Problem 3:

1.1. Probability of getting a head = 0.5

Probability of getting 2 head = 0.5 \* 0.5

Probability of getting 3 head = 0.5 \* 0.5 \* 0.5 = 0.125

1.2. Probability of getting head on the first flip = 0.5

Probability of getting head, tail , head = 0.5 \* 0.5 \* 0.5 = 0.125

1.3 Probability of getting 2 head and 1 tail

HHT , HTH , THH

Probability of getting 2 head and 1 tail = 3 / 8 = 0.375

1.4 Same as 1.3 as Number of heads has to be 2.

2. Total possible outcomes = 6 \*\* 5 = 7776

Yahtzee outcomes = (1,1,1,1,1), (2,2,2,2,2), (3,3,3,3,3), (4,4,4,4,4) , (5,5,5,5,5) and (6,6,6,6,6).

Probability = 6/ 7776 = 0.0007716