Sabre Test Prep

MCAT **High-Yield** Equations List

Memorization-required equations from the official AAMC MCAT materials

pH = -log[H+]

pOH = -log[OH-]

pH + pOH = 14

Visible light - Violet 400nm to Red 750 nm

6.02×10^{23} atoms/mole

$\Delta G = \Delta H - T\Delta S$

$c = 3.0 \times 10^{8}$ m/s

PV = nRT

R = 8.31 J·mol/K

M = g/mol

$M_1V_1 = M_2V_2$

pKa = -log(Ka)

$pH = pKa + \log\left(\frac{[\text{conj base}]}{[\text{conj acid}]}\right)$

E = V/d

$f = c/\lambda$

T = 1/f

$\Delta G = -RT\ln(Keq)$

F = ma

P = Fv

Weight = mg

$\Delta\lambda/\lambda = \frac{\pm\, source\ velocity}{wave\ velocity}$

$\Delta f/f = \frac{\pm\, source\ velocity}{wave\ velocity}$

Weight = mg

$F_b = \rho_{fluid}\, V_{submerged}\, g$

$n_1 \sin\Theta_1 = n_2 \sin\Theta_2$

V = IR

$E = hf - \Phi$

E = hf

F = qE

$x = x_0 + v_0 t + \frac{1}{2}at^2$

Work = Fd

$KE = \frac{1}{2}mv^2$

$PE = \frac{1}{2}kx^2$

$W = \frac{1}{2}kx^2$

$W = mg\Delta h$

$E = \frac{1}{2}CV^2$

$P = \rho gh$

$\beta = 10 \log(I/I_0)$

$A = A_0 (\frac{1}{2})^{t/h}$

$R = R_1 + R_2 + R_3$

$1/R = 1/R_1 + 1/R_2 + 1/R_3$

$C = C_1 + C_2 + C_3$

Sabre Test Prep

$1/C = 1/C_1+1/C_2+1/C_3$

% submerged = $100(\rho_{object}/\rho_{fluid})$

Torque = $Flsin\Theta$

$P_1+½\rho v_1^2+\rho gh_1= P_2+½\rho v_2^2+\rho gh_2$

$F=qvB$

$Q=Av$

$A_1V_1=A_2V_2$

# of chiral centers = 2^n

$\rho = M/V$

$q = mC\Delta T$

$P = W/t$

$k = 1.38 \times 10^{-23}$ J/K

$1/d_o + 1/d_i = 1/f$

A = T, G = C, A+T+C+G= 100%

Rf = sample distance/solvent front

Index of refraction = speed in vacuum/speed in medium

Std pressure = 760 mmHg/760 torr/1 atm/101 kPa

P=J/s

Y=mx+b

K = C +273

$V_0 = Vmax[S] / Km+[S]$

Cat. Efficiency = kcat/Km

(on avg.) 1 amino acid weighs 110 Da (110 g/mol)

Vmax = kcat[E]

1 mol of any gas at STP = 22.4L

$R = \rho L/A$

$f = v/2L$

$E = kq/r^2$