

NAME: _____

Two dice are given to you. One die has 6 faces with the following numbers on it

$$\{1, 3, 4, 5, 6, 8\}.$$

The other die has 4 regular faces but the probability are unequal

$$P(1) = 1/6, P(2) = 1/3, P(3) = 1/3, P(4) = 1/6.$$

Consider the experiment of tossing the two dice and let x bet the sum of the two outcomes.

1. What is the set of values that the random variable x can assume?

2. What is the probability distribution for the variable x (show all your work)?

Plot the probability distribution with matlab and show the code that you used.

I toss a coin and I throw the two special dice if I toss a head and I throw two regular dice if I toss a tail.

3. Knowing that the obtained sum is 5, what is the probability that the toss was a head?
