

Math 366: Honors Analysis II

Name: _____

Quiz 5 *April 20, 2001*

1. Describe the level sets of $F(x, y, z) = (x + y + z, x^2 + y^2 - z)$ and determine which of them have singular points.

2. State:

a) The Implicit Function Theorem

b) The Inverse Function Theorem

c) The theorem on representing level sets locally as the graph of a function.

Do two of the following:

3. Outline the proof of 2a.

4. Use 2a to prove 2b.

5. Use 2a to prove 2c.