
Homework #5

Student name & ID: Zhang San, 张三 156413(xuehao)

Course: *Modern Control and Estimation* – Professor: Prof. San

Due date: November 12, , 2020

Question 1



Answer.

- (a) From the Question 1(a), we have the $P(S_A) = 0.8$ and $P(S_B) = 0.6$, the S_A and S_B make decisions independently means that $P(S_A S_B) = P(S_A)P(S_B)$, So we have all the possible outcomes are

Question 2

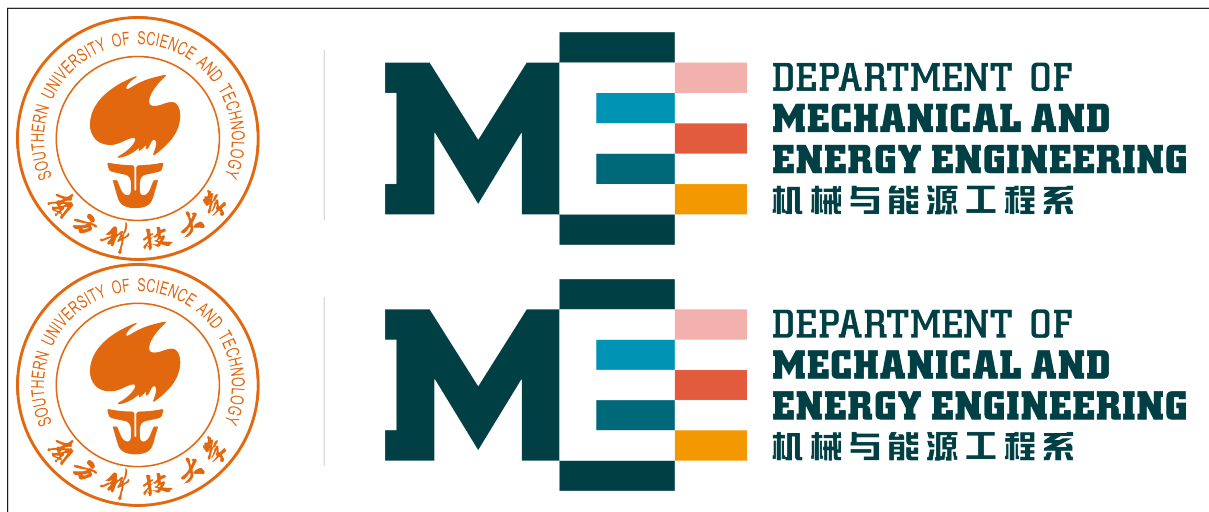
Answer.

(a) From the question 2, we have the conditional mean

$$E(Y|X = i) = \sum_{j=0}^i j \cdot P(Y = j|X = i)$$

, and the

Question 3



Answer.

- (a) From sub-question (a), we can get the triangle $S = \{(x, y) : -6 < y < x < 6\}$ showing in the fig 1.