SSIE 660: Stochastic Systems

Homework assignment 2

Sep 12th, 2016
Due: Sep. 19th, 2016, Before class starts

1. Exercise 1.1 in the textbook

2. Exercise 1.4 in the textbook

3. Exercise 1.18 in the textbook

4. Exercise 1.28 in the textbook

5. Exercise 1.42 in the textbook

6. Exercise 1.46 in the textbook

7. Given the joint probability density function

$$f_{X,Y}(x,y) = \begin{cases} \dfrac{6-x-y}{8}, & 0 < x < 2,\ 2 < y < 4 \\ 0, & \text{elsewhere} \end{cases}$$

   Find $f_X(x), f_Y(y), f_{X|Y}(x|y)$, and $f_{Y|X}(y|x)$.

8. In the above problem, find $P[1 < Y < 3 | X = 2]$.