

MATH 416: Probability – Homework 6

(maximal points = 50)

Due: Tuesday, October 1

(Turn in class or in my office until 4pm)

Each point is worth 10 points and all of them will be graded. You can work on these problems in small groups, but you need to write down your own solution set and hand it separately. Show your work and appropriate steps of each problem in order to receive full credits.

From **Problems** Section:

Chapter 4: 4.17, 4.45, 4.55, 4.79.

Additional Problems

1. Let X be a random variable with PMF

$$p_X(k) = \binom{n}{k} p^k \quad \text{for } k = 0, 1, \dots, n.$$

Find the value of c . Identify the distribution of X and find its mean and variance.