

* Indefinite Integral:

$$\int f(x) dx$$

"the indefinite integral of f with respect to x " means to find the set of all antiderivatives of f

\int Integral
 $f(x)$ Integrand
 dx with respect to x
(x is variable of integration)

Find the derivative of:

1) $3x^2$

2) $3x^2 - 4$

3) $3x^2 + 5$

4) $3x^2 + 100$

All derivatives equal $6x$!

So...

$$\int 6x dx = ?$$

$$3x^2 + C$$

represents every possible antiderivative of $6x$

Every antiderivative F of f must be of the form:

$$F(x) = G(x) + C$$

DON'T FORGET YOUR COOKIES