

Quiz 6

Form A

Name _____

Math 130B, 5 PM

Please justify all your answers

May 11, 2022

Please also write your full name on the back

1. Let X and Y be jointly continuous random variables with joint pdf

$$f(x, y) = 3x, \quad 0 \leq y \leq x \leq 1.$$

Compute the covariance of X and Y .

2. You throw m balls at n bins. Assume that each ball is equally likely to fall into each bin.
 - (a) Let X denote the number of bins that are empty after this process. Write X as a sum of indicator random variables. Be very explicit about what your indicators are.
 - (b) Calculate the variance of X .

Quiz 6

Form B

Name _____

Math 130B, 6 PM

Please justify all your answers

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