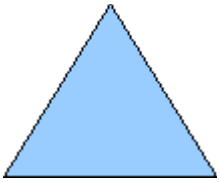
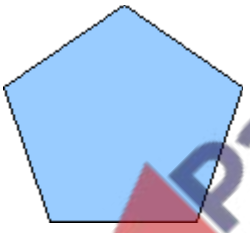
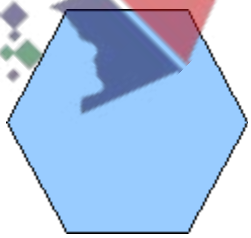
Angles in Polygons

Shape	Picture	Number of Sides	Interior Angle	Sum of Interior Angles	Exterior Angle
Triangle		3	60	180	120
Square		4	90	360	90
Pentagon		5	108	540	72
Hexagon		6	120	720	60

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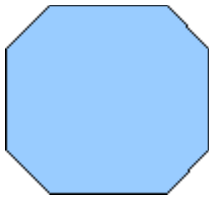
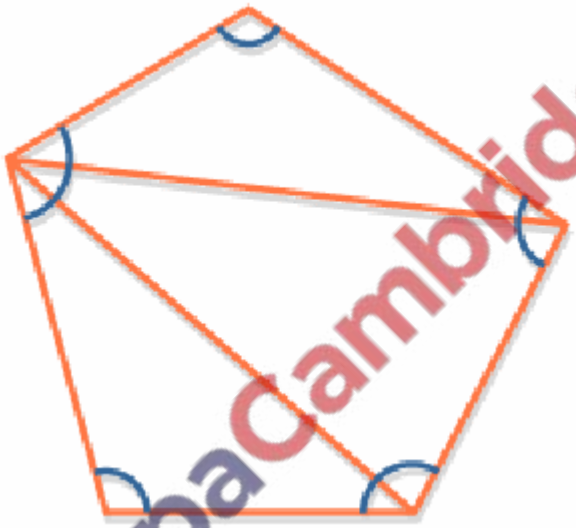
Octagon		8	135	1080	45
n- agon		n	$180-\frac{360}{n}$	$180(n-2)$	$\frac{360}{n}$



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To see why the angles in a triangle add to $180(n-2)$ notice that a triangle has three sides so n=1 and the angles add to 180, a square can be cut into two triangles, each with internal angles 180, so all the internal angles of both triangles sum to 360. Consider the pentagon below. It is cut into three triangle, each with internal angles that sum to 360, so the internal angles of a pentagon sum to 3*180 =540.