

# WORKSHEET

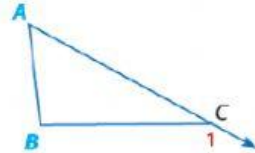
## CHAPTER 4 - LESSON 3

### 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.

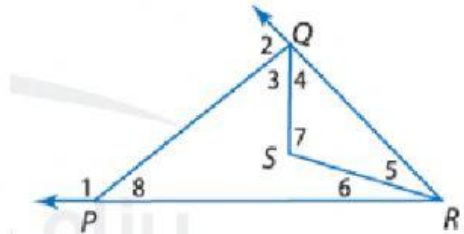
Example:  $m\angle 1 > m\angle A$   
 $m\angle 1 > m\angle B$



1) Find

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

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



$m\angle 2$

$m\angle 3$

$m\angle 4$

$m\angle 5$

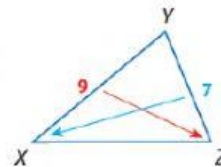
$m\angle 6$

$m\angle 7$

#### Theorems Angle-Side Relationships in Triangles

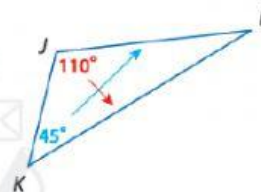
**4.9** If one side of a triangle is longer than another side, then the angle opposite the longer side has a greater measure than the angle opposite the shorter side.

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

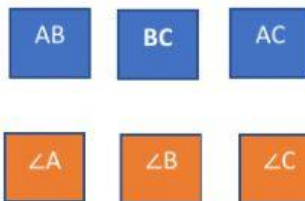
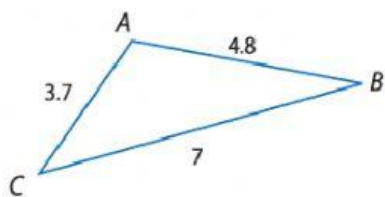


**4.10** If one angle of a triangle has a greater measure than another angle, then the side opposite the greater angle is longer than the side opposite the lesser angle.

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



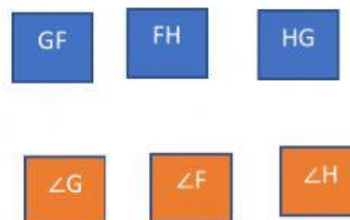
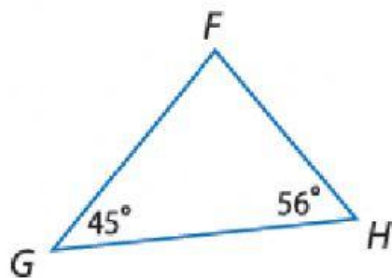
2) List the angles and sides in order from smallest to largest



Sides < <

Angles < <

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



$\angle F =$

Sides > >

Angles > >