Mathematics Department
2021/2022

Name:	**Implicit differentiations**	Date

Q1: - $y^2 = 3x$

a) $\frac{dy}{dx} = \frac{3}{2}$	b) $\frac{dy}{dx} = \frac{3}{2y}$	c) $\frac{dy}{dx} = 3 - 2y$	d) $\frac{dy}{dx} = \frac{2y}{3}$

Q2: - $sin\ y = x^2$

a) $\frac{dy}{dx} = 2x - cos\ y$	b) $\frac{dy}{dx} = cos\ y - 2x$
c) $\frac{dy}{dx} = \frac{2x}{cos\ y}$	d) $\frac{dy}{dx} = \frac{\cos y}{2x}$

Q3: - $x = t^2 + 3t - 1$

a) $\frac{dx}{dt} = 2t + 3$	b) $\frac{dx}{dt} = 0$
c) $\frac{dx}{dt} = 2t - 3$	d) $\frac{dx}{dt} = t^2 + 3t - 1$

Q4: - $y^2 + 3x = t^2 - 1$

a) $2y\frac{dy}{dt} + \frac{dx}{dt} = 2t$	b) $2\frac{dy}{dt} + 3 = 2t$
c) $2\frac{dy}{dt} + 3\frac{dx}{dt} = 2t$	d) $2y\frac{dy}{dt} + 3\frac{dx}{dt} = 2t$