

find $\frac{dy}{dx}$ for the implicit function:

$$x^3 + 3y^4 - y^2 - 2x = 0$$

$$\frac{d(x^3)}{dx} + \frac{d(3y^4)}{dx} - \frac{d(y^2)}{dx} - \frac{d(2x)}{dx} = 0$$

$$3x^2 + 12y^3 \frac{dy}{dx} - 2y \frac{dy}{dx} - 2 = 0$$

$$\frac{dy}{dx} (12y^3 - 2y) = 2 - 3x^2$$

$$\underline{\underline{\frac{dy}{dx} = \frac{2 - 3x^2}{12y^3 - 2y}}}$$