


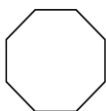
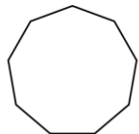
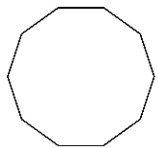
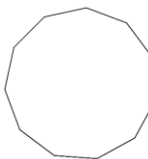
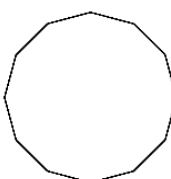
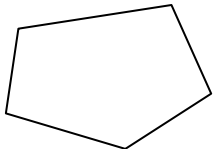
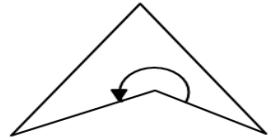


Notes: INTERIOR ANGLES OF POLYGONS

Content Objective: *I will be able to classify polygons based on their number of sides as well as apply formulas for calculating both the measures of the interior angles and their sum.*

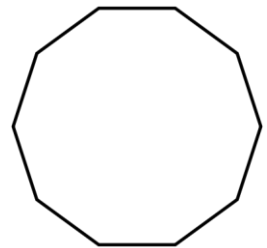
TERM	DESCRIPTION	EXAMPLE
POLYGON	A closed figure consisting of _____, called sides, which intersect with other sides at their _____ forming vertices.	
TRIANGLE	A ____-sided, ____-angled closed figure	
QUADRILATERAL	A ____-sided, ____-angled closed figure	
	A ____-sided, ____-angled closed figure	
	A ____-sided, ____-angled closed figure	
	A ____-sided, ____-angled closed figure	
	A ____-sided, ____-angled closed figure	
	A ____-sided, ____-angled closed figure	
	A ____-sided, ____-angled closed figure	
	A ____-sided, ____-angled closed figure	
	A ____-sided, ____-angled closed figure	

	A n-sided, n-angled closed figure	36-GON
TERM	DESCRIPTION	EXAMPLE
CONVEX	A polygon with interior angles that each measure _____ than 180° .	
CONCAVE	A polygon with at least one interior angles that measures _____ than 180° .	

The sum of the measures of the INTERIOR angles of a convex polygon with n sides is:

EXAMPLE 1: Find the sum of the interior angles of a decagon.

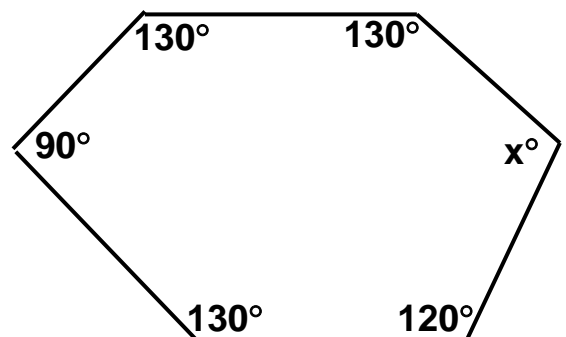
Sum = _____ $^\circ$



QUICK CHECK: Find the sum of the interior angles of a 20-gon.

Sum = _____

EXAMPLE 2: Find the missing angle.

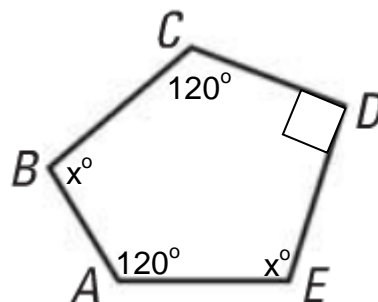


$x =$ _____ $^\circ$

For Examples #3 – 4, set up and solves equations to determine the value of x .

EXAMPLE 3:

$$X = \underline{\hspace{2cm}}^\circ$$

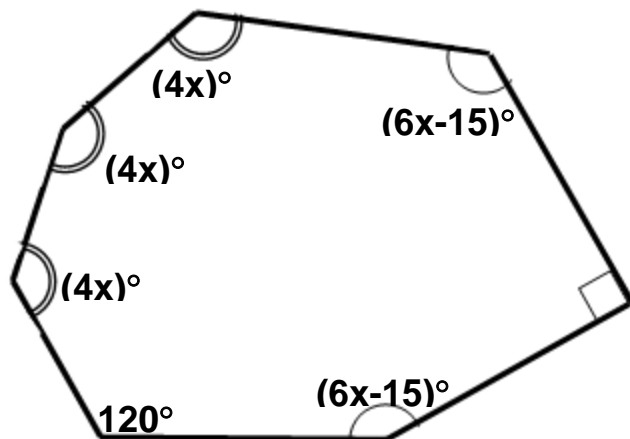


QUICK CHECK: If the angles of a convex quadrilateral are x° , $2x^\circ$, $3x^\circ$, and $4x^\circ$, what is the value of x ?

$$X = \underline{\hspace{2cm}}$$

EXAMPLE 4:

$$x = \underline{\hspace{2cm}}$$

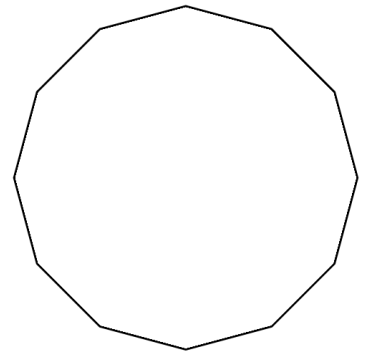


TERM	DESCRIPTION	EXAMPLE
REGULAR POLYGON	A polygon that is both _____ and _____.	
	A polygon that is NOT both equiangular and equilateral.	

The measure of EACH interior angle of a REGULAR polygon with n sides is:

EXAMPLE 5: Find the measure of ***each*** of the interior angles of a regular dodecagon.

Each angle = _____°



QUICK CHECK: Find the measure of ***each*** of the interior angles of a regular, convex 20-gon.

Each angle = _____°

EXAMPLE 6: If the measure of ***an interior angle*** of a regular polygon is 108° , find the number of sides of the polygon.

Number of sides = _____

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

Number of sides = _____

