Vector Addition – A vector is the sum of its components

$$\vec{V_1} + \vec{V_2} = \vec{V_3} \qquad \vec{V_{1_x}} + \vec{V_{1_y}} = \vec{V_1}$$

Newton's First Law – Conservation of Momentum

$p = m \cdot v \qquad m_1 \cdot v_1 = m_2 \cdot v_2$

Newton's Second Law – Net Force = Mass x Acceleration, same for rotation

$\Sigma F = m \cdot a \qquad \Sigma \tau = I \cdot \alpha$

Torque - Force x Distance

$T = F \times r$

Work - Force x Distance

$W = F \cdot d$

Power – Work / Time

$P = W/t$

Energy

Potential Energy $= m \cdot g \cdot h$

Kinetic Energy $= \frac{1}{2} \cdot m \cdot V^2$

Gravitational Constant - $g = 9.81 \text{ m/s}^2$

Friction – Friction Force = Coefficient of Friction (μ) x Normal Force

$F_f = \mu \cdot F_n$