Velocity(v), Distance(s), Time(t)

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$$v = \frac{s}{t}$$

Acceleration (a)

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$$a = \frac{v-u}{t}$$

Momentum (p)

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$$p = mv$$

Force (F)

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$$F = ma$$

Cut dotted horizontal lines. Fold vertical line.

Weight (W)	$W = mg$
Work (W)	$W = Fd$
Potential Energy (PE or E_p)	$PE = mgh$
Kinetic Energy (KE or E_k)	$KE = {}^1/_2mv^2$

Power (P)

$$P = \frac{W}{t}$$

Equation of Motion 1

$$v = u + at$$

Equation of Motion 2

$$s = ut + \frac{1}{2}at^2$$

Equation of Motion 3

$$v^2 = u^2 + 2as$$

Cut dotted horizontal lines. Fold vertical line.

Conservation of Momentum (Elastic)

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$$m_1u_1 + m_2u_2 = m_1v_1 + m_2v_2$$

Conservation of Momentum (Inelastic)

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$$m_1u_1 + m_2u_2 = (m_1 + m_2)v$$

Moment of a Force (M) or Torque (T)

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$$M \text{ or } T = Fd$$

Hooke's Law

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$$F = -kx$$

Simple Harmonic Motion

$$a = -\omega^2 s$$

Newton's Law of Universal Gravitation

$$F = \frac{Gm_1m_2}{r^2}$$

Centripetal Force (F)

$$F = \frac{mv^2}{r}$$

Acceleration due to Gravity (g)

$$g = \frac{GM}{d^2}$$

Angular Velocity (ω)

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$$\omega = \frac{\theta}{t}$$

Periodic Time (T)

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$$T = \frac{1}{f}$$

Kepler's 3rd Law

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$$T^2 = \frac{4\pi^2 R^3}{GM}$$

Density (ρ)

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$$\rho = \frac{m}{v}$$

Pressure (P)

$$P = \frac{F}{A}$$

Boyle's Law

$$PV = k$$

Percentage Efficiency

$$\frac{power\ out}{power\ in} \times \frac{100}{1} = \%\ \text{efficiency}$$

Heat Capacity (C)

$$Q = C\Delta\theta$$

Specific Heat Capacity (c)

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$$Q = mc\Delta\theta$$

Latent Heat (L)

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$$Q = mL$$

Specific Latent Heat of Fusion (L_f)

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$$Q = mL_f$$

Specific Latent Heat of Fusion (L_v)

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$$Q = mL_v$$

Kelvin/°Celsius Conversion

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$$Temp_{Kelvin} = Temp_{°Celsius} + 273.15$$

Refractive Index (1)

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$$\frac{\sin i}{\sin r}$$

Refractive Index (2)

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$$\frac{1}{\sin C}$$

Refractive Index (3)

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$$\frac{real\ depth}{apparent\ depth}$$

Cut dotted horizontal lines. Fold vertical line.

Refractive Index (4)

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$$\frac{c}{v}$$

Power of Lens (P)

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$$P = \frac{1}{f}$$

Power of two Lenses in Contact

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$$P = P_1 + P_2$$

Magnification

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$$\left| \frac{v}{u} \right|$$

Cut dotted horizontal lines. Fold vertical line.

Doppler Effect

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$$f' = \frac{f c}{c \pm u}$$

Velocity of a Wave (v)

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$$v = f \lambda$$

Periodic Time (T)

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$$T = \frac{1}{f}$$

Fundamental Frequency of a Stretched String

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$$f = \frac{1}{2L}\sqrt{\frac{T}{\mu}}$$

Sound Intensity (I)

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$$I = \frac{P}{A}$$

Size of Force between two Electrical Charges (Coulomb's Law)

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$$F = \frac{1}{4\pi\varepsilon_0}\frac{Q_1 Q_2}{d^2}$$

Electric Field Strength

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$$E = \frac{F}{Q}$$

Potential Difference (Voltage)

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$$V = \frac{W}{Q}$$

Diffraction Grating Formula

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$$n\lambda = d \sin \theta$$

Capacitance (C)

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$$C = \frac{Q}{V}$$

Current (I)

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$$I = \frac{Q}{t}$$

Resistance (R)

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$$R = \frac{V}{I}$$

Cut dotted horizontal lines. Fold vertical line.

Ohm's Law

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$$V = RI$$

Resistivity (ρ)

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$$\rho = \frac{RA}{L}$$

Joule's Law

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$$P \propto I^2$$

Resistances in Series

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$$R_{total} = R_1 + R_2 + R_3$$

Cut dotted horizontal lines. Fold vertical line.

Resistances in Parallel

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$$\frac{1}{R_{total}} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}$$

Energy (Q)

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$$Q = I^2Rt$$

Magnetic Flux (Φ)

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$$\Phi = BA$$

Magnetic Flux Density (B)

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$$B = \frac{\Phi}{A}$$

Faraday's Law

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$$E = N\frac{d\phi}{dt}$$

Force on a current-carrying conductor in a Magnetic field (F)

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$$F = BIL$$

Force on a Moving Charge in a Magnetic Field (F)

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$$F = BqV$$

Peak and RMS Voltage of AC

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$$V_{rms} = \frac{V_0}{\sqrt{2}}$$

Peak and RMS Current of AC

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$$I_{rms} = \frac{I_0}{\sqrt{2}}$$

Frequency of a Wave (f)

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$$f = \frac{1}{T}$$

Relationship between Input Voltage and Output Voltage in a Transformer

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$$\frac{V_i}{V_o} = \frac{N_p}{N_s}$$

Energy of a Photon (E)

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$$E = hf$$

Activity of a Radioactive Sample (A)

$$A = \frac{dN}{dt}$$

Law of Radioactive Decay

$$A = |-\lambda N|$$

Half-Life ($T_{1/2}$)

$$T_{1/2} = \frac{ln2}{\lambda}$$

Energy of a Photon (E) in Einstein's Photoelectric Effect

$$E = \Phi + \frac{1}{2}mv^2_{max}$$

Focal Length of a Lens/Mirror

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$$\frac{1}{f} = \frac{1}{u} + \frac{1}{v}$$

Einstein's Mass-Energy relationship

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$$E = mc^2$$

Pressure due to a Liquid (P)

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$$P = \rho g h$$

Derivation of Kepler's 3rd Law

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$$v^2 = \frac{GM}{R}$$

Cut dotted horizontal lines. Fold vertical line.