

Math 201-14 Quiz #3

Name: \_\_\_\_\_ ID: \_\_\_\_\_

- 1) Describe and sketch the surface whose equation in cylindrical coordinates is

$$z = 2r^2 + 1$$

- 2) Find an equation in cylindrical coordinates for

$$3x^2 + y^2 + z^2 = 10$$

- 3) Find an equation in spherical coordinates for

$$2x^2 + y^2 + 3z^2 = 10$$

- 4) Sketch four level curves of the function defined by  $f(x, y) = 3x^2 + y + 1$ .