

AS & A2 PHYSICS FORMULAE YOU HAVE TO REMEMBER

AS & A2 LEVEL

$$\text{speed} = \frac{\text{distance}}{\text{time}}$$

$$\text{acceleration} = \frac{\text{change in velocity}}{\text{time taken}}$$

$$\text{force} = \text{mass} \times \text{acceleration} \quad F = m a$$

$$\text{density} = \frac{\text{mass}}{\text{volume}}$$

$$\text{momentum} = \text{mass} \times \text{velocity} \quad p = mv$$

$$\text{work done} = \text{force} \times \text{distance moved}$$

$$\text{power} = \frac{\text{work done}}{\text{time taken}} = \frac{\text{energy transferred}}{\text{time taken}}$$

$$\text{weight} = \text{mass} \times \text{gravitational field strength}$$

$$\text{kinetic energy} = \frac{1}{2} \times \text{mass} \times \text{speed}^2$$

$$\begin{aligned} \text{change in gravitational potential energy} \\ = \text{mass} \times \text{gravitational field strength} \times \text{height} \end{aligned}$$

$$\text{pressure} = \frac{\text{force}}{\text{area}}$$

$$\begin{aligned} \text{pressure} \times \text{volume} = \text{number of moles} \times \\ \text{molar gas constant} \times \text{absolute temperature} \end{aligned}$$

$$pV = nRT$$

$$\text{charge} = \text{current} \times \text{time} \quad q = It$$

$$\begin{aligned} \text{potential difference} = \text{current} \times \text{resistance} \\ V = IR \end{aligned}$$

$$\begin{aligned} \text{electrical power} = \text{current} \times \text{voltage} \\ P = IV \end{aligned}$$

$$\begin{aligned} \text{potential difference} = \frac{\text{energy transferred}}{\text{charge}} \\ V = W/q \end{aligned}$$

$$\begin{aligned} \text{resistance} = \frac{\text{resistivity} \times \text{length}}{\text{cross-sectional area}} \\ R = \rho l / A \end{aligned}$$

$$\begin{aligned} \text{energy} = \text{current} \times \text{potential difference} \times \text{time} \\ E = IVt \end{aligned}$$

A2 LEVEL ONLY

$$\begin{aligned} \text{wave speed} = \text{frequency} \times \text{wavelength} \\ v = f\lambda \end{aligned}$$

$$\begin{aligned} \text{centripetal force} = \frac{\text{mass} \times \text{speed}^2}{\text{radius}} \\ F = m v^2 / r \end{aligned}$$

the inverse square laws for force in radial electric and gravitational fields

$$F = kq_1q_2 / r^2 \quad F = Gm_1m_2 / r^2$$

$$\text{capacitance} = \frac{\text{charge stored}}{\text{potential difference}}$$

$$\frac{\text{voltage (coil 1)}}{\text{voltage (coil 2)}} = \frac{\text{turns (coil 1)}}{\text{turns (coil 2)}}$$

$$\frac{V_p}{V_s} = \frac{N_p}{N_s}$$