

## RECTA

$$y = mx + b$$
$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{\Delta y}{\Delta x}$$
$$b = f(0)$$

## EXPONENCIAL

$$y = c b^{x/a}$$
$$a = x_2 - x_1$$
$$b = \frac{y_2}{y_1}$$
$$c = f(0)$$

## POTENCIA

$$y = kx^n$$
$$k = f(1)$$
$$n = \text{Log}_x \left( \frac{y}{k} \right)$$

## TRIGONOMÉTRICA

$$y = A \text{Sen} Fx$$
$$A = \frac{y_{\max} - y_{\min}}{2}$$
$$F = \frac{360}{\text{periodo}}$$

$$360^\circ = 2\pi \text{ rad}$$

## PROPIEDADES DE LOGARITMO

$$y = B^x \Leftrightarrow x = \text{Log}_B y$$
$$\log_B (AC) = \log_B A + \log_B C$$
$$\log_B \left( \frac{A}{C} \right) = \log_B A - \log_B C$$
$$\log_B (A^C) = C \log_B A$$
$$\log_B (B^x) = x \quad B^{\log_B x} = x$$
$$\log_B A = \frac{\text{Log} A}{\text{Log} B}$$

## ROTACIONES Y TRASLACIONES

$$y = -f(x) \quad \text{Gira en eje } x$$
$$y = f(-x) \quad \text{Gira en eje } y$$
$$y = f(x) + c \quad \text{Mueve arriba}$$
$$y = f(x) - c \quad \text{Mueve abajo}$$
$$y = f(x + c) \quad \text{Izquierda}$$
$$y = f(x - c) \quad \text{Derecha}$$

## FORMULAS DERIVACIÓN FUNCIONES

$$d(c) = 0$$
$$d(x) = 1$$
$$d(mx) = m$$
$$d(x^n) = nx^{n-1}$$
$$d(e^x) = e^x$$
$$d(a^x) = \ln a a^x$$
$$d(\text{sen } x) = \cos x$$
$$d(\cos x) = -\text{sen } x$$
$$d(\text{tg } x) = \sec^2 x$$
$$d(\text{ctg } x) = -\text{csc}^2 x$$
$$d(\sec x) = \sec x \text{ tg } x$$
$$d(\text{csc } x) = -\text{csc } x \text{ ctg } x$$
$$d(\ln x) = \frac{1}{x}$$
$$d(\text{Invsen } x) = \frac{1}{\sqrt{1-x^2}}$$
$$d(\text{Invcos } x) = -\frac{1}{\sqrt{1-x^2}}$$
$$d(\text{Invtg } x) = \frac{1}{1+x^2}$$
$$d(\text{Invctg } x) = -\frac{1}{1+x^2}$$
$$d(\text{Invsec } x) = \frac{1}{x\sqrt{x^2-1}}$$
$$d(\text{Invcsc } x) = -\frac{1}{x\sqrt{x^2-1}}$$

## FORMULAS DERIVACIÓN OPERACIONES

$$d(f(x) \pm g(x)) = f'(x) \pm g'(x)$$
$$d(c f(x)) = c f'(x)$$
$$d(f(x) \cdot g(x)) = g(x)f'(x) + f(x)g'(x)$$
$$d\left(\frac{f(x)}{g(x)}\right) = \frac{g(x)f'(x) - f(x)g'(x)}{g^2(x)}$$
$$d(f(g(x))) = f'(g(x)) \cdot g'(x)$$

## ÁLGEBRA

$$(a+b)^2 = a^2 + 2ab + b^2$$
$$(a+b)^3 = a^3 + 3a^2b + 3ab^2 + b^3$$
$$\left(v^2 - a^2\right) = (v-a)(v+a)$$
$$\left(v^3 - a^3\right) = (v-a)(v^2 + va + a^2)$$
$$\left(v^3 + a^3\right) = (v+a)(v^2 - va + a^2)$$
$$\frac{a^m}{a^n} = a^{m-n} \quad (a^m)^n = a^{mn}$$
$$a^m a^n = a^{m+n} \quad \sqrt[n]{a^m} = a^{\frac{m}{n}}$$
$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$