Edexcel

IGCSE Formulae

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Double / Physics

Equation highlighted in blue are for **Physics only** (not Double)

average speed = distance moved / time taken

acceleration = change in velocity / time taken

$(\text{final speed})^2 = (\text{initial speed})^2 + (2 \times \text{acceleration} \times \text{distance})$

force = mass x acceleration

weight = mass x gravitational field strength

momentum = mass x velocity

force = change in momentum / time taken

moment = force x distance perpendicular from the pivot

power = current x voltage

energy transferred = current x voltage x time

voltage = current x resistance

charge = current x time

energy transferred = charge x voltage

$$\text{efficiency} = \frac{\text{useful energy output}}{\text{total energy input}} \times 100\%$$

work done = force x distance moved

gravitational potential energy = mass x gravitational field strength x height

kinetic energy = ½ x mass x speed^2

power = work done / time

wave speed = frequency x wavelength

frequency = 1 / time period

$n = \sin i / \sin r$

$\sin c = 1 / n$

density = mass / volume

pressure = force / area

pressure difference = height x density x gravitational field strength

change in thermal energy = mass x specific heat capacity x change in temperature

$\text{pressure}_1 / \text{temperature}_1 = \text{pressure}_2 / \text{temperature}_2$

$\text{pressure}_1 \times \text{volume}_1 = \text{pressure}_2 \times \text{volume}_2$

$$\frac{\text{input (primary) voltage}}{\text{output (secondary) voltage}} = \frac{\text{primary turns}}{\text{secondary turns}}$$

voltage across the primary coil x current in primary coil = voltage across the secondary coil x current in secondary coil

$$\text{orbital speed} = \frac{2 \times \pi \times \text{orbital radius}}{\text{time period}}$$

$$\frac{\text{change in wavelength}}{\text{reference wavelength}} = \frac{\text{velocity of a galaxy}}{\text{speed of light}}$$