MATH E-3

Practice Questions for Test #1

These questions are set up to help you study for the first exam. The questions on the exam will probably be similar to these, although they will almost all be multiple choice. If you can do these problems, you should not have trouble with the questions on the actual exam.

Percents should be rounded AFTER you turn a decimal into a percent. For example: 0.0238 = 2.4%. Money is rounded to dollars and cents like we normally do in everyday life. Read the directions for any other instructions.

On the actual exam there will be more space between each problem for your answers. Also the actual exam will probably be a bit shorter than this practice exam.

Question 1:

A course was evaluated and the results summarized below:

a) Draw a histogram for the course. Describe its shape. Be sure to use labels where necessary.

English 101

Score	Frequency
1	2
2	3
3	6
4	11
5	18

b) Calculate the mean score.

c) Find the median score.

d) Calculate the standard deviation, and round it to one decimal place. You must do this calculation by making a chart, as we did in class. Since you need to use the mean in your calculation, round it off if necessary to one decimal place to facilitate your work.

e) Find the mode.

f) Find the range.

g) What percent of the students gave the course a 4 or a 5?

Question 2: Do the following calculations

a) $-7-4+(5-3)\times 3^2 \div 6$ Hint: remember the order of operations.

b) Convert to a decimal - Round to two decimal places.

i) $\frac{2}{5}$ ii) $\frac{12}{8}$ iii) $\frac{5}{6}$

c) Convert to a percent:

i) 0.23 ii) 3.75 iii) 0.015

d) Expand 5! and find its value**.**

e) What is the value of $(379)^0$

f) Circle your answer for the following question. Hint: There may be more than one answer.
What kind of number is π ?

i) Real ii) Rational iii) Integer iv) Irrational v) Whole

Question 3:

a) If the Dow Jones Average increases 3% from 7450, what will it be? Round to <u>one decimal place.</u> You must do this problem using the Short Method.

b) My friend told me she just received a 15% pay raise, which means she is now earning an extra $30 per week. How much are her total weekly earnings now? Be careful to answer the question as asked.

Question 4:

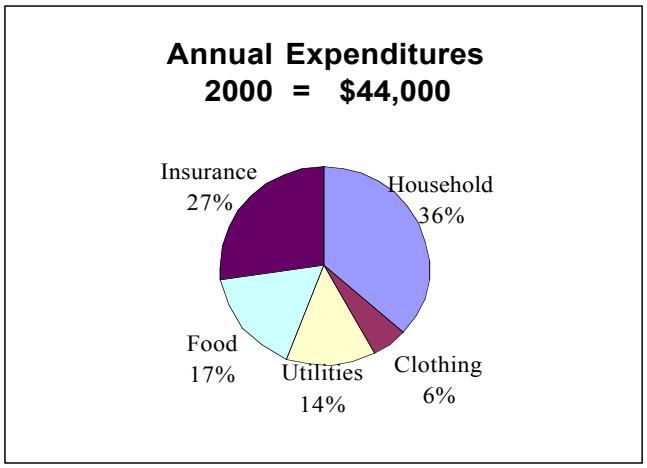
a) If you get a 30% discount followed by a 40% discount, what is your total discount? How about if you get the 40% discount first?

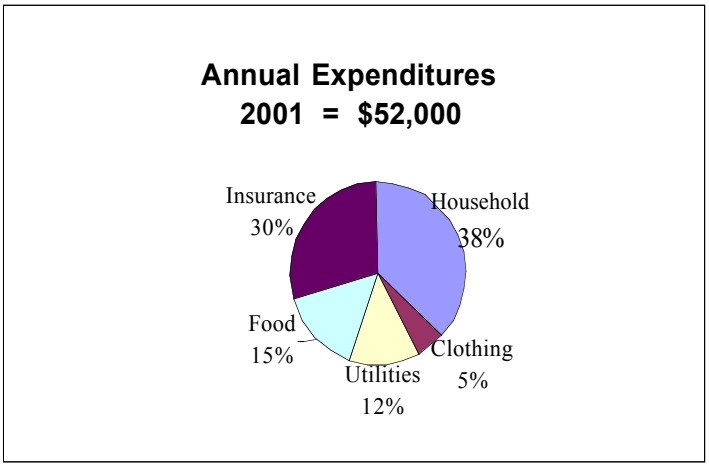
b) If unemployment goes from 8% to 10%, we say it has increased by "2 percentage points." But obviously it has not increased "by 2 percent." What percent has it actually increased by?

c) Your boss tells you (sadly) that she has to give you a 10% pay cut. But then she tries to cheer you up the following week by informing you that you will be getting a 10% pay raise, and that "everything will be the same as it was before." Comment . . .

Question 5:

The Total Annual family expenditures for a college professor for the years 2000 and 2001 are represented in the pie charts below. Answer the questions that follow.





a) What was the percentage increase in total annual expenditures from 2000 to 2001?

b) Find the percent increase of the expenditure for Insurance from 2000 to 2001. First find the Dollar amount of Insurance for each year.

c) Did the professor spend more or less money on Food in 2001 than in 2000? Prove your answer.

Question 6: Give your answer as a fraction and as a decimal rounded to two decimal places. We do not need to know the percent. For parts f) and g), round so that you are giving 2 digits after the last zero.

a) Construct Pascal's Triangle as far as the row for 5 coins.

b) What is the probability of getting one head when you toss four coins?

c) What is the chance of getting at least two heads if you toss five coins?

d) When you toss two dice at once, what is the chance of getting a total of nine or more?

e) When you toss two dice at once, what is the chance of getting a total divisible by 3?