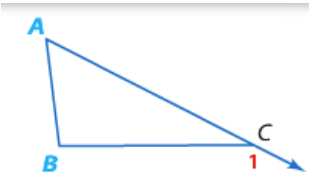
5-3

Inequalities in One Triangle

Exterior Angle Inequality

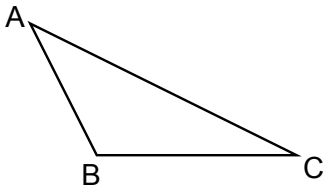
The measure of an exterior angle of a triangle is greater than the measure of either remote interior angles.



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

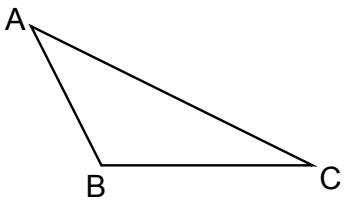
Angle-Side Relationships

The largest angle in a triangle is created by the largest side.
The smallest angle is created by the smallest side.



Side-Angle Relationships

The largest side in a triangle is created by the largest angle.
The smallest side is created by the smallest angle.

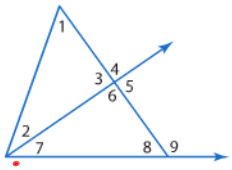


Use the Exterior Angle Inequality Theorem to list all of the angles that satisfy the stated condition.

1. measures less than $m\angle 4$

2. measures greater than $m\angle 7$

3. measures greater than $m\angle 2$



4. measures less than $m\angle 9$

LIST THE ANGLES AND SIDES IN ORDER FROM GREATEST TO SMALLEST