In the following text, substitute *A, B, C,* and *D* with numbers that make the paragraph true. Note: Assume that n is an integer that is greater than or equal to 3.

The interior angles of a polygon with n sides sum to $180° \times (n - \mathbf{A})$ degrees, and a regular polygon with n sides have interior angles that are each $\frac{180° \times (n - \mathbf{A})}{n}$ degrees. However, the sum of the exterior angles is always **B** degrees, regardless of n. The number of diagonals that can be drawn from a single vertex is always (n - **C**), and the total number of diagonals in the entire polygon is given by $\frac{n(n - \mathbf{C})}{\mathbf{D}}$.

Solution:

$Answer : A = 2, B = 360, C = 3, D = 2.$

Proof: In a polygon with n sides, drawing all the diagonals from a single vertex will create $(n - 2)$ triangles inside the polygon. Therefore, the sum of all the interior angles is $180° \times (n - \mathbf{2})$ $(\mathbf{A})$. To compute the angle of each interior angle in a regular polygon, you can simply divide the sum of the interior angles by the number of angles, which is equivalent to the number of sides n. The expression used to compute this is: $\frac{180° \times (n - \mathbf{2})}{n} (\mathbf{A})$. The sum of all exterior angles is given by the expression:

$$(180° \times n) - (180° \times (n - 2)) \tag{1}$$

which simplifies to:

$$180° \times n - 180° \times n + 360° = \mathbf{360} (\mathbf{B}) \tag{2}$$

When drawing diagonals from a single vertex in a polygon with n sides, you connect that single vertex to all other vertices other than itself and its two adjacent vertices. Therefore, the number of diagonals that can be drawn from a single vertex is (n - **3**) (**C**). The expression used to calculate the total number of diagonals in an n sided polygon is $\frac{n(n-3)}{\mathbf{2}} (\mathbf{D})$. This formula accounts for the fact that each diagonal is counted twice (once from each endpoint), so we divide by 2 to get the correct total.