Probability & Statistics - SCS 1307

Tutorial 1

1) A card is drawn at random from an ordinary pack of 52 playing cards. Find the probability that the card is
   (a) a club or a diamond (b) a club or a king.

2) Two dice are thrown together. Find the probability of obtaining
   (a) two fours (b) a three and a number greater than 3

3) Events A and B are such that P(A)=19/30, P(B)=2/5 and P(A or B)=4/5 find P(A and B).

4) A die is thrown twice. Find the probability of obtaining a 4 on the first throw and an odd number on the second throw.

5) The probability that it will be sunny tomorrow is 1/3. If it is sunny, the probability that Susan plays tennis is 4/5. If it is not sunny, the probability that Susan plays tennis is 2/5. Find the probability that Susan plays tennis tomorrow.

6) Suppose a bag contains two red and one blue marble. Select two marbles in order without replacement and observe their colours. Find,

   (i) the probability that the first marble drawn is red.

   (ii) the probability that the second marble drawn is blue.

   (iii) the probability that one of the marbles drawn is blue.

7) Two tetrahedral dice, with faces labelled 1,2,3 and 4, are thrown and the number on which lands is noted. The 'score' is the sum of these two numbers. Find the probability that

   (i) the score is even, given at least one die lands on a 3.
   (ii) at least one die lands on a 3, given that the score is even.

8) In a famous restaurant customers may order any combination of chips, peas and salad to accompany the main course. The probability that a customer chooses salad is 0.45, peas and chips 0.19, salad and peas 0.15, salad and chips 0.25, salad or peas 0.6, salad or chips 0.84, salad or chips or peas 0.9. Find the probability that a customer chooses

   (i) peas.
   (ii) chips
   (iii) all three
   (iv) none of these.