

3.2 Triangle Intro P2

10/28/2015

Triangle Inequality Theorem

- The sum of the lengths of any two sides of a triangle is greater than the length of the third side.

Determine if the three numbers can make the sides of a triangle:

Example: 15, 6, 2

$$6 + 2 = 8$$

$$8 \not> 15$$

No

Example: 5, 3, 7

$$5 + 3 = 8$$

$$8 > 7$$

Yes

Two sides of the triangle have the following measures. Find the range of possible measures for the third side.

Example: 5, 9

$$5 + 9 = 14$$

$$9 - 5 = 4$$

$4 < X < 14$

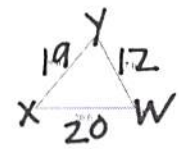
Example: 12, 6

$$12 + 6 = 18$$


$$12 - 6 = 6$$

$6 < X < 18$

Write the angles of the triangles in order from least to greatest.

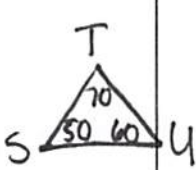


$\angle X, \angle W, \angle Y$




$\angle V, \angle U, \angle T$

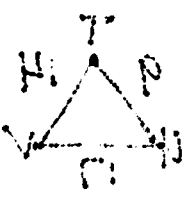
Write the sides of the triangles in order from least to greatest.



$\overline{TU}, \overline{ST}, \overline{SU}$



$\overline{GE}, \overline{FG}, \overline{FE}$



$\frac{1}{2} \times 12 \times 14$
 $= 84$

