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 = $\dfrac{\text{change in momentum}}{\text{time taken}}$**	$F = \dfrac{m \Delta v}{\Delta t}$

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 =** $\frac{1}{\text{frequency}}$	$T = \frac{1}{f}$

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

[Turn over]

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	$E = m L$

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	$V_p I_p$ $= V_s I_s$

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

[Turn over]

12	For gases: pressure × volume = constant	$p\ V$ = constant

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

Insert for GCSE Physics (8463)/E1