

# [Coursework example](https://assignbuster.com/coursework-example-essay-samples-3/)

[](https://assignbuster.com/)[Science](https://assignbuster.com/essay-subjects/science/), [Statistics](https://assignbuster.com/essay-subjects/science/statistics/)

FINAL EXAM PLEASE SHOW ALL WORK WHERE POSSIBLE TO RECEIVE CREDIT A lecture hall has a of 300 The wants to select 20 students to participate in a survey. Each student has a ticket with a number between 1 and 300 written on it. He selects his first student at random. The student he selects has a ticket with the number 10. If he uses systematic sampling, determine the following:   
a. The value of k(3 points)   
b. The ticket number for each student.(5 points)   
2. A bank auditor claims that credit card balances are normally distributed, with a mean of $2870, and a standard deviation of $900.   
a. What is the probability that a randomly selected credit card holder has a credit card balance that is less than $2500?(7 points)   
b. If 100 credit card holders are randomly selected, How many of them would you expect to have a credit card balance is less than $2500? (Round to the nearest whole number)(3 points)   
3. A coin is flipped six times. Find the probability of getting heads exactly two times?   
(6 points)   
4. There are six democrats and five republicans on a senate committee. A committee consisting of four people must be formed.   
a. In how many ways can a committee of four people be formed?(3 points)   
b. In how many ways can two democrats and two republican be chosen? (3 points)   
c. What is the probability that two democrats and two republican will be chosen? (2 points)   
5. A cafeteria offers the menu shown below. A meal consists of main course selection, a drink and a dessert   
Main course   
Dessert   
Drink   
Pizza   
Frankfurter   
Ham sandwich   
Tuna sandwich   
Jelly sandwich   
Ice cream   
Cookies   
Jello   
Apple pie   
Milk   
Juice   
Ginger ale   
a. How many different meals can be serve from this menu   
60   
b. John wants to select a meal but he does not eat tunafish or ham. How many different meals can he select which does not contain ham or tunafish?   
46   
c. Lisa arrived late for lunch. Pizza, ice cream and ginger are sold out. How many different meals can she select from the remaining in the menu?   
57   
6. A family has two children. Let x be a random variable which represents the number of girls the family can have. Construct a probability distribution which shows the possible number of girls the family can have   
X   
2   
3   
4   
P(x)   
7. Complete the following table below   
Class   
Frequency   
Mid-point   
Mid-point\*frequency   
5-9   
4   
7   
28   
9-13   
2   
11   
22   
13-17   
7   
15   
105   
17-21   
6   
19   
114   
Calculate the mean   
8. Multiple choice questions consist of 10 questions. Each question has 5 choices. There is only one correct answer for each question. Find the probability that a student answers four questions correctly by guessing?   
9. Given the data values: 59, 20, 21, 34, 52, 48, 24, 29, 55. Find the quartiles Q1, Q2 and Q3.   
10. Given the following data below, copy and complete the table. 70, 43, 48, 72, 53, 81, 76, 54, 58, 64, 51, 53, 75, 62, 84, 67, 72, 80, 88, 65, 60, 43, 53, 42, 57, 61, 55, 75, 82, 71.   
Interval   
Tally   
Frequency   
Mid-point   
Relative frequency   
Cumulative frequency   
40-49   
4   
4   
44. 5   
1. 483   
1. 483   
50-59   
8   
8   
54. 5   
1. 817   
3. 3   
60-69   
6   
6   
64. 5   
2. 15   
5. 45   
70-79   
7   
7   
74. 5   
2. 483   
7. 93   
80-89   
5   
5   
84. 5   
2. 817   
10. 75   
11. A student at Berkeley college took the following courses last semester: calculate the student’s GPA.   
Course   
#of credits   
Grade   
Point value   
Psychology   
3   
A   
4. 0   
Sociology   
3   
C   
2. 0   
Statistics   
4   
B   
3. 0   
College algebra   
4   
B   
3. 0   
12. The following temperatures were recorded in Pasadena for a week in April.   
87, 85, 80, 78, 83, 86, 90   
Calculate the mean and fill the table below   
X   
78   
-6. 143   
37. 736   
80   
-4. 143   
17. 164   
83   
-1. 143   
1. 306   
85   
0. 857   
0. 734   
86   
1. 857   
3. 448   
87   
2. 857   
8. 162   
90   
5. 857   
34. 306