

# Probability (MATH 4733 - 01) Fall 2011

## Homework 12

Due: Wed. Dec. 7, start of class

**Instructions:** Please read the homework policies and guidelines posted on the course webpage. Make sure to write your name and course number in the top right corner of your solution set, as well as the assignment number on top. Please staple your homework. Sections and exercises refer to the exercises in the required course text.

**You may not use a calculator** or computer except for basic arithmetic operations ( $+$ ,  $-$ ,  $\times$ ,  $\div$ ) or to give a decimal approximation to an exact answer you have (e.g.,  $e^{-2} \approx 0.135$ ). In particular, you may not use a calculator/computer for integration.

### Reading

Sections 4.3 and 4.4.

### Conceptual Questions

1. Why is the normal distribution so prevalent?
2. What does the central limit theorem say, in layman's terms?
3. What kind of situation would call for a geometric distribution? Why is it called geometric?

### Written Assignment

Total: 100 points. Each problem is worth 10 points unless otherwise noted.

**Section 4.3:** 1, 10, 12, 16, 17, 20, 21, 24

**Section 4.4:** 1, 4