Exam Review #1

Math 264

Topics Covered: Sections 10.1-10.6, 11.1-11.3

- Vectors in the plane and in space
  - Algebraic properties: addition, multiplication by scalars.
  - Geometric properties: length and direction.
  - Dot product: angle between vectors, orthogonality test.
  - Cross product.

- Lines and planes in space
  - Parametric equations of lines.
  - Equations of planes: normal direction.
  - Distance from a point to a line or a plane.
  - Angle between planes.
  - Intersecting lines and planes.

- Cylinders and quadric surfaces

- Vector valued functions
  - Differentiation and integration
  - Motion of a particle: velocity, acceleration, speed, direction.
  - Applications: projectile motion and arclength.

Study Problems

- Chapter 10
  - p. 851: 9, 18 (additional problems).

- Chapter 11
  - p. 904: 4 (additional problems).