Answer on Question #72585 - Subject - Calculus

Given: $x^4 - 2x^3 + x^2$.

To Find: Antiderivative of $x^4 - 2x^3 + x^2$.

Solution: To find antiderative F(x) of a function f(x), we will simply integrate the given function and add a constant **C** such that

$$\frac{d}{dx} F(x) = f(x)$$

$$\textbf{F(x)} = \int (x^4 - 2x^3 + x^2)dx + C$$

$$= \frac{x^5}{5} - \frac{2x^4}{4} + \frac{x^3}{3} + C$$

$$= \frac{6x^5 - 15x^4 + 10x^3 + 30C}{30}$$

Hence the antiderivative of $x^4 - 2x^3 + x^2$ is $\dfrac{6x^5 - 15x^4 + 10x^3 + 30C}{30}$,where *C* is an arbitrary constant.