

STAT 215C – Homework

Due March 12 by 4pm

Instructions:

Please include the following information on the first page of your completed homework.

- Name
- STAT 215
- Homework 6
- Due date
- List of students you worked with (if applicable)

Please remember to show your work and explain answers as necessary. Answers that are not supported by good reasoning will not receive full credit. Homework should be stapled if it is longer than one page.

Section 4.2: 12, 14

Reaction Time: The reaction time (in seconds) of a particular stimulus is a continuous random variable with the following pdf:

$$f(x) = \begin{cases} \frac{3}{2x^2} & \text{if } 1 \leq x \leq 3 \\ 0 & \text{otherwise} \end{cases}$$

- Obtain the cdf.
- What is the probability that the reaction time is
 - At most 2.5 seconds?
 - At least 1.5 seconds?
 - Between 1.5 and 2.5 seconds?
- Find the average reaction time. Also, find the standard deviation of reaction time.
- Find the 75th percentile of reaction time.

Section 4.3: 28(a, c, e, f, i)—draw graphs only, 36, 38