Name:
Student ID #:

Question 1. Identify the surface $4x^2 - y^2 + 2z^2 + 4 = 0$. Find intervals for the values of k so that the plane $y = k$ intersects with the above surface.

Question 2. Find the equation of the plane containing the line $x = 1 + t$, $y = -2 - t$, $z = -t$ and the point $(1, 2, 3)$.

Your Solution.