Math 223 Exam 1 Topics

1. Find the unit tangent vector, the unit normal vector, and the curvature to a curve at a given point on the curve. See Section 10.8. Practice by doing problem 12.

2. Find the domain of a function of the form $z = f(x, y)$, then graph it using the method of level curves. See Section 11.1. Practice by doing problems 7, 20.

3. Determine the set of points at which the function is continuous. See Section 11.2. Practice by doing problems 27, 28.

4. Compute the equation of the tangent plane to a surface at a given point on the surface. See Section 11.4. Practice by doing problems 2, 4, 6.

5. Use differentials to approximate the amount by which the output of a function changes when the input changes from (x, y) to $(x + dx, y + dy)$. See Section 11.4. Practice by doing problems 18, 24, 30.