

WORKSHEET

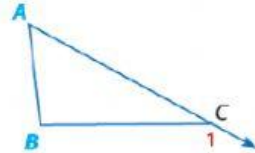
CHAPTER 4 - LESSON 3

INEQUALITIES IN ONE TRIANGLE

Theorem 4.8 Exterior Angle Inequality

The measure of an exterior angle of a triangle is greater than the measure of either of its corresponding remote interior angles.

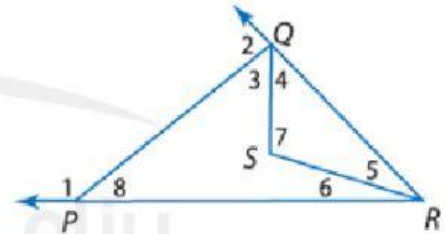
Example: $m\angle 1 > m\angle A$
 $m\angle 1 > m\angle B$



1) Find

A) measures less than $m\angle 1$ are

B) measures greater than $m\angle 8$ are



$m\angle 2$

$m\angle 3$

$m\angle 4$

$m\angle 5$

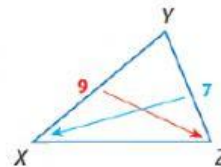
$m\angle 6$

$m\angle 7$

Theorems Angle-Side Relationships in Triangles

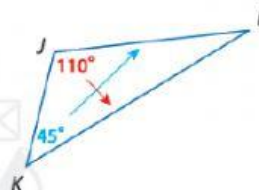
4.9 If one side of a triangle is longer than another side, then the angle opposite the longer side has a greater measure than the angle opposite the shorter side.

Example: $XY > YZ$, so $m\angle Z > m\angle X$.

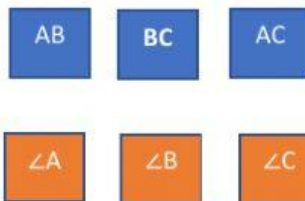
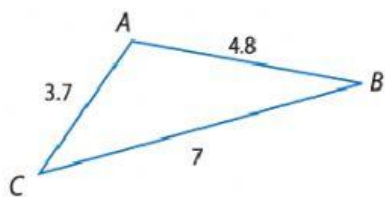


4.10 If one angle of a triangle has a greater measure than another angle, then the side opposite the greater angle is longer than the side opposite the lesser angle.

Example: $m\angle J > m\angle K$, so $KL > JL$.



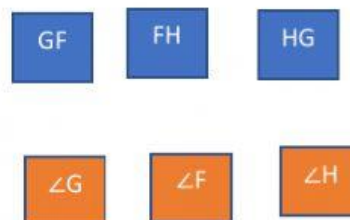
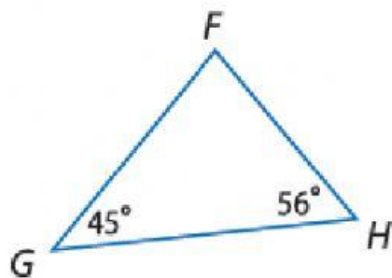
2) List the angles and sides in order from smallest to largest



Sides $<$ $<$

Angles $<$ $<$

3) List the angles and sides in order from largest to smallest



$\angle F =$

Sides $>$ $>$

Angles $>$ $>$