Math 126 **Final Review** **Winter 2005**

Infinite series – Geometric series – p-series – convergence tests – error estimate in alternating series
p.720 #21,27; p.739 #11,13,23,30; p.745 #3,14,15,19

Power series – radius and interval of convergence – (no endpoints)
p.753 #9,11,17,18,23,26

Taylor series – term-by-term integration and differentiation – Taylor polynomials
p.759 #9,13,15,23; p.770 #17,18,27,41,45; p.783 #7,15

Vectors – dot and cross product – lines and planes in 3-space
p.805 #19,32; p.812 #23,31,39,47,51 p.820 #7,23,25,31,35; p.829 5,9,21,27,31,37,45,67

Parametric equations – tangents – area – arc length – surface area
p.656 #7,12; p.666 #13,17,33,36,39,43,48,57,59,65

Vector functions – space curves – derivatives and integrals – tangent line – unit tangent vector – arc length – curvature – normal and binormal vectors – normal and osculating planes
p.861 #13,17,25,31,35,37; p.868 #3,11,13,19,23,39,41

Velocity and acceleration – speed – tangent and normal components of acceleration
p.878 #11,25,31,33

Functions of several variables – level curves – partial derivatives – tangent plane and linear approximation
p.897 #17,37,43 p.919 #13,15,35,47,77; p.930 #1,3,6,17,19

Double integrals – Riemann sums – Iterated integrals and Fubini's Theorem – General regions – Center of Mass
p.988 #4; p.994 #13,20; p.1002 #15,22; p.1018 #5,7