

MOVIMIENTOS

RECTILÍNEOS

CURVILÍNEOS

MRU

MRUV

$$\begin{aligned}x &= x_0 + v_0 t \\v &= v_0 \\a &= 0\end{aligned}$$

$$\begin{aligned}x &= x_0 + v_0 t + \frac{1}{2} a t^2 \\v &= v_0 + a t \\a &= a = \text{Cte.}\end{aligned}$$

Composición de movimientos rectilíneos perpendiculares

Eje Y

Eje X

Tiro Vertical

Caída Libre

Hacia Abajo

Hacia Arriba

$$x_0 = h; v_0 < 0; a = -g$$

$$x_0 = h; v_0 > 0; a = -g$$

$$x_0 = h; v_0 = 0; a = -g$$

PARABÓLICOS

$$\begin{aligned}\vec{r} &= (x, y) = \left(x_0 + v_{0x} t, y_0 + v_{0y} t + \frac{1}{2} a_y t^2 \right) \\ \vec{v} &= (v_x, v_y) = (v_{0x}, v_{0y} + a_y t) \\ \vec{a} &= (a_x, a_y) = (0, a_y)\end{aligned}$$

Tiro Horizontal

Tiro Oblicuo

$$\begin{aligned}x_0 &= 0; y_0 = h \\v_{0x} &= v; v_{0y} = 0 \\a_x &= 0; a_y = -g\end{aligned}$$

$$\begin{aligned}x_0 &= 0; y_0 = h \\v_{0x} &= v \cdot \cos \alpha; v_{0y} = v \cdot \sin \alpha \\a_x &= 0; a_y = -g\end{aligned}$$

CIRCULARES

MCUV

MCU

$$\begin{aligned}\varphi &= \varphi_0 + \omega_0 t + \frac{1}{2} \alpha t^2 \\ \omega &= \omega_0 + \alpha t \\ \alpha &= \alpha = \text{Cte.}\end{aligned}$$

$\alpha = 0$

$$\begin{aligned}\varphi &= \varphi_0 + \omega_0 t \\ \omega &= \omega_0 \\ \alpha &= 0\end{aligned}$$