isaac *You work it out.*

Problem Solving II
MECHANICS

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Overview: Problem Solving Mechanics

1. Summary of key ideas

2. Have a go at the questions

3. Vote for the questions you would most like to discuss.

Mechanics questions
tinyurl.com/ipts25ps2

Key formulae

Physics

Newton's First Law: $\sum \vec{F} = 0$

Newton's Second Law: $\sum \vec{F} = m\vec{a}$

Friction, $f_s \leq \mu N$

Average speed, $v = \dfrac{d}{t}$

Average acceleration, $a = \dfrac{\Delta v}{t}$

Momentum: mv

SUVAT: $v^2 = u^2 + 2as$

Moment, $G = Fr_\perp$

Physics

Work done, $W = Fx = \vec{F} \cdot \vec{x}$
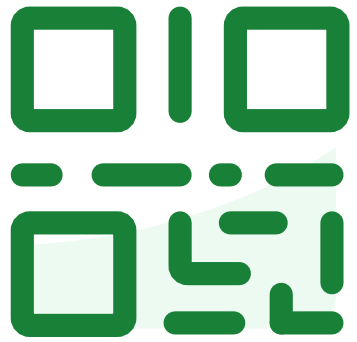
Kinetic Energy, $K = \dfrac{1}{2}mv^2$

Elastic Potential Energy, $\text{EPE} = \dfrac{1}{2}ke^2$

Gravitational Potential Energy: $\text{GPE} = mgh$

SHM acceleration, $a = -\omega^2 x = -\omega^2[\cos(\omega t + \phi)]$

Maths

SOH|CAH|TOA (right-angled triangle)

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Which of the following questions would you most like to discuss?