

MCS21 Homework 31

1. Find $\frac{dy}{dx}$ if $y^2 - x^2 = 10x$.

2. Find $\frac{dy}{dx}$ if $y^2 - 3xy + 2x^2 = 4$.

3. Find $\frac{dy}{dx}$ if $\sqrt{\cos y} = \tan(x^2)$.

4. Find $\frac{d^2y}{dx^2}$ if $6x^4 - 7y^3 = 4$.

5. Find $\frac{d^2y}{dx^2}$ if $y + \sin y = x$.

6. Find $\frac{d^2y}{dx^2}$ if $x^3 + y^3 = 1$.