Name: _____ TA Name: _____ Secret Word: _____

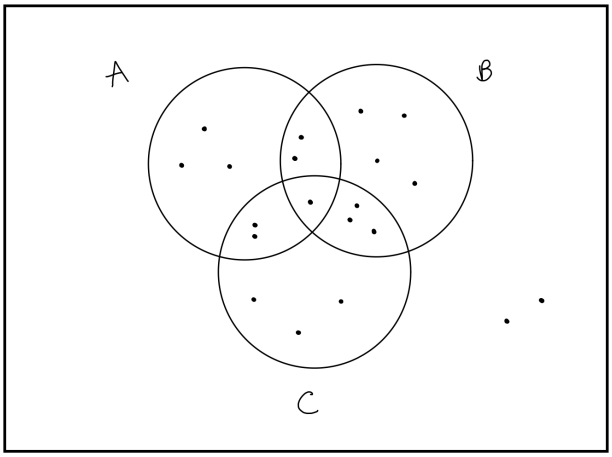
Data 88S

Jan 19, 2024

1. Toss a fair coin 2 times. What is the Ω (outcome space)? What is the Ω when tossing the coin 3 times?

2. Find P(2H and 1T) by looking at your answer to question 1.

3. Answer the following questions about this outcome space, Ω.



a. Number of outcomes in Ω?

b. P(A)?

c. P(not A)?

d. P(A and B)?

e. P(A and B and C)?

f. P(neither A nor B nor C)?

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4. Roll a pair of six sided dice. Write out the outcome space Ω for rolling a pair of dice. What are the outcomes in the event that the sum of the faces rolled is 7? What is the probability of this event?

5. Chapter 1 Ex. 2ab

2. Ashley, Francie, and Rohan arrive for a meeting in random order. This means that if you let A, F, and R represent Ashley, Francie, and Rohan respectively, then all six of the possible orderings AFR, ARF, FAR, FRA, RAF, and RFA have the same chance. These orderings are also known as *permutations* of the letters A, F, and R.

a) For each event below, write the subset of permutations and find the chance of the event. What is the relation between the chances?

- A_1: Ashley arrives first
- A_2: Ashley arrives second
- A_3: Ashley arrives third

b) What is the chance that Rohan arrives before Francie?