

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

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

Q2: Give equivalent cylindrical and rectangular coordinates of the point P with spherical coordinates $P(\sqrt{3}, \frac{\pi}{4}, \frac{\pi}{4})$

Q3: Determine if the limit exist $\lim_{x,y,z \rightarrow 0,0,0} (x^2 + y^2 + z^2) \ln(x^2 + y^2 + z^2)$