

# Physics Honors Equations Sheet - Lundy

Created by Edwin Chang

2021-22

Useful equations:

$$V_f = V_i + at$$

$$V_{av} = \frac{\Delta x}{t}$$

$$V_{av} = \frac{V_i + V_f}{2}$$

$$a = \frac{V_f - V_i}{t}$$

$$\Delta x = \frac{1}{2}at^2 + V_i t$$

$$V_f^2 = V_i^2 + 2a\Delta x$$

$$V_{ix} = \cos \theta \cdot V_i$$

$$V_{iy} = \sin \theta \cdot V_i$$

$$\Delta x_x = V_x \cdot t$$

$$\Delta x_y = \frac{1}{2}a_y t^2 + V_{iy} t$$

$$\Delta x = -\frac{\sin(2\theta) \cdot V_i^2}{a}$$

$$|F_{sf}| = \mu_s \cdot |F_n|$$

$$|F_{kf}| = \mu_k \cdot |F_n|$$

$$F = ma$$

$$F_t = mg + ma$$

$$\text{GPE} = mgh$$

$$\text{EPE} = \frac{1}{2}kx^2$$

$$\text{KE} = \frac{1}{2}mV^2$$

$$W = Fd \cos \theta$$

$$W = \text{KE}_f - \text{KE}_0$$

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

$$P = \frac{\Delta E}{t}$$

$$P = F \cdot V_{av}$$

$$p = m \cdot v$$

$$m_{i_1} V_{i_1} + m_{i_2} V_{i_2} = (m_1 + m_2) V_f$$

$$J = \Delta p = m \cdot \Delta V = F \cdot t$$

Stuck? Try:

- Listing variables
- Considering which variables are 0
- Drawing a picture
- Looking for an equation that matches the variables