

# Fórmulas matemáticas. Ejercicios

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$$a + 5b - c(a + b) \quad (1)$$

$$\frac{\sqrt{a}}{a + b} + \sqrt{\frac{x + 5}{x - 5}} \quad (2)$$

$$\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{1 + \sqrt{1 + \sqrt{1 + \sqrt{1 + \sqrt{1 + \sqrt{1 + x}}}}}}}}}}}}}} \quad (3)$$

$$\left( \frac{1}{\sqrt{\frac{x+1}{x-2}}} \right) \quad (4)$$

$$R_{\mu\nu} - \frac{1}{2}g_{\mu\nu}R = \kappa T_{\mu\nu} \quad (5)$$

$$(a + b)^2 = a^2 + 2ab + b^2 \quad (6)$$

$$a^2 - x^{(x^2 - 2x + 1)^{x+1}} \quad (7)$$

$$\sin(\omega t + \phi_0), \quad \tan x = \frac{\sin x}{\cos x} \quad (8)$$

$$\cosh(\operatorname{argsinh} x) = \sqrt{1 + x^2} \quad (9)$$

$$\begin{pmatrix} 0 & -i \\ i & 0 \end{pmatrix} \quad (10)$$

$$\exp(x) = e^x = \sum_{n=0}^{\infty} \frac{x^n}{n!} \quad (11)$$

$$\begin{vmatrix} a & b \\ c & d \end{vmatrix} = ad - bc = 1 \quad (12)$$

$$\Sigma = \max(\alpha, \beta) - \theta(\alpha - \beta) + \Gamma(-\nu) \quad (13)$$

$$\lim_{x \rightarrow a} = L \Leftrightarrow \forall \epsilon > 0, \exists \delta > 0 : |f(x) - L| < \epsilon \Rightarrow |x - a| < \delta \quad (14)$$

$$\int_a^b f(x) dx = \lim_{n \rightarrow \infty} \sum_{k=1}^n \frac{b-a}{n} f\left(\left(k - \frac{1}{2}\right) \cdot \frac{b-a}{n}\right) \quad (15)$$

$$\hat{H} |\psi\rangle = -\hbar \frac{d}{dt} |\psi\rangle \quad (16)$$

$$\oint \vec{E} \cdot d\vec{S} = \oint \frac{\rho}{\epsilon_0} dV = \frac{Q}{\epsilon_0} \quad (17)$$

$$\left. \begin{aligned} \dot{\vec{p}} &= -\frac{dH}{d\vec{q}} \\ \dot{\vec{q}} &= \frac{dH}{d\vec{p}} \end{aligned} \right\} \quad (18)$$