

$$|\vec{s}(t)| = r$$

$$|\vec{v}(t)| = \omega r$$

$$|\vec{a}(t)| = \omega^2 r$$

$$|\vec{F}_Z(t)| = m\omega^2 r$$

$$\omega = \frac{2\pi}{T}$$

$$f = \frac{1}{T}$$

$$\omega = 2\pi f$$

$$v = \frac{2\pi r}{T} = \omega r$$

$$\omega = \frac{v}{r}$$

$$a(t) = \omega t$$