

speed of a circular orbit

$$v = \sqrt{\frac{Gm_E}{r}}$$

angular speed of a simple harmonic oscillator

$$\omega = \frac{k}{m}$$

displacement of a simple harmonic oscillator

$$x = A\cos(\omega t + \phi)$$

angular speed of a simple pendulum

$$\omega = \sqrt{\frac{k}{m}}$$

angular speed of a physical pendulum

$$\omega = \sqrt{\frac{mgd}{I}}$$