POLYGON NOTES

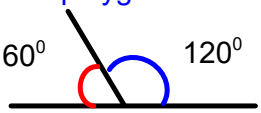
NAME	# of sides
TRIANGLE	3
QUADRILATERAL	4
PENTAGON	5
HEXAGON	**6**
HEPTAGON	**7**
OCTAGON	8
NONAGON	**9**
DECAGON	**10**

 # OF △ INSIDE OF A POLYGON: # OF SIDES -2

TOTAL INTERIOR DEGREES INSIDE A POLYGON: # OF △ INSIDE x 180^0

***** VIP*********VIP*******VIP*********VIP**********VIP**********VIP********

Interior and exterior angles in a polygon are SUPPLEMENTAL (They add up to 180^0)



HOW TO GET 1 INTERIOR ANGLE IN A POLYGON:

1st WAY: Total int' degrees ÷ by # of sides

2nd WAY: 180^0 - 1 ext' degree/angle

HOW TO GET 1 EXTERIOR ANGLE IN A POLYGON:

1st WAY: 360^0 ÷ by the # of sides

2nd WAY: 180^0 - 1 int' degree/angle

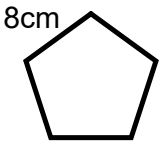
HOW TO GET THE # OF SIDES OF A POLYGON

1st WAY: 360^0 ÷ 1 ext' degree/angle

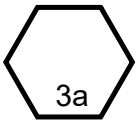
2nd WAY: (total int' degrees ÷ 180^0) +2 = # of sides

PERIMETER of a POLYGON

1 SIDE LENGTH x TOTAL # OF SIDES = PERIMETER



8cm (5) = 40cm



3a (6) = 18a

PERIMETER BACKWARDS:

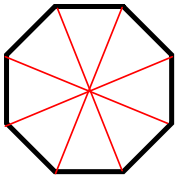
1st WAY: $\frac{\text{PERIMETER of polygon}}{\text{\# OF SIDES}}$ = 1 SIDE LENGTH

2nd WAY: $\frac{\text{PERIMETER of polygon}}{\text{1 SIDE LENGTH}}$ = TOTAL # OF SIDES

AREA OF POLYGONS

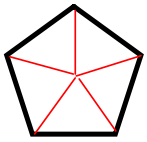
*** Every polygon has triangles INSIDE that meet in the center of the polygon***

THE # OF △ INSIDE A POLYGON = THE # OF TOTAL SIDES OF THAT POLYGON



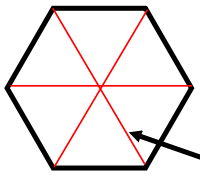
8 sides=

8 triangles



5 sides =

5 triangles



6 sides=

6 triangle

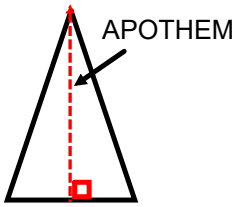
VIP

ONLY hexagons have equilateral triangles!!!!!!

AREA FORMULA:

1st WAY: (AREA OF 1 △) x TOTAL # OF SIDES

2nd WAY: PERIMETER OF POLYGON x APOTHEM OF 1△ ÷ 2



AREA OF POLYGONS.....BACKWARDS

FORMULA:

$$\frac{\text{AREA OF POLYGON}}{\text{\# OF SIDES}} = \text{AREA OF } 1\triangle \text{ ..... x } 2$$

÷ side length = Apothem

÷ Apothem = side length

VARIATIONS:

$$\frac{\text{AREA OF A POLYGON x 2}}{\text{APOTHEM}} = \text{PERIMETER}$$

$$\frac{\text{AREA OF A POLYGON x 2}}{\text{PERIMETER}} = \text{APOTHEM}$$