

Fold on dotted lines

Chemistry

$$n = \frac{\text{grams}}{\text{MM}} \quad N = \frac{\text{equ}}{\text{volume of solution}} \quad KE_A = \frac{1}{2} m_A v_A^2 \quad \text{Max \# of electrons} = 2n^2 \quad q = \Delta H$$

$$\%_A = \frac{\text{MM}_A}{\text{MM}_{\text{Total}}} \cdot 100 \quad m = \frac{\text{moles of solute}}{\text{kilogram of solvent}} \quad \frac{\text{rate}_A}{\text{rate}_B} = \frac{\sqrt{\text{MM}_B}}{\sqrt{\text{MM}_A}} \quad \text{Dipole Moment} = q \cdot d \quad \Delta G = \Delta H - T\Delta S$$

$$\frac{\%_A}{1 \text{ MM}_A} = \text{ratio of } n_A \quad x = \frac{\text{moles of solute}}{\text{total moles of solution}} \quad PV = nRT \quad \Delta T_f = k_f m_i \quad \Delta G = -nFE$$

$$6.022 \times 10^{23} \text{ things} = 1 \text{ mol} \quad \text{ppm} = x \times 10^6 \quad P_{\text{total}} = P_1 + P_2 + P_n \quad k = Ae^{\left(\frac{-E_A}{RT}\right)} \quad K_{\text{eq}} = \frac{[C]^c [D]^d}{[A]^a [B]^b}$$

$$M = \frac{\text{moles of solute}}{\text{volume of soln}} \quad \% \text{ Yield} = \frac{A \text{ Yield}}{T \text{ Yield}} \times 100 \quad \frac{\% n_1}{100} = \frac{n_1}{n_{\text{total}}} = \frac{P_1}{P_{\text{total}}} \quad \text{Rate} = k [B]^n \quad \text{pH} = \text{pK}_a + \log \left(\frac{A^-}{HA} \right)$$

$$M_1 V_1 = M_2 V_2 \quad q = MC\Delta T$$

Physics

$$s = \frac{\text{distance}}{\Delta \text{ time}} = \frac{(s_o + s_f)}{2} \quad \text{Friction}_K = F_N \cdot \mu_K \quad T = 2\pi \sqrt{\frac{L}{g}} \quad \omega = \sqrt{\frac{g}{L}} \quad c = \lambda f \quad MA = \frac{F_{\text{out}}}{F_{\text{in}}} \quad c = P + Dgy + \frac{Dv^2}{2}$$

$$v = \frac{\Delta \text{ displacement}}{\Delta \text{ time}} = \frac{(v_o + v_f)}{2} \quad \text{Friction}_S \leq F_N \cdot \mu_s \quad F = \frac{mv^2}{r} \quad a_c = \frac{v^2}{r} \quad \Delta L = \alpha L_o \Delta T \quad f_{\text{beat}} = |f_1 - f_2| \quad E = \frac{W_{\text{out}}}{W_{\text{in}}} \quad YM = \frac{\text{Stress}}{\text{Strain}}$$

$$a = \frac{\Delta \text{ velocity}}{\Delta \text{ time}} = \frac{(a_o + a_f)}{2} \quad \text{Work} = F \cdot d \quad \Delta A = \gamma A_o \Delta T \quad dB = 10 \log \left(\frac{I}{I_o} \right) \quad Q = A D v = c \quad E = k \frac{q}{r^2} \quad V = k \frac{q}{r}$$

$$v_f = v_o + at \quad \Delta E_K = W \quad \Delta V = \beta V_o \Delta T \quad P = \frac{\text{Energy}}{\text{time}} \quad SG = \frac{D_{\text{substance}}}{D_{\text{water}}} \quad F_E = qE$$

$$v_f^2 = v_o^2 + 2a\Delta x \quad F = -k\Delta x \quad P_{\text{average}} = \frac{\text{work}}{\text{time}} = F_{\text{net}} v \quad I = \frac{\text{Power}}{SA} \quad SG = \frac{\% \text{ below water}}{100} \quad \text{Work} = qE\Delta x$$

$$\Delta x = v_o t + .5 at^2 \quad \text{Work} = .5 k\Delta x^2 \quad p = mv \quad \frac{\Delta f}{f_s} = \frac{v}{c} \quad \frac{\Delta \lambda}{\lambda_s} = \frac{v}{c} \quad F_B = D_{\text{liquid}} V_{\text{object}} g \quad R = \frac{D L}{A}$$

$$\sum F = 0 \quad \sum F = ma \quad T = 2\pi \sqrt{\frac{m}{k}} \quad \omega = \sqrt{\frac{k}{m}} \quad P_{\text{final}} = P_{\text{initial}} \quad i = \Delta p = Ft \quad \tau = (F \sin \theta) r \quad P = \frac{F}{A} \quad P = Dgy \quad F = qvB = BIL$$

$$F_g = \frac{Gm_1 m_2}{r^2} \quad P = I^2 R$$

Organic Chemistry

