

$$\text{B: } x' = 2tx \quad x' = 2tx \Rightarrow \frac{dx}{dt} = 2tx \Rightarrow \frac{dx}{x} = 2t dt \Rightarrow \frac{dx}{x} = \int 2t dt \Rightarrow \int \ln(|x|) = t^2 + k$$

$$e^{\ln(|x|)} = e^{t^2+k} \Rightarrow |x| = e^k e^{t^2} \quad x = \pm e^k e^{t^2} \quad e^k \text{ es una constante (C). Solucion General: } x = C e^{t^2}$$

$$\text{C: } x' = t^2 x^2$$

$$\frac{dx}{dt} = t^2 x^2 \Rightarrow \text{si } x \neq 0 \quad \frac{dx}{x^2} = t^2 dt \Rightarrow \int \frac{dx}{x^2} = \int t^2 dt \quad \frac{-1}{x} = \frac{t^3}{3} + k \Rightarrow \frac{-1}{x} = \frac{t^3+3k}{3} \Rightarrow x = \frac{-3}{t^3+3k}$$

$$3k = \text{constante } c \text{ Solucion General: } x(t) = \frac{-3}{t^3+c}, c \in \mathbb{R} \text{ Solucion Singular: } x(t) = 0$$