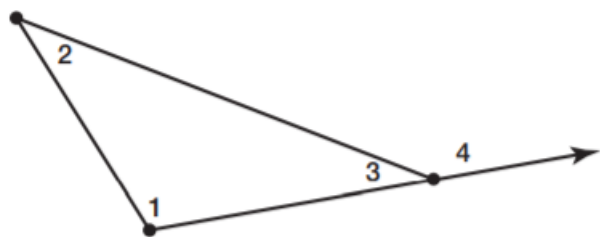


## Triangle Exterior Angle Theorem



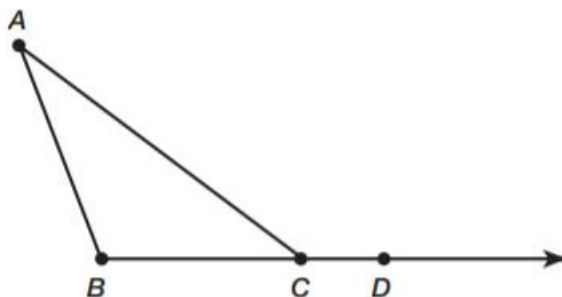
Name the interior angles of the triangle.

Name the exterior angles of the triangle.

The **Exterior Angle Theorem** states: “the measure of the exterior angle of a triangle is equal to the sum of the measures of the two remote interior angles of the triangle.”

What is the triangle exterior angle theorem?

Prove the Exterior Angle Theorem using the diagram shown.



Diagram

Given: Triangle  $ABC$  with exterior  $\angle ACD$

Prove:  $m\angle A + m\angle B = m\angle ACD$

What is the triangle inequality theorem?

Use the angles with your partner to find different triangles or give examples of triangles that cannot be formed.

Piece 1 (cm)	Piece 2 (cm)	Piece 3 (cm)	Forms a Triangle? (yes or no)

Summary: