
Question 1 (30%)
Suppose three fair coins are flipped
a. List the sample space.
b. List the probabilities of every point in your sample space.
c. What is the probability of the event that exactly two coins are tails? Justify your answer.
d. What is the probability that at most two coins are tails? Justify your answer.

Question 2 (35%)
Suppose a pair of fair dice are flipped.
a. List the sample space.
b. What is the probability that the sum of the dots is even? Justify your answer.
c. What is the probability that the sum of the dots is 5 or less? Justify your answer.
d. What is the probability that the sum of the dots is 5 or less given that the first dice is a 2? Justify your answer.

Question 3 (30%)
Justify the recurrence equation provided in the text by writing the recursive algorithm to solve the Towers of Hanoi problem. Show that your recursive algorithm results in the recurrence equation given.

5% of the assignment mark is for typesetting. Figures and special symbols can be drawn/written by hand.