

### HOMEWORK #3 (Chapter 9 Vector Calculus)

(1). In this problem, describe the level surfaces but do not graph.  $F(x, y, z) = x^2 + 3y^2 + 6z^2$   
(Exercises 9.4 problem 9).

(2). Given that  $F(x, y, z) = \frac{x^2}{16} + \frac{y^2}{4} + \frac{z^2}{9}$ , find the  $x$ -,  $y$ -, and  $z$ -intercepts of the level surface that passes through  $(-4, 2, -3)$ . (Exercises 9.4 problem 12).