

$$xy + x^2 y' = (x^2 - 1)$$

$$\Leftrightarrow 2xy + x^2 y' = 2x^2 - 2$$

$$\Leftrightarrow [x^2 y]' = 2x^2 - 2$$

$$\Leftrightarrow x^2 y = \int 2x^2 - 2$$

$$\Leftrightarrow x^2 y = \frac{2}{3} x^3 - 2x + K$$

$$\Leftrightarrow y = \frac{2}{3} x - \frac{2}{x} + \frac{K}{x^2}$$