$$\frac{dv}{dt} = v^q \quad t \in [0, 1\delta]$$

a) $q = 1$

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

$$\ln|v| = t$$

$$v = e^t$$

b) $q < 1$

$$r = -q$$

$$\frac{dv}{dt} = v^r$$

$$dv = dt$$

$$\int \frac{1}{v^q} dv = t$$

$$\frac{v^{(-q+1)}}{-q+1} = t$$

$$v^{(-q+1)} = [t \quad (1-q)]$$

$$v = \left(t(1-q) \right)^{\frac{1}{1-q}}$$

Cuando $q > 0$:

$$v = \left(t \int 1+q \right)^{\frac{1}{1+q}}$$