

ONYESOK MAXWELL OSOMDU

19/ENR504/046

MAT 104

$$2) \text{ If } 2y^2 - 5x^4 - 2 - 7y^3 = 0$$

$$4y \frac{dy}{dx} - 20x^3 - 21y^2 \frac{dy}{dx} = 0$$

$$\frac{dy}{dx} (2y - 21y^2) = 20x^3$$
$$\frac{2y - 21y^2}{2y - 21y^2} (2y - 21y^2)$$

$$\frac{dy}{dx} = \frac{20x^3}{2y - 21y^2}$$

$$3) 4x^2 + 2xy^3 - 5y^2 = 0$$

$$8x + 2y^3 + 6xy^2 \frac{dy}{dx} - 10y \frac{dy}{dx} = 0$$

$$\frac{dy}{dx} (6xy^2 - 10y) = -8x - 2y^3$$
$$\frac{6xy^2 - 10y}{6xy^2 - 10y}$$

$$\frac{dy}{dx} = \frac{-8x - 2y^3}{6xy^2 - 10y}$$

where $x=1, y=2$

$$\frac{dy}{dx} = \frac{-8(1) - 2(2)^3}{6(1)(2)^2 - 10(2)}$$

$$\frac{dy}{dx} = \frac{-24}{4} = -6$$