King Fahd University Of Petroleum and Minerals
Department of Mathematical Sciences

St Name: *Math 101 – 8* *Serial #:*

St ID #: *Quiz # 2* *Akram Ahmad*

1]Find $\frac{d}{dx}[\sec^2\sqrt{3x-1}]$ (Do not simplify)

$$\frac{d}{dx}[\sec^2\sqrt{3x-1}] = \underbrace{2\sec\sqrt{3x-1}}_{\text{power rule}}\underbrace{\sec\sqrt{3x-1}\tan\sqrt{3x-1}}_{\text{der of sec}}\underbrace{\frac{3}{2\sqrt{3x-1}}}_{\text{inside}}$$

Find $\frac{d}{dx}\left[\left(x^2+\sqrt[3]{3x-1}\right)^5\right]$ (Do not simplify)

$$\frac{d}{dx}\left[\left(x^2+\sqrt[3]{3x-1}\right)^5\right] = 5\left(x^2+\sqrt[3]{3x-1}\right)^4\left(2x+\frac{1}{3}(3x-1)^{-2/3}\bullet 3\right)$$

Find $\frac{d^2y}{dx^2}$ at the point (0,1) for the equation $x^2 - xy + y^2 = 1$

Find $\frac{dy}{dx}$ of the equation $\sin^3(xy) + \cos(x+y) + x = 1$