

Name:.....ID#:.....Sec:.....Ser:.....

Q.1: Write name of the following surfaces

(a) $5z^2 + 6y^3 = x^2$

(b) $4x^2 + 9y^2 + 6z^2 = 36$

(c) $x = y^2 - z^2$

(d) $x^2 + y^2 - z^2 = -2$

Q.2: Show that the limit $\lim_{(x,y) \rightarrow (0,0)} \frac{x^2y}{x^4 + y^2}$ does not exist.

Q.3: Let $f(x, y) = \frac{5xy^2}{x^2 + y^2}$, $f(0, 0) = 0$ and $\epsilon = 0.001$. Find value of a δ

such that $\sqrt{x^2 + y^2} < \delta \Rightarrow |f(x, y) - f(0, 0)| < \epsilon$