De formules zijn als geheugensteun bedoeld, er zijn geen vectoriële notaties gegeven.

$$n = \frac{c}{v} \qquad n_{a \to b} = \frac{n_b}{n_a} \qquad \frac{n_b}{n_a} = \frac{\sin i_a}{\sin r_b} \qquad \frac{1}{v} + \frac{1}{b} = \frac{1}{f} \qquad G = -\frac{b}{v}$$

$$x = x_0 + v_x \cdot t \qquad\qquad v_x = v_{x,0} + a_x \cdot t \qquad\qquad x = x_0 + v_{x,0} \cdot t + \frac{a_x}{2} \cdot t^2$$

$$F_z = m \cdot g \qquad\qquad F_v = k \cdot \Delta l \qquad\qquad F_g = G \frac{m_1 \cdot m_2}{r^2}$$

$$F_w = \mu \cdot F_n \qquad\qquad F_{cp} = m \cdot v^2 / R$$

$$W = \vec{F}_x \cdot \Delta \vec{x} \qquad E_k = \frac{m \cdot v^2}{2} \qquad\qquad E_p = m \cdot g \cdot h \quad E_p = k \cdot \frac{(\Delta \ell)^2}{2} \quad E_p = -G \frac{m_1 \cdot m_2}{r}$$

$$p = \frac{F}{A} \qquad\qquad p_{hyd} = \rho \cdot g \cdot h \qquad F_A = \rho_{vl} \cdot g \cdot V \qquad\qquad p \cdot V = n \cdot R \cdot T$$

$$C = \frac{Q}{\Delta T} \qquad\qquad c = \frac{Q}{m \cdot \Delta T} \qquad\qquad l = \frac{Q}{m}$$

$$\Delta U = Q - W$$

$$C_p - C_V = R \qquad \gamma = \frac{C_p}{C_V} \qquad p_1 \cdot V_1^{\gamma} = p_2 \cdot V_2^{\gamma}$$

$$C_V (\text{1 atomig gas}) = \frac{3}{2} R \qquad C_V (\text{2 atomig gas}) = \frac{5}{2} R$$

$$|F| = k \frac{|Q_1| \cdot |Q_2|}{r^2} \qquad\qquad E = \frac{F}{Q} \qquad\qquad |E| = k \frac{|Q|}{r^2} \qquad V = k \frac{Q}{r} \qquad E = \frac{U}{d}$$

$$U = R \cdot I \qquad\qquad R_s = R_1 + R_2 \qquad \frac{1}{R_p} = \frac{1}{R_1} + \frac{1}{R_2}$$

$$Q = R \cdot I^2 \cdot \Delta t \qquad\qquad P = U \cdot I$$

$$U_R = R \cdot I \qquad\qquad U_C = \frac{1}{C \cdot \omega} I \qquad\qquad U_L = L \cdot \omega \cdot I$$

$$F = B \cdot I \cdot l \ (\alpha = 90°) \qquad F = B \cdot Q \cdot v \ (\alpha = 90°)$$

$$B = \mu_0 \cdot \frac{I}{2 \cdot \pi \cdot d} \qquad\qquad B = \mu_0 \cdot \frac{N \cdot I}{l}$$

$$\Phi = B \cdot A \cdot \cos \alpha \qquad\qquad U_i = -N \cdot \frac{\Delta \Phi}{\Delta t}$$

$$E = m \cdot c^2 \qquad\qquad E = h \cdot f \qquad\qquad A_{gemid} = -\frac{\Delta N}{\Delta t} \qquad\qquad A(t) = \lambda N(t)$$

$$N(t) = N_0 \cdot e^{-\lambda \cdot t} = N_0 \cdot 2^{-t/T_{1/2}} \qquad \lambda = \frac{0,693}{T_{1/2}} \quad \omega = \frac{2\pi}{T} \qquad f = \frac{1}{T} \qquad V_{bol} = 4 \cdot \pi \cdot R^3 / 3$$
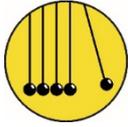
$n_{\text{glas}} = 1,50$ $\qquad$ $n_{\text{plexi}} = 1,49$ $\qquad$ $n_{\text{water}} = 1,33$ $\qquad$ $c = 299\ 792\ 458 \text{ m . s}^{-1}$

$g = 9,81 \text{ m s}^{-2}$

$\vartheta = -273,15\ °C \quad \Leftrightarrow \quad T = 0 \text{ K}$

$R = 8,31 \text{ J mol}^{-1} \text{ K}^{-1}$

$k = 8,99 . 10^9 \text{ N m}^2 \text{ C}^{-2}$

$G = 6,673 . 10^{-11} \text{ N m}^2 \text{ kg}^{-2}$

$\rho_{\text{water}} = 1,00 . 10^3 \text{ kg m}^{-3}$ $\qquad$ $\rho_{\text{kwik}} = 13,6 . 10^3 \text{ kg m}^{-3}$ $\qquad$ $\rho_{\text{lucht}} = 1,29 \text{ kg m}^{-3}$

$p_0 = 1,01 . 10^5 \text{ Pa} = 1,01 \text{ bar}$

$c_{\text{water}} = 4,19 . 10^3 \text{ J kg}^{-1} \text{ K}^{-1}$ $\qquad$ $c_{\text{ijs}} = 2,09 . 10^3 \text{ J kg}^{-1} \text{ K}^{-1}$ $\qquad$ $c_{\text{stoom}} = 2,01 . 10^3 \text{ J kg}^{-1} \text{ K}^{-1}$

$l_{\text{water-ijs}} = 334 . 10^3 \text{ J kg}^{-1}$ $\qquad$ $l_{\text{water-stoom}} = 2260 . 10^3 \text{ J kg}^{-1}$

$\mu_0 = 4\pi . 10^{-7} \text{ T m A}^{-1}$

$N_A = 6,02 . 10^{23} \text{ mol}^{-1}$

$m_e = 9,11 . 10^{-31} \text{ kg}$ $\qquad$ $m_p = 1,673 . 10^{-27} \text{ kg}$ $\qquad$ $m_n = 1,675 . 10^{-27} \text{ kg}$

$1 \text{ u} = 1,66 . 10^{-27} \text{ kg}$

$1 \text{ eV} = 1,602 . 10^{-19} \text{ J}$

$e = 1,60 . 10^{-19} \text{ C}$ $\qquad$ $h = 6,626 . 10^{-34} \text{ J . s}$

$Q_{\text{elektron}} = -e$ $\qquad$ $Q_{\text{positron}} = -Q_{\text{elektron}}$ $\qquad$ $Q_{\text{muon}} = Q_{\text{elektron}}$ $\qquad$ $Q_{\text{foton}} = 0$