Assignment on Online Lecture 1

1. In a class, 40% of the students study math and science. 60% of the students study math. What is the probability of a student studying science given he/she is already studying math?

|  |  |  |  |
| --- | --- | --- | --- |
|  | Y=2 | Y=4 | Y=5 |
| X=1 | 1/12 | 1/24 | 1/24 |
| X=2 | 1/6 | 1/12 | 1/8 |
| X=3 | 1/4 | 1/8 | 1/12 |

1. Consider two random variables X and Y with joint probability distribution given in the following table.

a. Find P(X≤2,Y≤4).

b. Find the marginal probability distributions of X and Y.

c. Find P(Y=2|X=1).

1. Please solve the following problems from the previous final questions:

Spring 2019 4(a)

Summer 2019 2(a)

Fall 2019 2(a)