Problem 1 (15 points)

Compute the derivative of $y$ with respect to $x$

$$y = \sqrt{-x} - \frac{1}{x}$$

$$y = [1 - \ln(x)]e^{2x+x^2}$$

$$y^2x + x^2y + x^3 = \sin(y + 4)x$$

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

$$y = 2x^3 + 2^x^3$$

$$x = (4y^3 - 3y^2)^4$$