

Physical Quantities, Symbols and Units

Table 3 below indicates the physical quantities required for numerical calculations that are included in the Intermediate 2 Physics course together with:

- the symbol used by SQA
- the SI unit of the quantity (and alternative units included in the course)
- the abbreviation for the unit used in Intermediate 2 examinations.

Table 3

Physical Quantity	Symbol	Unit	Unit Abbreviation
distance	s or d	metre	m
displacement	s	metre	m
speed, velocity	v	metre per second	m/s
time	t	second	s
change of velocity	Δv	metre per second	m/s
average velocity	\bar{v}	metre per second	m/s
initial velocity	u	metre per second	m/s
final velocity	v	metre per second	m/s
acceleration	a	metre per second per second	m/s ²
mass	m	kilogram	kg
weight	W	newton	N
force	F	newton	N
acceleration due to gravity	g	metre per second per second	m/s ²
gravitational field strength	g	newton per kilogram	N/kg
momentum	p	kilogram metre per second	kg m/s
energy	E	joule	J
work done	W or E_W	joule	J
potential energy	E_p	joule	J
height	h	metre	m
kinetic energy	E_k	joule	J
power	P	watt	W
efficiency	(η)	-	-
temperature	T	degree Celsius	°C
specific heat capacity	c	joule per kilogram per degree Celsius	J/kg °C
specific latent heat	l	joule per kilogram	J/kg
heat energy	E_h	joule	J

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Table 3 (cont)

Physical Quantity	Symbol	Unit	Unit Abbreviation
electric charge	Q	coulomb	C
electric current	I	ampere	A
voltage, potential difference	V	volt	V
supply voltage	V_s	volt	V
resistance	R	ohm	Ω
total resistance	R_T	ohm	Ω
number of turns on primary coil	n_p	-	-
number of turns on secondary coil	n_s	-	-
primary voltage	V_p	volt	V
secondary voltage	V_s	volt	V
primary current	I_p	ampere	A
secondary current	I_s	ampere	A
input voltage	V_i	volt	V
output voltage	V_o	volt	V
voltage gain	A_o or V_{gain}	-	-
wavelength	λ	metre	m
frequency	f	hertz	Hz
period	T	second	s
amplitude	A	metre	m
angle	θ	degree	$^\circ$
critical angle	θ_c	degree	$^\circ$
power (of a lens)	P	diopetre	D
focal length	f	metre	m
activity	A	becquerel	Bq
count rate	-	counts per second (counts per minute)	-
absorbed dose	D	gray	Gy
radiation weighting factor	w_R	-	-
equivalent dose	H	sievert	Sv
half-life	$t_{1/2}$	second (minute, hour, day, year)	s