$$\text{displacement } x \quad \Longleftrightarrow \quad \text{angular displacement } \theta$$

$$\text{velocity } v \quad \Longleftrightarrow \quad \text{angular velocity } \omega$$

$$\text{acceleration } a \quad \Longleftrightarrow \quad \text{angular acceleration } \alpha$$

$$v = \frac{dx}{dt} \quad \Longleftrightarrow \quad \omega = \frac{d\theta}{dt}$$

$$a = \frac{dv}{dt} = \frac{d^2x}{dt^2} \quad \Longleftrightarrow \quad \alpha = \frac{d\omega}{dt} = \frac{d^2\theta}{dt^2}$$

$$x = R\,\theta$$

$$v = R\,\omega$$

$$a = R\,\alpha$$

$$x_f = x_i + vt + \frac{1}{2}at^2$$

$$x_f = x_i + \frac{1}{2}(v_f + v_i)t$$

$$v_f = v_i + at$$

$$v_f^2 = v_i^2 + 2a(x_f - x_i)$$

$$\theta_f = \theta_i + \omega t + \frac{1}{2}\alpha t^2$$

$$\theta_f = \theta_i + \frac{1}{2}(\omega_f + \omega_i)t$$

$$\omega_f = \omega_i + \alpha t$$

$$\omega_f^2 = \omega_i^2 + 2\alpha(\theta_f - \theta_i)$$