

MTH U481: Spring 2009: Prof. C. King

Assignment 5

Due date: Thursday February 5.

Reading: Sections 3.3, 3.4, 3.5.

Problems:

1). p. 172: #7, #9, #11.

2). The pdf for a continuous random variable is

$$f_Y(y) = \begin{cases} c(2y - y^2) & \text{if } 0 \leq y \leq 2, \\ 0 & \text{otherwise.} \end{cases}$$

where c is a constant.

a). Find the value of c .

b). Calculate $P(0 \leq Y \leq 1)$.

c). Find the cdf $F_Y(y)$.

3). Two fair dice are thrown at random. Define the discrete random variable Y as follows: if the numbers on the dice are equal, then $Y = 1$; if the numbers on the dice are different, then $Y = 0$. Find the pdf of Y .

4). p.185, #8.

5). p.185, #23.

6). p.192, #30, #31.

7). p.198, #2.