

# TABLA DE PROPIEDADES

## Fórmulas más usadas

### Potencia

$$a^{-n} = \frac{1}{a^n}$$

$$a^m * a^n = a^{m+n}$$

$$\frac{a^m}{a^n} = a^{m-n}$$

$$(a^m)^n = a^{m*n}$$

$$(a * b)^n = a^n * b^n$$

$$\left(\frac{a}{b}\right)^n = \frac{a^n}{b^n}$$

$$\left(\frac{a}{b}\right)^{-n} = \frac{b^n}{a^n}$$

### Radicación

$$\sqrt[n]{a} = b \leftrightarrow b^n = a$$

$$\frac{m}{a^n} = \sqrt[n]{a^m}$$

$$\sqrt[n]{a * b} = \sqrt[n]{a} * \sqrt[n]{b}$$

$$\sqrt[m]{\sqrt[n]{a}} = \sqrt[m*n]{a}$$

$$\sqrt[n]{\frac{a}{b}} = \frac{\sqrt[n]{a}}{\sqrt[n]{b}}$$

$$\sqrt[n]{a^n} = |a| = \begin{cases} a & \text{si } a \geq 0 \\ -a & \text{si } a < 0 \end{cases}$$

### Identidades angulos dobles

$$\text{sen}2\theta = 2\text{sen}\theta\text{cos}\theta$$

$$\text{cos}2\theta = \text{cos}^2\theta - \text{sen}^2\theta$$

$$\text{tan}2\theta = \frac{2\text{tan}\theta}{1 - \text{tan}^2\theta}$$

### Polinomios y factorización

$$(x + y)(x - y) = x^2 - y^2$$

$$(x + y)^2 = x^2 + 2xy + y^2$$

$$(x - y)^2 = x^2 - 2xy + y^2$$

$$(x + y)^3 = x^3 + 3x^2y + 3xy^2 + y^3$$

$$(x - y)^3 = x^3 - 3x^2y + 3xy^2 - y^3$$

$$x^3 - y^3 = (x - y)(x^2 + xy + y^2)$$

$$x^3 + y^3 = (x + y)(x^2 - xy + y^2)$$

$$x^2 + bx + c = (x + m)(x + n)$$

$$\text{Donde: } m + n = b \text{ \& } m * n = c$$

$$\text{sen}x = \frac{1}{\text{csc}x} \rightarrow \text{csc}x = \frac{1}{\text{sen}x}$$

$$\text{cos}x = \frac{1}{\text{sec}x} \rightarrow \text{sec}x = \frac{1}{\text{cos}x}$$

$$\text{tan}x = \frac{1}{\text{cot}x} \rightarrow \text{cot}x = \frac{1}{\text{tan}x}$$

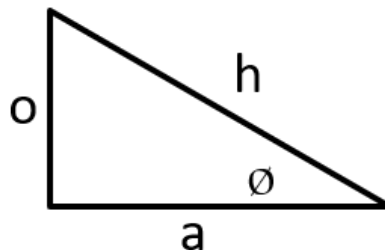
### Trigonometria

$$S^o_h C^a_h T^o_a$$

$$\text{sen}^2x + \text{cos}^2x = 1$$

$$\text{sec}^2x = \text{tan}^2x + 1$$

$$\text{csc}^2x = \text{cot}^2x + 1$$



### Logaritmos

$$\text{Log}_b N \leftrightarrow b^n = N$$

$$\text{Log}_b(xy) = \text{Log}_b x + \text{log}_b y$$

$$\text{Log}_b\left(\frac{x}{y}\right) = \text{Log}_b x - \text{log}_b y$$

$$\text{Log}_b x^n = n\text{Log}_b x$$

$$\text{Log}_b(b^n) = n$$

$$b^{\text{log}_b(n)} = n$$

$$\log N = n \leftrightarrow 10^n = N$$

$$\ln N = n \leftrightarrow e^n = N$$

$$\ln(xy) = \ln x + \ln y$$

$$\ln\left(\frac{x}{y}\right) = \ln x - \ln y$$

$$\ln x^n = n\ln x$$

$$\ln(e)^n = n$$

$$e^{\ln(n)} = n$$

$$\text{Log}_b N = \frac{\text{Log } N}{\text{Log } b}$$

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