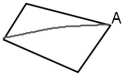


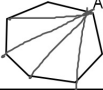


# Sides	Polygon Name	Picture of Polygon	# of Diagonals that can be drawn from Vertex A. (draw them on the picture at the left)	# triangles formed	Sum of Interior Angles (# triangles x 180)
4	Quadrilateral		1	2	$2 \times 180 = 360$
5	Pentagon		2	3	$3 \times 180 = 540$
6	Hexagon		3	4	$4 \times 180 = 720$
7	Heptagon		4	5	$5 \times 180 = 900$
8			5	6	$6 \times 180 = 1080$
N					

Formula to find the sum of the interior angle of a polygon with N sides.

$N - 2 \rightarrow (N - 2)180$

Find the sum of the interior angles of a Nonagon (9 sides)

$$\begin{aligned}
 9 \text{ sides} &\rightarrow (9 - 2)(180) \\
 &7(180) \\
 &= 1260^\circ
 \end{aligned}$$

Find the sum of the interior angles of a Decagon (10 sides)

$$\begin{aligned}
 10 \text{ sides} & \quad (10 - 2)(180) = 1440^\circ \\
 & \quad 8(180)
 \end{aligned}$$

Find the sum of the interior angles of a Dodecagon (12 sides)

$$\begin{aligned}
 &\underline{\text{Dodecagon}} \\
 &12 \text{ sides} \\
 &(12 - 2)(180) \\
 &10(180) = 1800^\circ
 \end{aligned}$$

Find the sum of the interior angles of a 30-gon (30 sides)

$$\begin{aligned} &30\text{-gon} \\ &= (30-2)180 \\ &28(180) = 5040^\circ \end{aligned}$$

Find the number of sides of a polygon whose sum of its interior angles is 3240°

$$\begin{aligned} \frac{3240^\circ}{180} &= \frac{(n-2)180}{180} \\ 18 &= n-2 \\ +2 & \quad +2 \\ 20 &= n \end{aligned}$$