

330 Lab 5

① a) $F = -mg = ma$

$$a = -g$$

$$\frac{dv}{dt} = -g$$

$$v = \frac{dy}{dt}$$

$$\frac{v_{n+1} - v_n}{\tau} = -g$$

$$v = \frac{y_{n+1} - y_n}{\tau}$$

$$v_{n+1} = -g\tau + v_n, \quad y_{n+1} = v_n\tau + y_n$$