

Impulse and Momentum

$$\mathbf{F} = \frac{d\mathbf{p}}{dt}$$



$$d\mathbf{p} = \mathbf{F} dt$$

Define: $I \equiv \int_{t_1}^{t_2} \mathbf{F} dt$

Since $\int_{t_1}^{t_2} \mathbf{F} dt = \int_{\mathbf{p}_i}^{\mathbf{p}_f} d\mathbf{p} \quad \therefore \quad \boxed{I = \mathbf{p}_f - \mathbf{p}_i}$