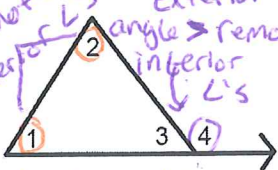
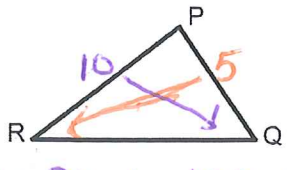
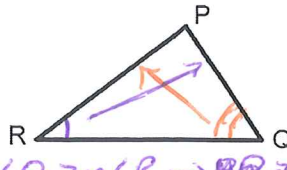
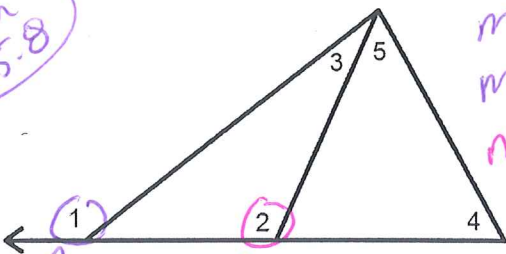


# Geometry - 5.2 - Inequalities and Triangles

Theorem 5.8	Theorem 5.9	Theorem 5.10
 <p><math>m\angle 4 &gt; m\angle 1</math> <math>m\angle 4 &gt; m\angle 2</math></p>	 <p><math>PA &gt; PQ \rightarrow m\angle Q &gt; m\angle R</math> Bigger side <math>\rightarrow</math> Bigger Opp. <math>\angle</math></p>	 <p><math>m\angle Q &gt; m\angle R \rightarrow PR &gt; PQ</math></p>

**Ex 1** - Determine as many inequalities as possible relating the angles in the picture below.

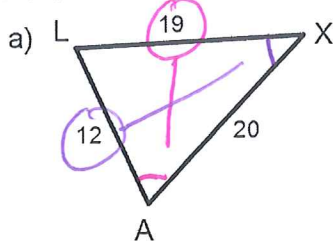
Thm 5.8



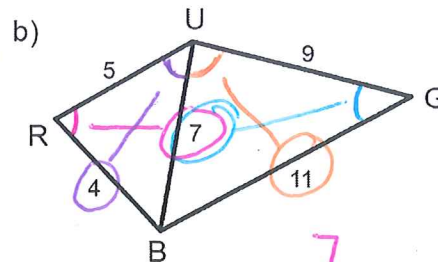
$m\angle 1 > m\angle 2$   
 $m\angle 1 > m\angle 3$   
 $m\angle 2 > m\angle 4$   
 $m\angle 2 > m\angle 5$   
 $m\angle 1 > m\angle 4$   
 $m\angle 1 > m\angle 5$

} Transitive

**Ex 2** - Determine the relationship between the measures of the given angles.

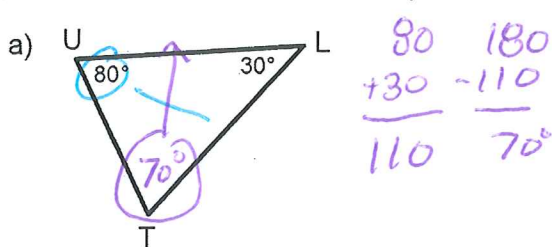


$19 > 12$   
 $m\angle A > m\angle X$

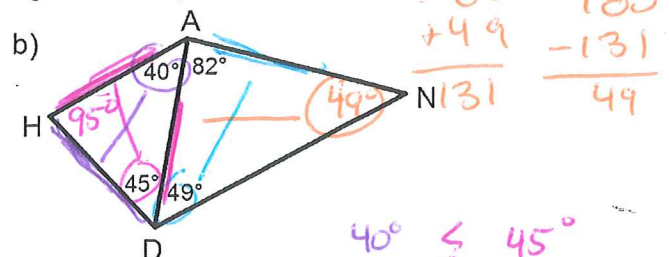


$m\angle BRU > m\angle BUR$   
 $m\angle BGU < m\angle BUG$

**Ex 3** - Determine the relationship between the lengths of the given sides.



$70^\circ < 80^\circ$   
 $UL < LT$



$40 < 45$   
 $HD < HA$

$AD = AN$   
 $49^\circ = 49^\circ$