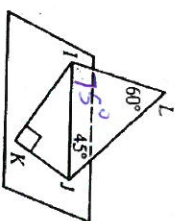

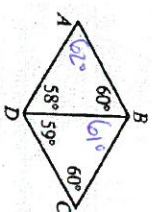| S	R
$\triangle ACD \cong \triangle BED$	HL
$\overline{AD} \cong \overline{BD}$	CPCTC
$\triangle ABD$ is isosceles	Definition of Isosceles
$\angle 1 \cong \angle 2$	Base Angles Theorem

12) Each diagram is not drawn to scale. Use the given information to order the side lengths from least to greatest.

Find Largest Side.

$\angle L < \angle J < \angle I$ $\angle J$ is the biggest side.

$JK, IK \angle IJ$

$AB \angle AD \angle BD$ $BC < BD \angle CD$ CD is the largest side.

13) Can each of the sets of side lengths construct a triangle? Yes or no.

1, 2, 3   5, 12, 13   10, 21, 10

No   Yes   No

52.1, 26.5, 25.7

Yes