

Equations

(final velocity)² – (initial velocity)² = 2 × acceleration × distance

$$v^2 - u^2 = 2 \times a \times x$$

force = change in momentum ÷ time

$$F = \frac{(mv - mu)}{t}$$

energy transferred = current × potential difference × time

$$E = I \times V \times t$$

force on a conductor at right angles to a magnetic field carrying a current = magnetic flux density × current × length

$$F = B \times I \times l$$

$\frac{\text{voltage across primary coil}}{\text{voltage across secondary coil}} = \frac{\text{number of turns in primary coil}}{\text{number of turns in secondary coil}}$

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

potential difference across primary coil × current in primary coil = potential difference across secondary coil × current in secondary coil

$$V_p \times I_p = V_s \times I_s$$

change in thermal energy = mass × specific heat capacity × change in temperature

$$\Delta Q = m \times c \times \Delta\theta$$

thermal energy for a change of state = mass × specific latent heat

$$Q = m \times L$$

$$P_1 V_1 = P_2 V_2$$

to calculate pressure or volume for gases of fixed mass at constant temperature

energy transferred in stretching = 0.5 × spring constant × (extension)²

$$E = \frac{1}{2} \times k \times x^2$$

pressure due to a column of liquid = height of column × density of liquid × gravitational field strength

$$P = h \times \rho \times g$$

