

**Instructions:** This portion of the exam is based on the questions below using the Excel file **154exam1data.xlsx** and the questions below. The answers to these questions will be entered into the Canvas Exam #1 Part 1 as numerical, true/false, multiple choice or multiple answer type questions. This portion of the exam must be submitted electronically in Canvas and the computer will autograde the solutions.

After completing this exam, also submit your work and answers for Part 2 in the Part 2 submission folder. The second portion of the exam will be for written questions and submitted other types of Excel-related work such as graphs. The second part of the exam will be graded by hand. Both parts of the exam must be completed.

1. On Sheet 2, there is a table of values expressed in percent, decimal, fraction and scientific notation. Complete the table by filling in the missing formats so that each number appears in all four formats. **Copy the results below** (complete the table both here and in Excel). Be sure to express the fractions with denominators having at least three digits. (12 points)

Percents	Decimals	Fractions	Scientific Notation
			6.01E-04
		191/245	
8.48%			
	0.624		

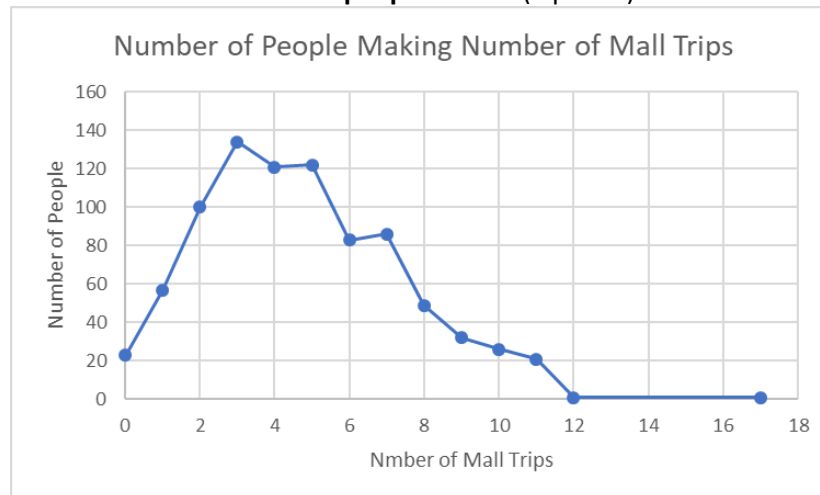
2. On Sheet 3, there is data on Pay Type and Gender. Create a Pivot Table of the data. **How many men are paid with salary?** (4 points)
3. On Sheet 4, is a list of salaries of a particular coal miner over a period of time in the 1940s and 1950s. Calculate the percent change in Column C for all the years after the first one. **Report below the percent from 1951 to 1952.** (4 points)
4. On Sheet 5 is data on credit card debt. **Find the 44<sup>th</sup> percentile of credit card debt and report the value below.** (4 points)

5. A loan of \$5000 is taken at a charge of 7.5% annual simple interest for 9 months. **Find the amount of interest paid and the total amount of money to be paid back at the end of 9 months.** (6 points)
6. Using an amortization table or a built-in financial formula in Excel, **find the payment owed monthly** on a mortgage of \$375,000 for 25 years at 2.75% annual interest compounded monthly. (6 points)
7. On Sheet 6, create a summary table of the data on Neighborhoods, and then create a pie graph of the data. Be sure that the percents are displayed on the graph and it has an appropriate title. **Which neighborhood appears to have the fewest residents? What percent of the data is in this neighborhood?** (6 points)
8. Let the universal set be the set of numbers from 0 to 10,  $U = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$ , inclusive. Let A be the set of all even numbers in U,  $A = \{0, 2, 4, 6, 8, 10\}$ , and B be the set of all numbers divisible by three in U,  $B = \{0, 3, 6, 9\}$ , and C be the set of prime numbers in U,  $C = \{0, 2, 3, 6, 10\}$ . Use this information to answer the questions that follow.
- How many values are in the universal set? (3 points)
  - How many values are in set A? (3 points)
  - What proportion of values in the universal set are in A? (3 points)

9. Using the screenshot of an Excel sheet below to write a formula that will evaluate the expression  $\frac{A+D}{C-B}$  using the cell references where the values are in the sheet. **What is the value of the expression using these values?** (8 points)

2					
3	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>Formula</b>
4		13	16	13	8
5					

10. A line graph shows the number of people in a sample of 856 that visited the mall the corresponding number of times. Based on the graph, **how many mall trips to the largest number of people make?** (5 points)



11. A pie chart of Age Groups appears below. **Which age group is the smallest and which the largest in this data set? Report the corresponding percentages.** (6 points)

