

$$m \cdot a = m \cdot \dot{v} = m \cdot \lim_{\Delta t \rightarrow 0} \frac{v(t+\Delta t) - v(t)}{\Delta t} = -mg - \alpha \cdot v(t)$$

$$\dot{x} = v \quad \lim_{\Delta t \rightarrow 0} \frac{x(t+\Delta t) - x(t)}{\Delta t} = v$$

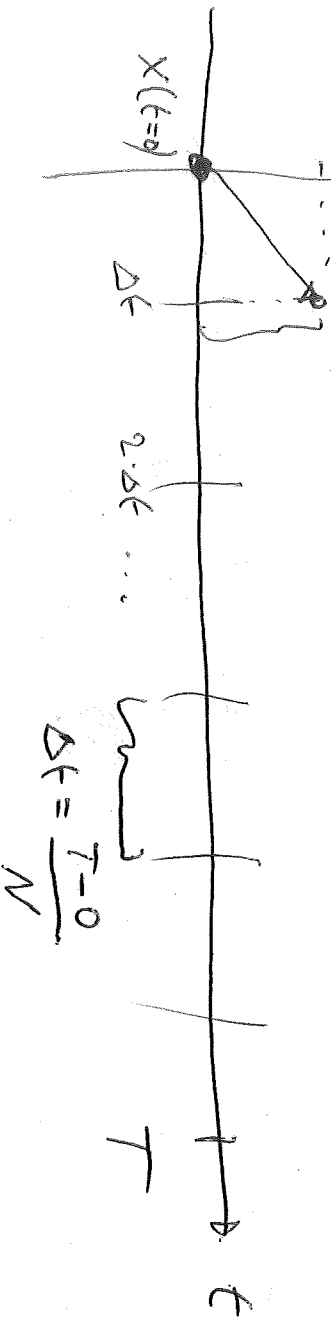
~~x~~

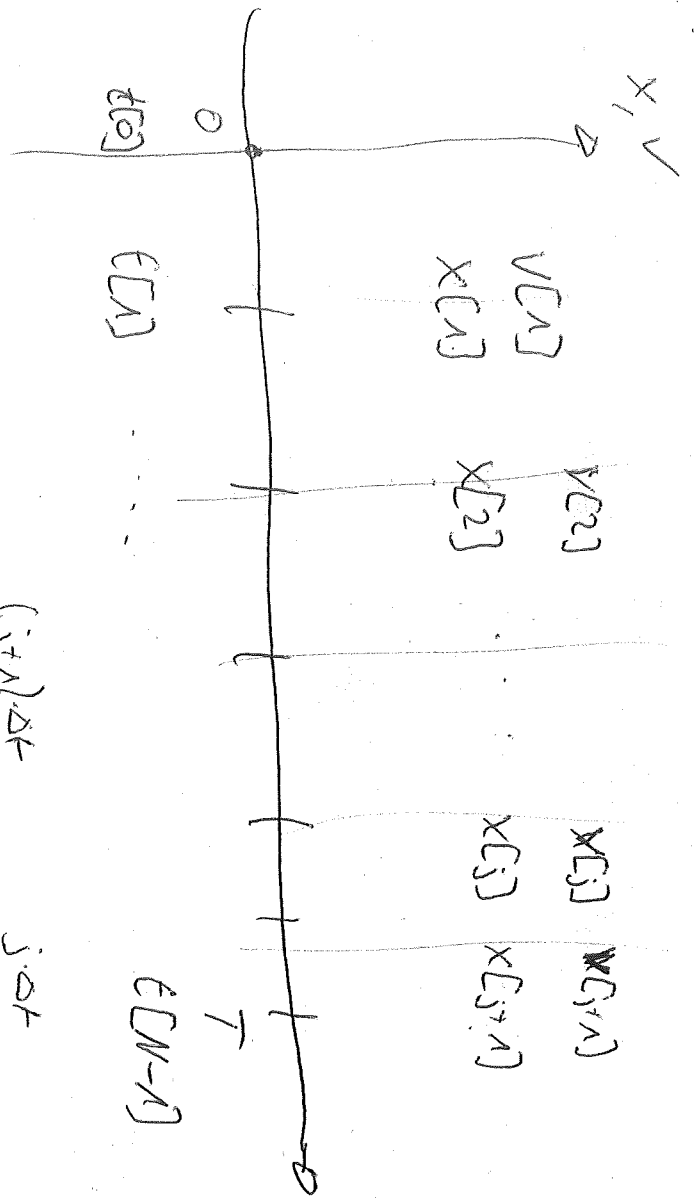
~~x~~

$$\frac{x(\Delta t) - x(0)}{\Delta t} = v(0)$$

$$x(\Delta t) = x(0) + \Delta t \cdot v(0)$$

$x(t+\Delta t)$





$$\frac{V[j+\Delta t] - V[j]}{\Delta t} = -m \cdot g - \alpha \cdot V[j]$$

$$\frac{X[j+\Delta t] - X[j]}{\Delta t} = V[j]$$

$X[0]$

$V[0]$