Double integral : Given a joint pdf,

x

y

1.Prove

Sol: Let us see the Figure (1), if

In the interval of

And for fixed ,

x

y

Together (1), the double integral

2. Find the marginal probability

2.1 By definition

due to A),

0 x 1 x-axis

y

1. In case : ,
2. In case :

2.1) by A) .

2.2) in case of

Now a fixed .

For

Here(see the graph)

2.3) In conclusion

2.4) Check the total probability

2.2 For see 1.

* HA\_2\_1 : Find the marginal pdfs