$$y = A\tan\left(Bx + C\right) \Longrightarrow \begin{cases} A\underline{\underline{y}} = 2By\underline{y} \\ y\left(0\right) = A\tan C \\ \underline{y}\left(0\right) = \dfrac{AB}{\cos^2 C} \end{cases}$$

$$\frac{y}{A} = \tan\left(Bx + C\right)$$

$$\frac{\underline{y}}{A}B = \frac{1}{\cos^2\left(Bx + C\right)}$$

$$\frac{\underline{\underline{y}}}{2AB^2} = \frac{\tan\left(Bx + C\right)}{\cos^2\left(Bx + C\right)}$$

$$\underline{\underline{y}} + y\,\underline{y} = 0/y\left(0\right) = 0/\underline{y}\left(0\right) = -\frac{1}{2}\text{:} \quad y = \tan\left(-\frac{x}{2}\right)$$

$$\underline{\underline{y}} + \underline{y}^3 y = 0/y\left(0\right) = 1/\underline{y}\left(0\right) = -1\text{:} \quad \text{implizit } \frac{y^3}{3} - 3y = 2x + c_2\text{:} \quad c_2 = -\frac{8}{3}$$

$$\underline{\underline{y}} + e^{2y}\,\underline{y}^3 = 0\text{:} \quad \begin{cases} x = \dfrac{1}{4}e^{2y} + c_1 y + c_2 & \text{implizit} \\ y = \dfrac{1}{2}\ln 4\left(x - c_2\right) = \ln 2\sqrt{x - c_2} & \text{explizit } c_1 = 0 \end{cases}$$