

Math 311 — Homework 14

NOVEMBER 19, 2008

Instructions.

From the book do the following:

- **Problems:** Pages 457–459 Numbers 13ab, 14, and 15.
- **Theoretical Exercises:** Pages 418–425 Numbers 45, 48, 50, and 51. Pages 459–460 Number 8 (Hint: Page 425 Number 51)
- Show that for a and b positive integers,

$$\int_0^1 x^{a-1}(1-x)^{b-1}dx = \frac{(a-1)!(b-1)!}{(a+b-1)!}$$