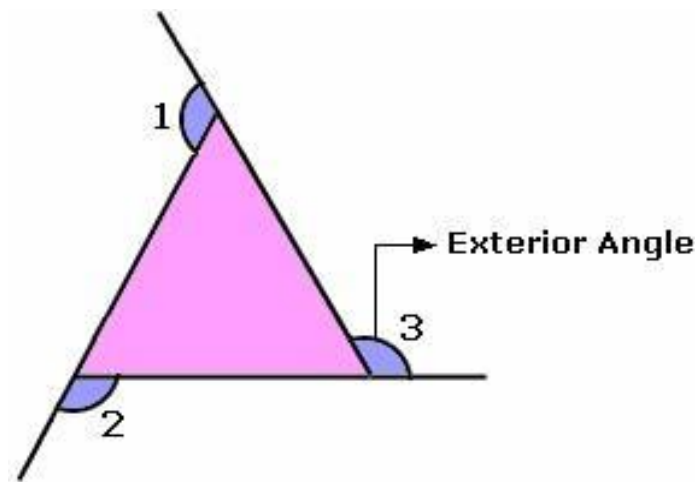# Exterior Angles
Includes Theorem and Remote Interior Angles
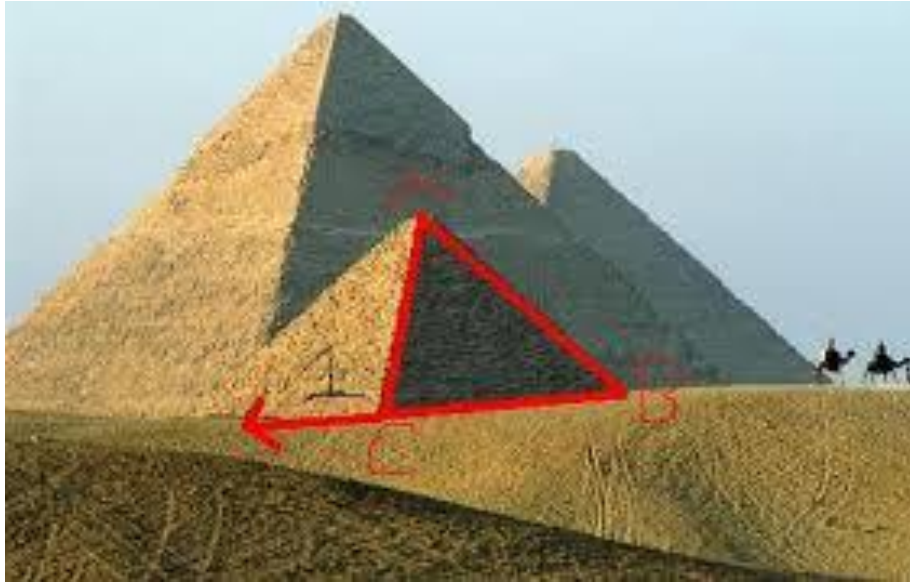
Exterior Angles

The Angles between a side of a rectilinear figure and an adjacent side extended outward.

Figure.

This shows that <1, <2, &<3 is an exterior angle

Examples of Exterior Angles in Real life.

The Pyramids of Giza

As shown on the side of the Pyramid,

<1 is the exterior angle to <ABC

The Exterior Angle Theorem is proved as follows:

$$b + d = 180$$

$$b + d = b + a + c$$

$$d = a + c.$$

On the other hand, if the Exterior Angle Theorem is taken as a true statement then:
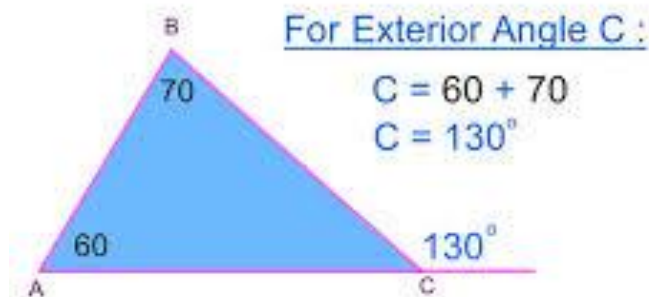
$$d = a + c$$

$$b + d = 180$$

$$b + a + c = 180$$

Example

Exterior Angle Theorem

The outside Angle of a Triangle always equals the sum of the two far away inside angles.

$$\boxed{\text{Exterior } C^\circ = a^\circ + b^\circ}$$

For Exterior Angle C :

$$C = 60 + 70$$
$$C = 130^\circ$$

B

70

60   130°

A   C

In a triangle, each exterior angle has two remote interior angles (see picture below). The remote interior angles are just the two angles that are inside the triangle and opposite from the exterior angle.

$\angle A$ = exterior angle
$\angle C$ = remote interior angle
$\angle D$ = remote interior angle

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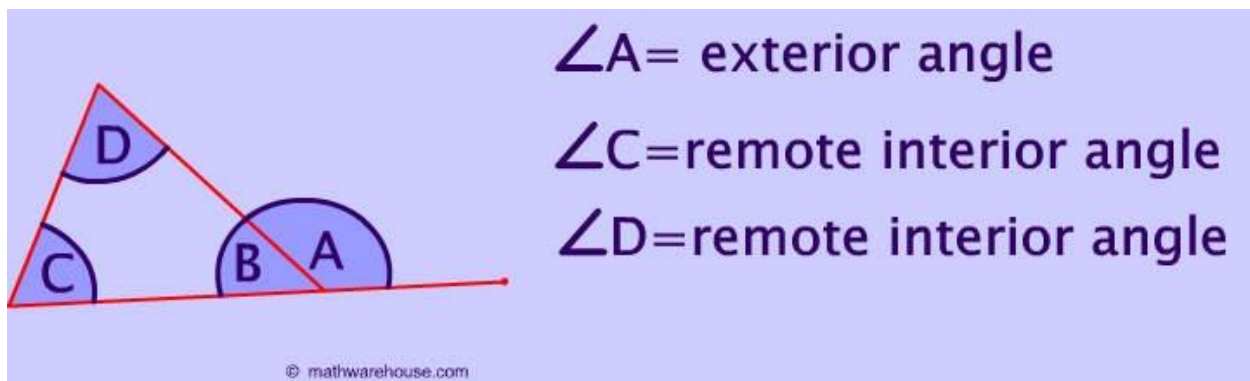
As a real world term of exterior angles theorem and remote interior angles can be found in house designs, architecture, shapes, etc. The picture below provides a way exterior angles is in the real world.