

Uniform motion $v = cte, a = 0$	$x = x_0 + v \cdot t$
Uniformly accelerated motion $a = cte$	$x = x_0 + v_0 \cdot t + \frac{1}{2} a \cdot t^2$ $v = v_0 + a \cdot t$ $v^2 = v_0^2 + 2a \cdot (x - x_0)$
Circular motion $\omega = cte, \alpha = 0$	$\theta = \theta_0 + \omega \cdot t$
Circular uniformly accelerated motion $\alpha = cte$	$\theta = \theta_0 + \omega_0 \cdot t + \frac{1}{2} \alpha \cdot t^2$ $\omega = \omega_0 + \alpha \cdot t$
Other formulas	Instantaneous velocity $\vec{v} = \frac{d\vec{r}}{dt}$
	Instantaneous acceleration $\vec{a} = \frac{d\vec{v}}{dt}$
	Average velocity $\vec{v}_a = \frac{\Delta\vec{r}}{\Delta t} = \frac{\vec{r}_F - \vec{r}_I}{t_F - t_I}$
	Average acceleration $\vec{a}_a = \frac{\Delta\vec{v}}{\Delta t} = \frac{\vec{v}_F - \vec{v}_I}{t_F - t_I}$
	Tangential acceleration $a_t = \frac{d \vec{v} }{dt}$
	Distance for circular motion $S = \theta \cdot R$
	Speed for circular motion $V = \omega \cdot R$
	Tangential acceleration for circular motion $a_t = \alpha \cdot R$
	Normal acceleration for circular motion $a_n = \frac{V^2}{R} = \omega^2 \cdot R$
Total acceleration $a^2 = a_t^2 + a_n^2$	
Unit conversion	km / h $\times 1000 / 3600 \rightarrow$ m/s rpm $\times 2\pi / 60 \rightarrow$ rad/s rad $\div 2\pi \rightarrow$ turn

Symbol	Magnitude	SI unit	Symbol	Magnitude	SI unit
x, S	Position, distance	m	θ	Angular position	rad
x_0	Initial position	m	θ_0	Initial angular position	rad
v	Velocity, Speed	m/s	ω	Angular speed	rad/s
v_0	Initial speed (velocity)	m/s	ω_0	Initial angular speed	rad/s
a	Total acceleration	m/s ²	α	Angular acceleration	rad/s ²
a_t	Tangential acceleration	m/s ²	R	Trajectory radius	m
a_n	Normal acceleration	m/s ²			