Problem 1: Joint PMF for Rolling a Die Twice An experiment consists of rolling an unbiased die two times. The random variables Xi ∼ Uniform{1, 2, 3, 4, 5, 6} represent the number on the ith roll, where i = 1, 2. Calculate: fX1,X2 (3, 2)

Ans:

1/36

Problem 2: Drawing Queens and Kings from a Deck From a well-shuffled deck of 52 cards, four cards are selected at random. Let the random variable X denote the number of queens drawn, and let the random variable Y denote the number of kings drawn. Find: fX,Y (2, 1)

Ans) 0.36%

3)Variables The joint probability mass function of two discrete random variables X and Y is given by: fX,Y (x, y) = xy 9 , x, y ∈ {1, 2} Calculate: fX(1) + fX(2)

Ans:1