A

GCSE Physics (8463)

Physics Equations Sheet

[Turn over]

1	pressure due to a column of liquid = height of column × density of liquid × gravitational field strength (g)	$p = h \rho g$
2	(final velocity)^2 – (initial velocity)^2 = 2 × acceleration × distance	$v^2 - u^2 = 2 a s$
3	force = $\frac{\text{change in momentum}}{\text{time taken}}$	$F = \frac{m \Delta v}{\Delta t}$
4	elastic potential energy = 0.5 × spring constant × (extension)^2	$E_e = \frac{1}{2} k e^2$
5	change in thermal energy = mass × specific heat capacity × temperature change	$\Delta E = m c \Delta \theta$

6	period = $\frac{1}{\text{frequency}}$	$T = \frac{1}{f}$
7	magnification = $\frac{\text{image height}}{\text{object height}}$	
8	force on a conductor (at right angles to a magnetic field) carrying a current = magnetic flux density × current × length	$F = B I l$
9	thermal energy for a change of state = mass × specific latent heat	$E = m L$

Equations 1, 3, 8, 10 and 11 are for Higher Tier only.

[Turn over]

10	$\frac{\text{potential difference across primary coil}}{\text{potential difference across secondary coil}}$ $= \frac{\text{number of turns in primary coil}}{\text{number of turns in secondary coil}}$	$\frac{V_p}{V_s} = \frac{n_p}{n_s}$
11	potential difference across primary coil × current in primary coil = potential difference across secondary coil × current in secondary coil	$V_p I_p = V_s I_s$
12	For gases: pressure × volume = constant	$p\,V = \text{constant}$

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