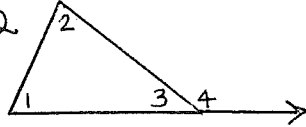


5-2 Inequalities and Triangles Notes

Exterior Angle Inequality Theorem (5.8):

If an angle is an exterior angle of a triangle, then its measure is greater than the measure of either of its remote interior angles.

$m\angle 4 = m\angle 1 + m\angle 2$

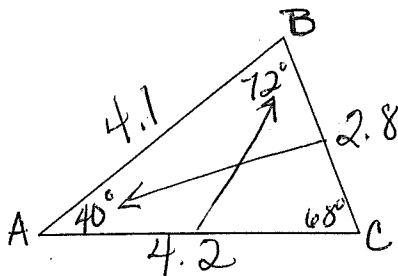


$m\angle 4 > m\angle 1$

$m\angle 4 > m\angle 2$

ACTIVITY:

Take a few minutes and measure each side and angle of $\triangle ABC$ and record your measures in the table below. Then answer the questions.



Side	Measure (cm)	Angle	Measure
\overline{BC}	2.8 cm	$\angle A$	40°
\overline{AC}	4.2 cm	$\angle B$	72°
\overline{AB}	4.1 cm	$\angle C$	68°

- Describe the angle opposite the longest side (in relation to the other angles).
- Describe the angle opposite the shortest side (in relation to the other angles).
- What can you conclude about the relationship between side measures and angles measures of a triangle?

largest angle
smallest angle
 The medium side will be across from the medium angle

Theorem 5.9 and Theorem 5.10 in your text state that the angle opposite the largest side is the largest angle, and the angle opposite the smallest side is the smallest angle in a triangle.

Example:

Determine the relationship between the measures of the given angles.

1. $m\angle ADB > m\angle DBA$

2. $m\angle CBD < m\angle CDB$

3. $m\angle CDA > m\angle CBA$
 $10 + 16 > 8 + 15$
 $26 > 23$

