

## DERIVATIVE

$$(x)' = 1$$

$$(x^m)' = m \cdot x^{m-1}$$

$$(\ln(x))' = \frac{1}{x}$$

$$(\cos(x))' = -\sin(x)$$

$$(\sin(x))' = \cos(x)$$

$$(a^x)' = a^x \ln(a)$$

$$(\tan(x))' = \frac{1}{\cos^2(x)} = 1 + \tan^2(x)$$

$$(\arcsin(x))' = \frac{1}{\sqrt{1-x^2}}$$

$$(\arccos(x))' = -\frac{1}{\sqrt{1-x^2}}$$

$$(\arctan(x))' = \frac{1}{1+x^2}$$

$$(|x|)' = \frac{|x|}{x}$$

## INTEGRAL

$$\int 1 \cdot dx = x + c$$

$$\int x^m dx = \frac{x^{m+1}}{m+1} + c$$

$$\int \frac{1}{x} dx = \log(x) + c$$

$$\int \sin(x) \cdot dx = -\cos(x) + c$$

$$\int -\cos(x) dx = \sin(x) + c$$

$$\int a^x dx = \frac{a^x}{\ln(a)} + c$$

$$\int \frac{1}{\cos^2(x)} dx = \tan(x) + c$$

$$\int \frac{1}{\sqrt{1-x^2}} dx = \arcsin(x) + c$$

$$\int -\frac{1}{\sqrt{1-x^2}} dx = \arccos(x) + c$$

$$\int \frac{1}{1+x^2} dx = \arctan(x) + c$$