

Physics 1P Equation Sheet

Kinematic equations:

$$v = \frac{x}{t}$$

$$a = \frac{v_f - v_i}{t}$$

$$x = v_i t + \frac{1}{2} a t^2$$

$$v_f^2 = v_i^2 + 2ax$$

Newton's Laws

$$F = ma$$

$$F_f = F_n \mu$$

$$w = mg$$

Projectile motion

SOHCAHTOA

$$\sin\theta = \frac{\text{opp}}{\text{hyp}}$$

$$\cos\theta = \frac{\text{adj}}{\text{hyp}}$$

$$\tan\theta = \frac{\text{opp}}{\text{adj}}$$

Momentum

$$p = mv$$

$$J = Ft$$

$$m_1 v_{1i} + m_2 v_{2i} = m_1 v_{1f} + m_2 v_{2f}$$

$$Ft = m(v_f - v_i)$$

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Energy

$$K = \frac{1}{2}mv^2$$

$$E_p = mgh$$

$$W = Fd$$

$$P = \frac{W}{t}$$

Thermodynamics

$$Q = mc\Delta T$$

$$Q = mL$$

Waves

$$v = f\lambda$$

$$f = \frac{1}{T}$$

$$T = 2\pi \sqrt{\frac{l}{g}}$$

$$T = 2\pi \sqrt{\frac{m}{k}}$$