Introduction 1

• The differential equation for newton's equation is $\frac{dv}{dt} = g - \frac{cv}{m}$, where cv is the drag coefficient \times velocity.

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

$$dv = (g - \frac{cv}{m})dt$$
(2)

$$dv = \left(g - \frac{cv}{m}\right)dt\tag{2}$$

$$\int \frac{1}{g - \frac{cv}{m}} dv = \int dt \tag{3}$$

$$\lg(g - \frac{cv}{m}) = t + c \tag{4}$$

$$v = mg/c(1 - e^{c/mt})$$

$$v = mg/c(1 - e^{c/mt}) \tag{5}$$