Theory of Probability HW #2

Ozaner Hansha

September 23, 2019

Part A

Problems taken from Chapters 2 and 3 of the textbook.

Chapter 2

Problem 31a

Problem: A 3-person basketball team consists of a guard, a forward, and a center. If a person is chosen at random from each of three different such teams, what is the probability of selecting a complete team?

Solution: The number of valid choices from the first team is 3 (since we have none yet), 2 for the second team (1 position is taken), and 1 from the third team (2 positions are taken). Putting this over the 3^3 different choices we have:

$$P(E) = \frac{3 \cdot 2 \cdot 1}{3^3} = \frac{2}{9}$$

Problem 45

Problem:

Solution:

Problem 55a

Problem:

Solution:

Chapter 3

Problem 12

Problem:

Solution:

Problem 30

Problem:

Solution:

Problem 35

Problem:

Solution:

Problem 47a

Problem:

Solution:

Part B

Problem a

noindent**Problem:**

Solution:

Problem b

noindent**Problem:**

Solution:

Problem c

noindent**Problem:**

Solution: