

Homework 10–21-124, Calculus II for Biologists and Chemists

Name: _____
Section: _____

Instructions: Complete the following problems, clearly labeling the problems. Staple this sheet, with your name and section filled in, to the top of your work. Failure to attach this sheet will result in a one point deduction in the grade. The assignment will be graded out of twenty points.

DUE: Friday, April 22, 2016

Book Problems

- Section 12.5:¹ 6, 11 (b and c only), 12, 16, 18, 22, 24, 28, 30, 34, 38, 48, 50, 54, 60

Other Problems

1. Consider the the probability density function

$$f(x) = \begin{cases} 1 - |x - 1|, & x \in [0, 2] \\ 0, & x \notin [0, 2]. \end{cases}$$

- (a) Verify that f is a probability density function.
- (b) Find the expected value of the random variable with this density function
- (c) Find the variance of the random variable with this density function.

¹You may use your calculator instead of the tables when the book instructs you to use the tables. Just indicate what you are calculating on your calculator.