$$\frac{dy}{dx} - \frac{y}{2x} = \frac{1}{1(1-y)} \tag{1}$$

$$2\sqrt{-x}e^{\frac{-y}{\sqrt{-2x}}} + \frac{\sqrt{2\pi}}{2}erf\left(\frac{y}{\sqrt{-2x}}\right) + c = 0 \tag{2}$$

$$\begin{aligned}\int_L -\vec{r}dl &= \int_L -xdx + \int_L -ydy \\ &= \int_0^{2\pi} \frac{r^2\sin(2t)}{4}dt \\ &= \int_0^{2\pi} 0dt \\ &= 0\end{aligned} \tag{3}$$

$$\delta = (R-r) * (1-\cos\theta) \tag{4}$$

Package amsmath: Erroneous nesting of equation structures; (amsmath) trying to recover with 'aligned'.