

Math 477 REAL QUIZ #10

NAME: (print!) _____

E-MAIL ADDRESS: (print!) _____

1. (5 points) Suppose that the joint density of X and Y is given by

$$f(x, y) = \begin{cases} \frac{x+y}{15} & , \text{ if } 0 < x < 2, 0 < y < 3; \\ 0 & , \text{ otherwise.} \end{cases} .$$

Find

(a) $E[X | Y = y]$

(b) $E[Y | X = x]$

2. (5 points) Find the first two moments, and the variance, of a random variable X whose moment generating function is given by

$$M_X(t) = (1 - 3t)^{-2} .$$