



$$y_{\max} = y(t_{\max}) \rightarrow \underline{v(t_{\max}) = 0}$$

$$a(t) = \frac{dv(t)}{dt} = \frac{d^2y(t)}{dt^2} = g$$

$$v(t) = \frac{dy(t)}{dt}$$

$$y(t_f) = 0$$