

$$\boxed{2/44} \quad a = \frac{dv}{dt} = -kv, \quad \int \frac{dv}{v} = -k \int_0^t dt$$

$$\ln \frac{v}{v_0} = -kt, \quad \underline{v = v_0 e^{-kt}}$$

$$v = \frac{dx}{dt} = v_0 e^{-kt}, \quad \int_0^x dx = \int_0^t v_0 e^{-kt} dt$$

$$\underline{x = \frac{v_0}{k} [1 - e^{-kt}]}$$

$$v dv = a dx, \quad \frac{v dv}{v} = -k dx$$

$$\int_{v_0}^v dv = -k \int_0^x dx, \quad \underline{v = v_0 - kx}$$