

IE-231 In-Class Activity - Week 2

Feb 27, 2018

Instructions This is an in-class activity for groups of two. You can work together with other students as well. This in-class activity can be subject to participation questions.

Question 1 (20 pts)

Suppose we draw three cards from a deck and roll two dice. Answer the following questions.

- a) What is the experiment? (2 pts)
- b) What is “getting two-sixes and three-kings or five-one (in any order) one queen one king one ace”? Pick one (Event / Outcome / Sample Space) (2 pts)
- c) Give an example of two mutually exclusive events. (6 pts)
- d) What is the probability of getting four-three (in any order) in dice roll and three queens in card draw? (5 pts)
- e) How many different outcomes can there be? This time assume ordering is important (e.g. 6-1 and 1-6 are different outcomes). (5 pts)

Question 2 (20 pts - all equal)

In how many ways can you arrange the letters of “HOUSEPARTY”?

- a) Any order.
- b) Vowels together?
- c) Vowels in alphabetical order?
- d) There should be no consecutive vowels?

Question 3 (20 pts - all equal)

In how many ways can you arrange the letters of “CAMARADERIE”?

- a) Any order.
- b) Vowels together?
- c) Vowels in alphabetical order?
- d) There should be no consecutive vowels?

Question 4 (20 pts)

Suppose you are putting the top 12 basketball teams in 4 groups evenly (each group should consist of 3 teams). In how many different ways can you arrange the teams?

Question 5 (20 pts - all equal)

There are 18 people; 10 from Izmir, 8 from Mugla.

- a) Suppose you want to form a group of 5 people with at least 1 person from Izmir and Mugla. In how many ways can you form such a group?
- b) In how many ways can you form a group of 3 people from Izmir and 4 people from Mugla?