

$$\boxed{2/45} \quad a = \frac{dv}{dt} ; \int_0^v \frac{v dv}{g - kv} = \int_0^t dt, \quad \left[ -\frac{1}{k} \ln(g - kv) \right]_0^v = t$$

$$kt = \ln \frac{g}{g - kv}, \quad \frac{g}{g - kv} = e^{kt}, \quad \underline{v = \frac{g}{k} (1 - e^{-kt})}$$

$$v = \frac{dy}{dt} ; \int_0^y dy = \frac{g}{k} \int_0^t (1 - e^{-kt}) dt$$

$$y = \frac{g}{k} \left( t + \frac{1}{k} e^{-kt} \right)_0^t, \quad \underline{y = \frac{g}{k} \left[ t - \frac{1}{k} (1 - e^{-kt}) \right]}$$