Math 1332 Contemporary Math **Fall 2018 Exam II**
G-Number- **Name (Print):** _____

---

1. (4 points) Define the following with example:
   (a) Correlation

   (b) Scatter plot

2. (5 points) Draw the scatter plot showing
   (a) Positive Correlation

   (b) Negative Correlation

3. (8 points) Define the following with example:
   (a) Population and Sample

   (b) Sampling

   (c) Simple random sampling, Systematic sampling and Stratified random sampling.

   (d) Treatment and Control group

4. (6 points) Make a frequency table and then find cumulative and relative frequency for the following data
A, C, D, F, H, C, C, C, A, C, H, D, D, C, A, F, H, H, H, H, A, A, D, D, A, A, C, D.

5. (15 points) Make a frequency table and relative frequency also present them in Bar Diagram and Pie-chart for the following data
13, 4, 7, 11, 4, 13, 13, 3, 7, 3, 13, 13, 7, 7, 7, 8, 4, 13, 3, 8, 11, 4, 13, 7, 7, 4, 13, 11, 11, 7, 8, 4, 13, 4, 3, 7, 3, 4, 8, 13, 11, 8,13, 11, 4, 4, 4, 13, 3, 8, 4, 7, 13,11, 3, 7, 3, 13.

6. (6 points) If interest rates stay at 4% APR and I continue to make my monthly \$25 deposit into my retirement plan, how much total money I would have after 30 years.

7. (8 points) Compute the total and Annual returns for: you paid \$8000 for a municipal bond. When it matures after 20 years, you received \$12,500.

8. (6 points) Your goal is to create a college fund for your child. Suppose you find a fund that

offers an APR of 5% How much should you deposit monthly to accumulate $\$170,000$ in 15 years?

9. (10 points) Compute the total amount paid and what percent is principal and what percentage is interest paid when you borrowed $\$100,000$ for a period of 30 years at a fixed APR 5.5%.

10. (15 points) Compare the monthly payment, Total payment for the two different option a fixed

loan amount. Compare the pros and Cons of each loan option.
You need $\$400,000$ loan.
Option 1: a 30-year loan at an APR of 8%
Option 2: a 15-year loan at an APR of 7.5%

11. (10 points) Convert the following data into continuous data and express them in the histogram

Age of Academy Award-wining Male actor at Time of award	
Age	Number of actors
20-29	1
30-39	11
40-49	14
50-59	13
60-69	6
70-79	2

Table 1: Oscar-winning Male actors

12. (7 points) The following data represents the number of boys and girls attended at San Jacinto College from 2010 to 2015 in College Comtemporary math classes. Make a multiple bar diagram (single or double) for these data, with vertical axes representing the number of students running from 1 to 15.

Number of boys and girls from 2010-2015		
Academic year	Number of boys	Number of girls
2010	12	14
2011	9	16
2012	14	10
2013	13	8
2014	6	10
2015	6	12

Table 2: Students log table in Contemporary math class

Bonus:Bonus:Bonus:

13. (6 Bonus: points) Suppose that on the January 1, 2018 you had a balance of $\$10,000$ on Chase Credit Card which charges APR 20%, you want to paid the balance off in 5 years. Then how much is your monthly payment.