Math 123-02
Spring 2026
Dr. Lily Yen

Assignment 5

Show all your work

Name: _____

Number: _____

Signature: _____

Score: ___/10

Problem 1: Take one cubic die (D6) and one fair coin.

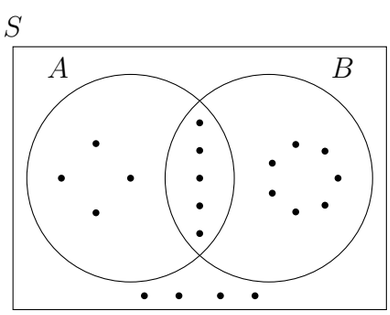
a. Make a table for the sample space of rolling the die and flipping the coin simultaneously.

b. Let X be the random variable for an outcome of rolling the die. Let Y be the random variable for an outcome of flipping the coin. Find $P((X > 4) \cap (Y = T))$.

c. Find the probability of getting an even number on the die and Heads on the coin.

Score: /4

Problem 2: Dad drew a big rectangle representing a sample space containing Event A and Event B. Assume that the outcomes (as dots) were all equally likely, give a fraction for each probability question.



a. $P(\bar{B})$

b. $P(A \cap B)$

c. $P(\bar{A} \cup B)$

d. $P(A \mid B)$

e. Are A and B mutually exclusive?

f. Are A and B independent?

Score: /6

/10