Exterior Angle Sum Theorem for Polygons
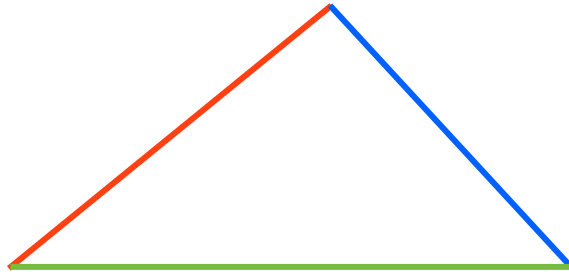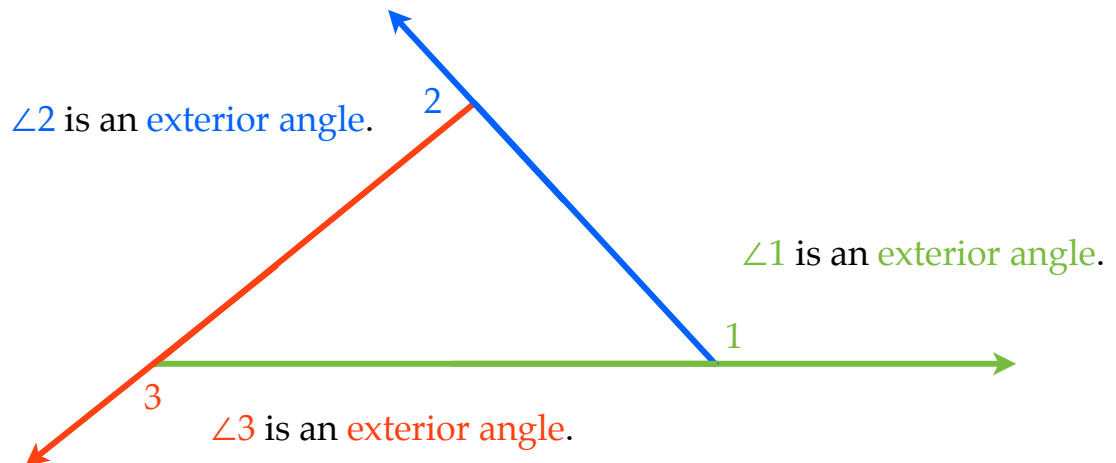
Exterior Angle

An exterior angle is formed by one side of a polygon and the extension of another side.

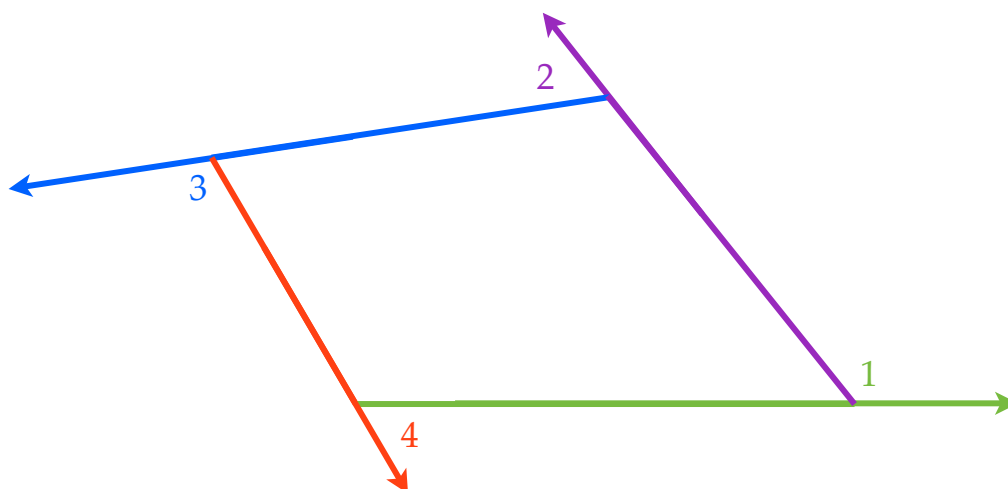The sum of the measures of the exterior angles of a polygon is 360°.

$$m\angle 1 + m\angle 2 + m\angle 3 = 360°$$

∠2 is an exterior angle.
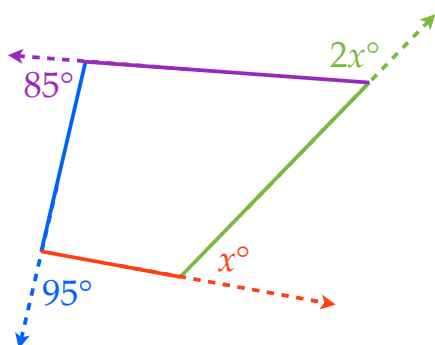
2

∠1 is an exterior angle.

1

3

∠3 is an exterior angle.

The sum of the measures of the exterior angles of a polygon is 360°.

$$m\angle 1 + m\angle 2 + m\angle 3 + m\angle 4 = 360°$$

Solve for the value of x.
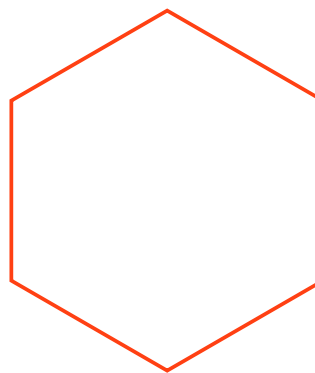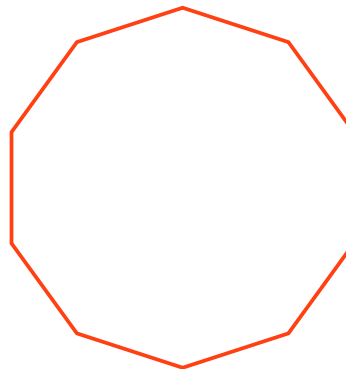
Solve for the value of x.

5x°

2x°

x°

90°

90°
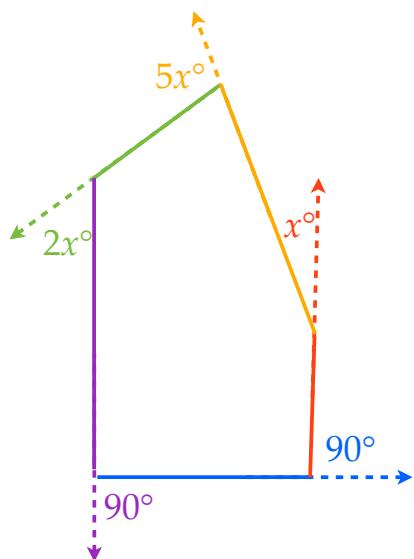
Given the number of sides of a regular polygon, find the measure of each exterior angle.

In a regular polygon, all exterior angles are congruent.

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$n = 10$

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$n = 18$ $n = 45$

In a regular polygon, all exterior angles are congruent.

The sum of the measures of the exterior angles of a polygon is 360°.

$$m\angle 1 + m\angle 2 + m\angle 3 + m\angle 4 = 360°$$

2

3

1

4

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