



TUTORIAL 1

1)The joint probability mass function of a two dimensional random variable (X,Y)is given by $p(x,y)= k(2x+y)$, $x =1,2$ $y=1,2$, where K is constant. Find the value of k

2) The joint probability mass function of (X Y), is given by $p(x,y)=k(2x+3y)$

$x = 0,1,2$; $y=1,2,3$. Find k and all the marginal and conditional probability distributions. Also

find the probability distribution of X+Y

3)

The joint probability mass function of (X Y), is given by $p(x,y)= \frac{1}{72} (2x+3y)$
 $x = 0,1,2$; $y=1,2,3$. Find k and all the marginal and conditional probability distributions.

4) Given the joint pdf of X and Y $f(x,y) = \begin{cases} 0 & \text{otherwise} \\ cx(x-y)^2 & 0 < x < 5-x < y < x \end{cases}$

i)Evaluate c

ii) Find Marginal pdf of X and Y.
Find the conditional density of Y/X.