

AntiderivativesGiven $f(x)$, find its derivative.

$$f(x) = \frac{1}{4}x^4 \quad \left| \quad f(x) = \frac{1}{4}x^4 + 2 \quad \left| \quad f(x) = \frac{1}{4}x^4 - 12$$

Find $\int x^3 dx$ “The integral of x^3 ”**Definition:** $\int f(x)dx = F(x) + c$ **Rules:** $\int f(x) \pm g(x)dx =$

$$\int cf(x)dx =$$

$$\int x^2 dx$$

$$\int 3x^6 dx$$

$$\int \frac{1}{x^5} dx$$

$$\int 4x^2 - 2x dx$$

Lesson #44

$$\int \frac{x^6 - 3x^3 - 2}{x^3} dx$$

$$\int \cos x dx$$

$$\int \sin x dx$$

$$\int \sec^2(x) dx$$

$$\int -5\sin x dx$$

$$\int \frac{1}{\sin x} (\csc x - \cot x) dx$$

You Try:

$$\int \sqrt{x} \left(x - \frac{6}{x} \right) dx$$