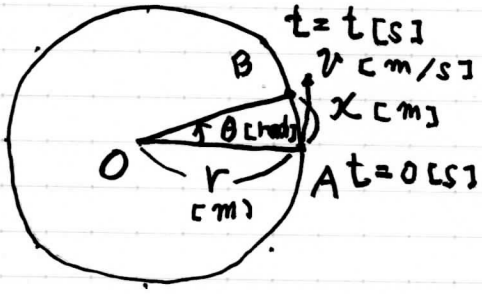
等速円運動



$x = r\theta$

$v = \frac{x}{t} = \frac{r\theta}{t} = r\frac{\theta}{t}$

$\frac{\theta}{t} = \omega$ ：角速度 [rad/s]

速度： $v = r\omega$ [m/s]

周期： $T = \frac{2\pi}{\omega}$ [s]

振動数： $f = \frac{1}{T} = \frac{\omega}{2\pi}$

加速度 $a = \frac{\Delta v}{\Delta t} = v\frac{\Delta\theta}{\Delta t} = r\omega\frac{\Delta\theta}{\Delta t} = r\omega^2$

$\therefore a = r\omega^2$ [m/s²]

向心力（円の中心向きに作用） $F = ma = mv\omega = mr\omega^2 = m\frac{v^2}{r} = mr\left(\frac{2\pi}{T}\right)^2$ [N]