

PEARSON EDEXCEL · 4PH1

International GCSE Physics Formula Sheet

The 18 physics relationships Pearson will not give you in the exam.

1 Not given: forces, motion and energy

Relationships 1–10 of Appendix 7.

Average speed	$\text{average speed} = \frac{\text{distance moved}}{\text{time taken}}$
Force	$\text{force} = \text{mass} \times \text{acceleration}$
Acceleration	$\text{acceleration} = \frac{\text{change in velocity}}{\text{time taken}}$
Momentum	$\text{momentum} = \text{mass} \times \text{velocity}$
Density	$\text{density} = \frac{\text{mass}}{\text{volume}}$
Work done	$\text{work done} = \text{force} \times \text{distance moved}$
Energy transferred	$\text{energy transferred} = \text{work done}$
Kinetic energy	$\text{kinetic energy} = \frac{1}{2} \times \text{mass} \times \text{speed}^2$
Gravitational potential energy	$\text{GPE} = \text{mass} \times g \times \text{height}$
Weight	$\text{weight} = \text{mass} \times \text{gravitational field strength}$
Pressure	$\text{pressure} = \frac{\text{force}}{\text{area}}$
Moment	$\text{moment} = \text{force} \times \text{perpendicular distance from the pivot}$

2 Not given: electricity, waves and more

Relationships 11–18 of Appendix 7.

Charge	$\text{charge} = \text{current} \times \text{time}$
Voltage	$\text{voltage} = \text{current} \times \text{resistance}$
Electrical power	$\text{electrical power} = \text{voltage} \times \text{current}$
Energy transferred (electrical)	$\text{energy transferred} = \text{charge} \times \text{voltage}$
Wave speed	$\text{wave speed} = \text{frequency} \times \text{wavelength}$
Transformer turns	$\frac{\text{input (primary) voltage}}{\text{output (secondary) voltage}} = \frac{\text{primary turns}}{\text{secondary turns}}$
Refractive index	$n = \frac{\sin i}{\sin r}$
Critical angle	$\sin c = \frac{1}{n}$
Efficiency	$\text{efficiency} = \frac{\text{useful energy output}}{\text{total energy output}} \times 100\%$
Pressure difference	$p = h \times \rho \times g$
Transformer, 100% efficiency	$V_p I_p = V_s I_s$

From the exam board's published formulas for Pearson Edexcel · 4PH1, checked 21 October 2026. Always check your own exam paper.

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