

# What to expect on the Fourth exam in Math 141

First of all, be sure to master all homework problems.

This includes all the homework problems in section 6.3 - section 7.7.

Here is the list:

Section 6.3: Page 452, Problems 1-15 odd, 25,51

Section 6.4: Page 464, Problems 1,3,5,9,11,13,15,21,23,25,27,31

Section 6.5: Page 475, Problems 1-9 odd (only find mean (expected value))

Section 6.6: Page 480, Problems 1-17 odd

Section 7.2: Page 508, Problems 1-15 odd

Section 7.3: Page 512, Problems 1-13 odd

Section 7.7: Page 542, Problems 1, 5

It is strongly suggested that you make sure you are comfortable with the following problems:

Section 6.3: Page 452, Problems 1-18, 25,26

Section 6.4: Page 464, Problems 1-28

Section 6.5: Page 475, Problems 1-10 (only find mean/expected value)

Section 6.6: Page 480, Problems 1-17

Section 7.1: Page 501, Problems 1-8

Section 7.2: Page 508, Problems 1-20

Section 7.3: Page 512, Problems 1-14

Section 7.7: Page 542, Problems 1-12

- From Section 6.3, make sure you understand how you compute an improper integral and can explain what it means for an improper integral to diverge.

**Definition 1.**  $\int_a^\infty f(x) dx = \lim_{b \rightarrow \infty} \int_a^b f(x) dx$

**Definition 2.** *If the limit in the previous definition exists then the improper integral converges. If the limit does not exist then the improper integral diverges.*

- The test has 8 problems but some of the problems have more than one part.