$$x^3 y' = x^4 y^2 - 2x^2 y - 1$$

$$y' = x y^2 - 2\frac{y}{x} - \frac{1}{x^3}$$

$$y_1 = x^{-2}$$

$$y = x^{-2} + \frac{1}{v}$$

$$q(x) = \frac{2}{x}$$

$$p(x) = -x$$

$$r(x) = \frac{1}{x^3}$$

$$v' - \left(2\left(x^{-2}\right)(-x) + \frac{2}{x}\right)v = -x$$

$$v' - \left(-2x^{-1} + 2x^{-1}\right)v = -x$$

$$v' = -x$$

$$v = -\frac{x^2}{2} + C$$

$$y = -\frac{x^2}{2} + x^{-2}$$

$$C = -\frac{1}{2} \qquad y = -\frac{x^2}{2} + x^{-2} + x^{-2} - \frac{1}{2}$$