Statistics and probability Final exam 2 2019-2020

Solution

Exercise 1:

P(X=2)= 0.2109=4!/2 ! 2 !

P(X≤1)= P(X=0)+P(X=1)=0.316+0.421=0.737

Exercise 2:

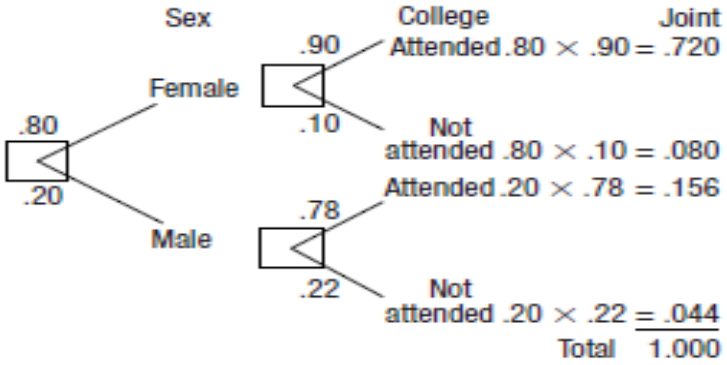
a. μ=12.005
b. б=0.026
c. P(X<12)=0.04/0.09=0.44

Exercise 3:

a. 15.39%, found by (8 -10.3)/2.25 =-1.02, then 0.5000 -0.3461 =0.1539.
b. 17.31%, found by: *z*= (12-10.3)/2.25= 0.76. Area is 0.2764. *z* = (14- 10.3)/ 2.25= 1.64. Area is 0.4495. The area between 12 and 14 is 0.1731

Exercise 4:

a. .08, found by .80 × .10
b. No; 90% of females attended college, 78% of males
c.



d. Yes, because all the possible outcomes are shown on the tree diagram.

Exercise 5:

a. t distribution since the standard deviation of the population is unknown
b. the level of significance 0.05
c. Reject H0 when t > 1.833.

d. $t=(12-10)\sqrt{10}/3=2.108$
e. reject H0. We cannot conclude the population mean is greater than 10.