2. $X(t) = N_0 2^t$
3. a) $\frac{x^2+y^2}{2} - \ln(x) = C$ b)y(x) =-1
   c) $(1-e^t)^3 = Ctg(x)$ d)$x(t) = \frac{C}{1+e^{2t}}$
   e) $\ln(x^2+1) + \frac{t^3}{3} = C$ f) $tg(y) - x^2 = 1$ g) No existe solución que cumpla x(0) =1
4. $x(t) = \frac{N}{1+\left(\frac{N}{800}-1\right)e^{-kNt}}$
5. a) $tx + x^2 + t^2 = 0$ b) $\ln(x)\, y + y^3 = 1$
   c) $y(x) = \frac{e}{x}$ d) $\frac{x^2y^2}{2} + \frac{x^4}{4} + \frac{x^3}{3} = C$
   e) $\frac{1}{y^2} + xy + x^2 = C$ e)y(x) =ln(x)+1+Cx

t

6. a) $y(x) = \frac{sen(x)}{x^2}$ b)x(t) = cos(t)(-2log(cos(t)+C)
   c) $y(x) = \frac{C}{sen^2(x)} - \frac{1}{3}sen(x)$ d) $y(x) = sen(x) - 1 + \frac{2}{e^{sen\,x}}$
   e)$y(x) = \ln(x-1)(x^2-x) - \ln(x)(x^2-x) + C(x^2-x)$ f) $x(t) = -\frac{e^t}{2t} + \frac{C}{te^t}$
7. $t^* = \alpha^{-1} \ln(\beta/(\beta - \alpha x_0))$
8. $t^* = (\ln 10) / \beta)]$.
9. a) $y - \ln(y) - 4\ln(x) = C$ b) y(x) i $\frac{9e^2}{x^2}$
   c) $\frac{-7}{y} - 3xy + x^2 = C$ d) $\frac{x^4+t^2x^2+t^4}{2} = C$
   e) $y(x) = \frac{(C-e^{2x})e^{-x}}{1+e^{-x}}$ f)x(t)=1
10. $T(t) = 20 + 20e^{-kt}$ k es tal que T(6)=30
11. A) $x(t) = e^t$
    b) $x(t) = Ae^{3t} + Bte^{3t}$ c) $x(t) = A + Be^t + Ce^{4t}$
    d) $x(t) = A + Be^t + Ce^{5t} - \frac{1}{6}e^{2t}$ e) $x(t) = Ae^{2t} + Be^t + \frac{t}{2} + \frac{3}{4} + te^{2t}$
    f) $x(t) = A + B\cos(3t) + C\,sen(3t) + \frac{t^2}{18} + \frac{e^t}{10}$ g) $x(t) = Ae^t + Bte^t + 2 - 1/2\, sen(x)$
12. a) $x(t) = e^t$, $y(t) = e^t$
    b) $x(t) = 5/2e^t + 3/2e^{3t} - 2$, $y(t) = 5/2e^t - 3/2e^3$
    c) $y(t) = t^2/2 + At + B$ $x(t) = -t^2 - 2At - 2B + t + A$
    d) $x(t) = A + Be^t + Ce^{-2t}$ $y(t) = Be^t + 4Ce^{-2t} - 2A - 2Be^t - 2Ce^{-2t} + 1$