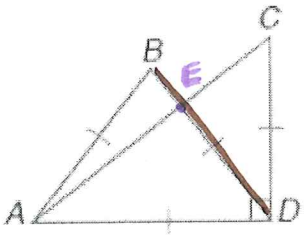
Name: Key

Hour: _____

Advanced Triangle In-class Practice

Directions: #1-4 Identify the indicated type of triangles if m<ADC=90°, AB≅BD≅AD≅CD.



1. Right

△ADC

2. ~~Obtuse~~ Equilateral

△ABD

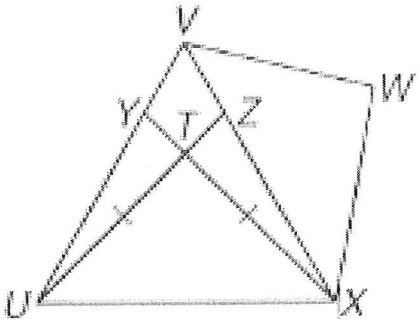
3. Scalene

△ABE

4. Isosceles

△ADC

#5-6 $\overline{UV} \cong \overline{VX} \cong \overline{UX}$.



5. Name the scalene triangles:

△VWX, △TZX, △TUY
△UZX, △YXU, △UZV, △YVX

6. Name the isosceles triangles:

△UTX

Key

Triangle Inequalities: Individual Practice

In Exercises 1 and 2, determine whether it is possible to draw a triangle with sides of the given measures. If it is possible, write yes. If it is not possible, write no and make a sketch demonstrating why it is not possible.

1. 16 cm, 30 cm, 45 cm

Yes

2. 9 km, 17 km, 28 km

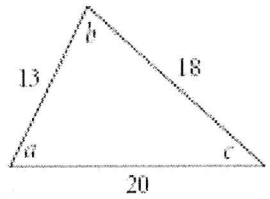
No

3. If 17 and 36 are the lengths of two sides of a triangle, what is the range of possible values for the length of the third side?

$19 < x < 53$

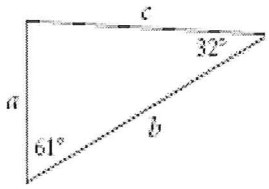
In Exercises 4–6, arrange the unknown measures in order from greatest to least.

4.



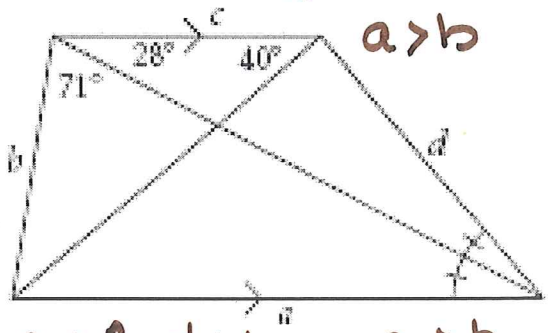
b, a, c

5.



b, c, a

6.

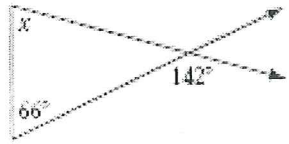


$c > b$
$c = d$
$a > b$

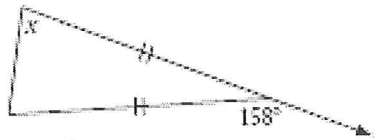
$a > c = d > b$

$a > b$
$\Rightarrow a > c$

7. $x =$ 76°

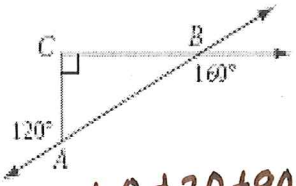


8. $x =$ 79°



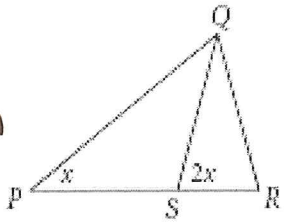
$2x = 158$

9. What's wrong with this picture?



$60 + 20 + 90 \neq 180$

10. Explain why $\triangle PQS$ is isosceles.



$\angle P + \angle PQS = \angle QSR$ Ext $\angle$ Thm

$x + \angle PQS = 2x$

$-x \qquad -x$

$\therefore \angle PQS = x$ and

$\angle P \cong \angle PQS$ Thus base $\angle$s of isosceles $\triangle \cong$ and $\triangle PQS$ = isosceles.