$$m\vec{a} = \vec{F}. \tag{1}$$

$$
\begin{aligned}
ma_x &= 0, \\
ma_y &= -mg. \qquad (2)
\end{aligned}
$$

$$
\begin{aligned}
x(t) &= x_0 + v_{x0}t, \\
y(t) &= y_0 + v_{y0}t - \frac{1}{2}gt^2. \qquad (3)
\end{aligned}
$$

$$a_x = \frac{\Delta v_x}{\Delta t} = \frac{v_x(t + \Delta t) - v_x(t)}{\Delta t}. \qquad (4)$$

$$a_x = \frac{F_x}{m} \tag{5}$$

$$\frac{v_x(t+\Delta t)-v_x(t)}{\Delta t}=\frac{F_x}{m}. \tag{6}$$

$$v_x(t + \Delta t) = v_x(t) + \Delta t \cdot \frac{F_x}{m}. \tag{7}$$

$$v_x = \frac{x(t + \Delta t) - x(t)}{\Delta t} \tag{8}$$

$$x(t + \Delta t) = x(t) + \Delta t \cdot v_x \tag{9}$$