

Physics 11 Formula Sheet

Kinematics

$$\bar{v} = \frac{\Delta d}{\Delta t}$$

$$d = \bar{v}t$$

$$v_f^2 = v_0^2 + 2ad$$

$$v_f = v_0 + at$$

$$d = v_0t + \frac{1}{2}at^2$$

$$a = \frac{\Delta v}{\Delta t}$$

$$\bar{v} = \frac{v_f + v_0}{2}$$

Forces

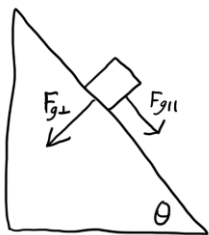
$$F_{net} = ma$$

$$F_{net} = \text{winners} - \text{losers}$$

$$F_g = mg$$

$$F_{fric} = \mu F_N$$

Inclines



$$F_{g\parallel} = \sin \theta \times F_g$$

$$F_{g\perp} = \cos \theta \times F_g$$

Energy

$$W = Fd = \Delta E$$

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

$$E_p = mgh$$

$$P = \frac{W}{t} = F\bar{v}$$

$$\text{Eff} = \frac{P_{out}}{P_{in}} \text{ or } \frac{W_{out}}{W_{in}}$$

$$E_h = mc\Delta T$$

Electricity

$$I = \frac{Q}{t}$$

$$R = \frac{V}{I}$$

$$P = VI = \frac{V^2}{R}$$