QUIZ 4 MATH 251

LAST NAME\_\_\_\_\_ FIRST NAME\_\_\_\_\_

On my honor, as an Aggie, I certify that the solution submitted by me is my own work. I had neither given nor received unauthorized aid on this work.

Signature: \_\_\_\_\_

## Due Thursday 02/13 at the beginning of class.

- If turned in later than 10 minutes into class, 10 points off. No papers will be accepted after class.
- If you turn it in to my office (Blocker 245E) make sure you do it before 3:00pm, 02/13.
- YOUR WORK MUST BE NEAT, EASY TO FOLLOW.
- You may use notes and textbook, but not the help of anything else.

1. Find and <u>sketch</u> the domain of the function  $z = \sqrt{9 - x^2 + y^2}$ .

2. Let  $f(x, y, z) = \sqrt{xy} + z^2 + 1$ . Find an equation of the level surface that passes through the point (1, 4, -1).

3. Identify the level curves for each of the following functions. You don't need to sketch the graph just identify the type of curve (line, hyperbola, etc.):

(a) 
$$f(x,y) = y^2 - 4x$$

(b) 
$$f(x,y) = \ln(x^2 + \frac{y^2}{4})$$