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Problem 1. Let X be a random variable distributed as N(,) with =0.06,=0.25

1. Find the density of Y=exp(X)
2. Compute EY using the density of Y found in (1)
3. Compute EY in another way:



Where  is the density of X

Answer:

1. Let F(y),f(y) be Y’s CDF,PDF; G(x),g(x) be X’s CDF and PDF



When , , and  ;

When, =

By deriving,

 , where

So, 

(2).

Let =t, 

So





Let 



=1.09554

(3), where

So,



 

Let  





=1.09554

Problem 2

Answer

1. the sets in F are





1. the sets in 



3.

. 

4.

 



