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OXFORD AQA INTERNATIONAL GCSE

GCSE Physics

Physics equation sheet

Insert

9203 GCSE PHYSICS EQUATION SHEET

$v = \frac{s}{t}$	v s t	velocity displacement time
$a = \frac{\Delta v}{t}$	a Δv t	acceleration change in velocity time taken
$F = m \times a$	F m a	force mass acceleration
$p = m \times v$	p m v	momentum mass velocity
$F = \frac{\Delta p}{t}$	F Δp t	force change in momentum time
$W = m \times \mathrm{g}$	W m g	weight mass gravitational field strength
$F = k \times e$	F k e	force spring constant extension
$W = F \times d$	W F d	work done force distance moved in the direction of the force
$P = \frac{W}{t}$	P W t	power work done time
$P = \frac{E}{t}$	P E t	power energy transferred time
$E_p = m \times \mathrm{g} \times h$	E_p m g h	change in gravitational potential energy mass gravitational field strength (acceleration of free fall) height
$E_k = \frac{1}{2} \times m \times v^2$	E_k m v	kinetic energy mass velocity
$E_e = \frac{1}{2} \times k \times e^2$	E_e k e	elastic potential energy spring constant extension
$M = F \times d$	M F d	moment of the force force perpendicular distance from the line of action of the force to the pivot

$v = f \times \lambda$	v f λ	speed frequency wavelength
$n = \frac{\sin i}{\sin r}$	n i r	refractive index angle of incidence angle of refraction
$n = \frac{1}{\sin c}$	n c	refractive index critical angle
$\text{magnification} = \frac{\text{image height}}{\text{object height}}$		
$E = m \times c \times \Delta\theta$	E m c $\Delta\theta$	energy mass specific heat capacity temperature change
$E = m \times L_V$	E m L_V	energy mass specific latent heat of vaporisation
$E = m \times L_F$	E m L_F	energy mass specific latent heat of fusion
$\text{efficiency} = \frac{\text{useful energy out}}{\text{total energy in}} \ (\times 100\%)$		
$\text{efficiency} = \frac{\text{useful power out}}{\text{total power in}} \ (\times 100\%)$		
$I = \frac{Q}{t}$	I Q t	current charge flow time
$V = \frac{E}{Q}$	V E Q	potential difference energy transferred charge
$V = I \times R$	V I R	potential difference current resistance
$P = I \times V$	P I V	power current potential difference
$E(kWh) = P(kW) \times t(h)$	E P t	energy transferred power time

$\frac{V_p}{V_s} = \frac{n_p}{n_s}$	V_p potential difference across the primary coil V_s potential difference across the secondary coil n_p number of turns on the primary coil n_s number of turns on the secondary coil
$V_p \times I_p = V_s \times I_s$	V_p potential difference across the primary coil I_p current in the primary coil V_s potential difference across the secondary coil I_s current in the secondary coil