

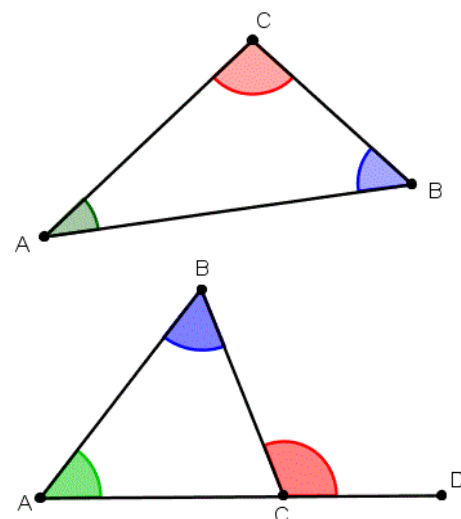
Angle Properties in Triangles

- The measures of the interior angles in a triangle sum to 180° .

$$\angle A + \angle B + \angle C = 180^\circ$$

- The measure of an exterior angle of a triangle is equal to the sum of the two interior angles that are not adjacent to the exterior angle.

$$\angle BCD = \angle ABC + \angle BAC$$



Example 1: Prove the Relationship Between the Exterior and Interior Angles of a Triangle

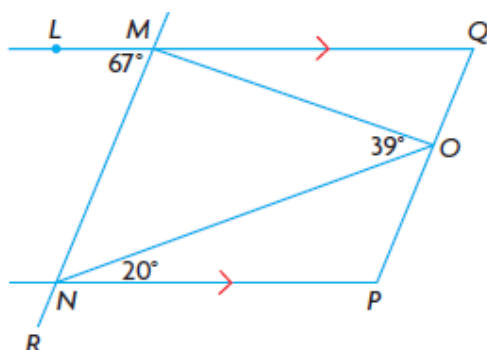
Prove that the measure of an exterior angle of a triangle is equal to the sum of the two interior angles that are not adjacent to the exterior angle.



Statement	Justification

Example 2: Using Angle Properties to Solve Problems

Determine the measures of $\angle NMO$, $\angle MNO$, and $\angle QMO$ in the following diagram.



Angle Measure	Reason
$\angle MNO = \underline{\hspace{2cm}}$	
$\angle NMO = \underline{\hspace{2cm}}$	
$\angle QMO = \underline{\hspace{2cm}}$	