NOTES 7.1: INTERIOR ANGLES OF POLYGONS
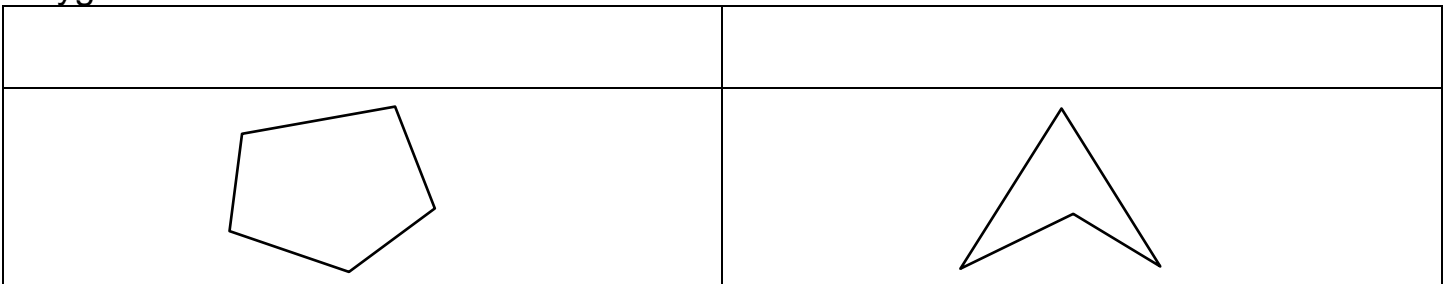
Objective:_____

_____

POLYGON:

Regular Polygon:
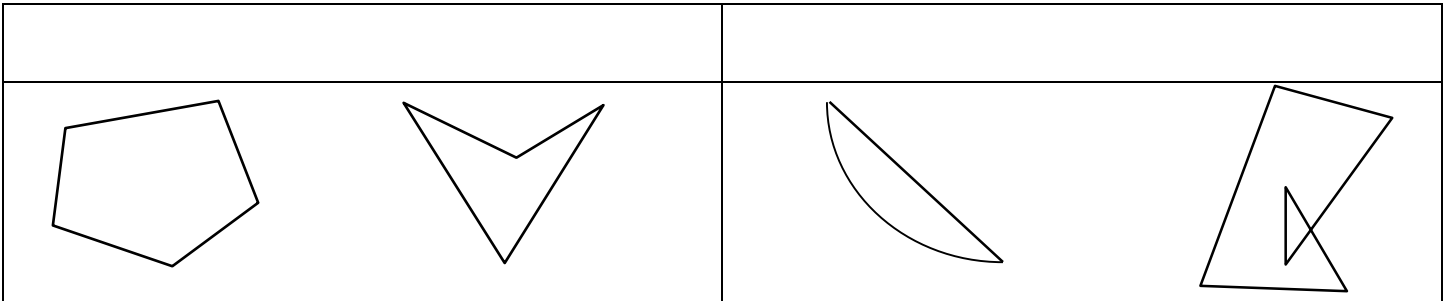
Polygons can be **CONVEX** or **CONCAVE**.

Polygons are named according to the number of _____.

A 3-sided polygon is called a _____.

A 4-sided polygon is called a _____.

A 5-sided polygon is called a _____.

A 6-sided polygon is called a _____.

A 7-sided polygon is called a _____.

An 8-sided polygon is called a _____.

A 9-sided polygon is called a _____.

A 10-sided polygon is called a _____.

An 11-sided polygon is called a _____.

A 12-sided polygon is called a _____.

An n-sided polygon is called a _____.

INTERIOR AND EXTERIOR ANGLES

To find the sum of the measures of the interior/exterior angles of a polygon, use the following formulas:

Sum of Interior Angles	Sum of Exterior Angles

To find the measure of each interior/exterior angle of a regular polygon, use the following formulas:

Each Interior Angle	Each Exterior Angle

EXAMPLE 1: For a heptagon, find:

a) the sum of the measures of the interior angles.	b) the sum of the measures of the exterior angles.
Sum = _____	Sum = _____

EXAMPLE 2: For a regular, 13-sided polygon, find:

a) the sum of the measures of the interior angles.	b) the measure of each interior angle.
Sum = _____	Each Angle = _____
c) the sum of the measures of the exterior angles.	d) the measure of each exterior angle.
Sum = _____	Each Angle = _____

Notes 7.1 (Continued)

EXAMPLE 3: Find the measure of *each* of the interior angles of a regular dodecagon.

Each angle = _____

EXAMPLE 4: Find the measure of *each* of the interior angles of a regular, convex of a 20-gon.
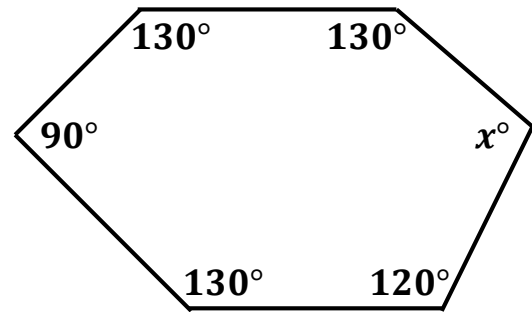
Each angle = _____

EXAMPLE 5: If the measure of *an interior angle* of a regular polygon is 108°, find the number of sides of the polygon.

Number of sides = _____

EXAMPLE 6: If the measure of *an interior angle* of a regular polygon is 150°, find the number of sides in the polygon.

Number of sides = _____

EXAMPLE 7: Find the missing angle.

130°   130°

90°   x°

130°   120°

$x =$ _____

EXAMPLE 8: The measure of an exterior angle of a regular polygon is 30°. Find the number of sides.

Number of sides = _____

EXAMPLE 9: The measure of an interior angle of a regular polygon is 144°. Find the number of sides.

Number of sides = _____