

Name: _____ I.D.# _____ Serial # _____

Q1: Describe the graph of the level surfaces for $f(x, y, z) = k$, where $f(x, y, z) = 4x^2 + \frac{y^2}{9} + \frac{z^2}{4}$ and $k = 1, 0, 4$

Q2: Give equivalent cylindrical and spherical coordinates of the point P with rectangular coordinates $P = (1, 1, \sqrt{2})$

Q3: Determine if the limit exist $\lim_{x,y \rightarrow 0,1} \frac{xy - 1}{x^2 + y - 1^2}$