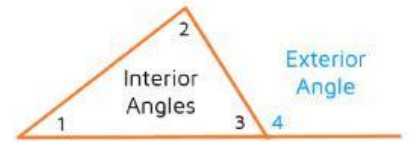


Exterior Angles of a Triangle Worksheet

An **exterior angle** of a triangle is formed when one side of the triangle is extended. The angle that forms outside the triangle is called the **exterior angle**.



Exterior Angle Rule

The exterior angle of a triangle equals the **sum** of the two remote **interior** angles.

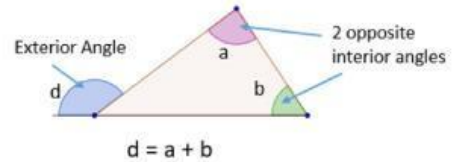
Exterior Angle Theorem

For any triangle, an exterior angle equals the **sum** of the **two non-adjacent interior angles**.

$$\text{Exterior Angle} = \text{Interior Angle 1} + \text{Interior Angle 2}$$

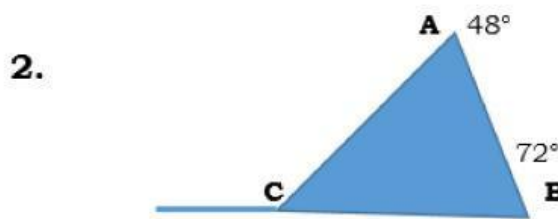
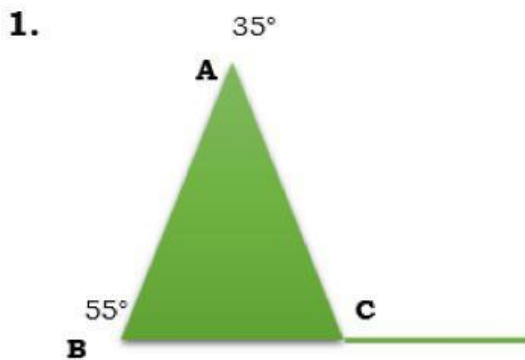
Exterior Angle Theorem

The exterior angle of a triangle is equal to the sum of the two opposite interior angles.



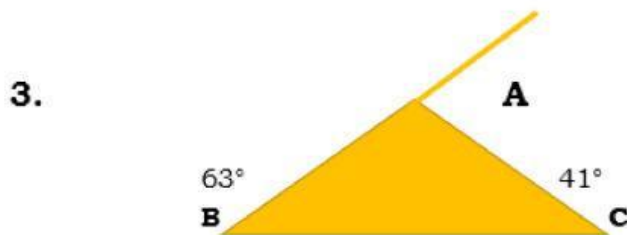
Part A – Find the Missing Exterior Angle

Directions: Use the Exterior Angle Theorem to find the missing exterior angle.

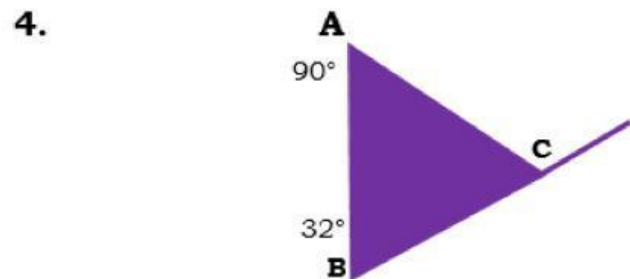


Exterior angle at C = ____

Exterior angle at C = **90°**



Exterior angle at A = ____°

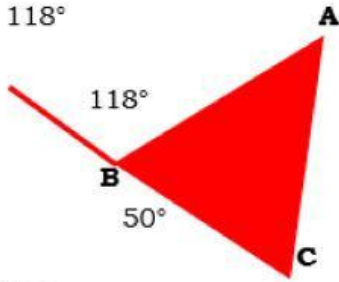


Exterior angle at C = ____°

Part B – Find the Missing Interior Angle

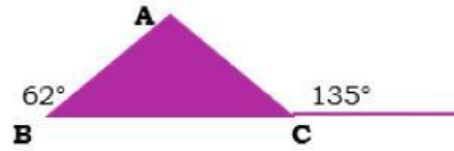
Directions: The exterior angle is given. Find the missing interior angle.

5. Exterior angle = 118°



Missing interior angle = ____

6. Exterior angle = 135°



Missing interior angle = ____

Part C – Word Problems

9. Two remote interior angles of a triangle measure 45° and 68° . Find the exterior angle.

Answer: ____ $^\circ$

10. An exterior angle measures 124° . One remote interior angle is 57° . Find the other remote interior angle.

Answer: ____ $^\circ$