

FORMULAE

You may find the following formulae useful.

$$\text{energy transferred} = \text{current} \times \text{voltage} \times \text{time} \quad E = I \times V \times t$$

$$\text{frequency} = \frac{1}{\text{time period}}$$

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

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

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

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

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$$\text{orbital speed} = \frac{2\pi \times \text{orbital radius}}{\text{time period}}$$

$$v = \frac{2 \times \pi \times r}{T}$$

$$\begin{aligned} (\text{final speed})^2 &= (\text{initial speed})^2 + \\ & \quad (2 \times \text{acceleration} \times \text{distance moved}) \end{aligned}$$

$$v^2 = u^2 + (2 \times a \times s)$$

$$\text{pressure} \times \text{volume} = \text{constant}$$

$$p_1 \times V_1 = p_2 \times V_2$$

$$\frac{\text{pressure}}{\text{temperature}} = \text{constant}$$

$$\frac{p_1}{T_1} = \frac{p_2}{T_2}$$

Where necessary, assume the acceleration of free fall,
 $g = 10 \text{ m/s}^2$.