Math 1601 Exam 1 Practice.
*Show all calculations when appropriate. This is **not** homework; do **not** turn in.*

1. a. Give an example for each of a data type, that is <u>quantitative</u> and <u>categorical</u>. (2 pts)
b. Give an example for each of a data set, that is <u>discrete</u> and <u>continuous</u>? (2 pts)

2. Knee ligament tears in collegiate soccer players were studied. The knees of 2958 collegiate soccer players were examined. There were 46 who had anterior cruciate ligament tears; 36 were in women.
a. Identify the population. (2 pts)
b. Identify the sample. (2 pts)
c. Calculate the percentage of collegiate soccer players who had ACL tears. (2 pts)

3. Construct the frequency distribution for drive-through service times for Burger King lunches using the data set below. Times begin when a vehicle stops at the order window and end when the vehicle leaves the pickup window. Lunch times were measured between 11:00 AM and 2:00 PM. Begin with a lower class limit of 70 seconds and use a class width of 40 seconds. (8 pts)
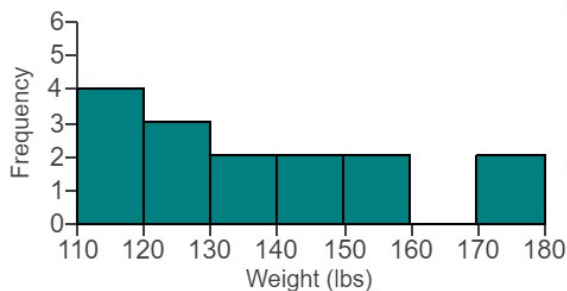
Drive-Through Service Times

116	120	126	136	77	136	133	121	182
146	138	149	148	110	208	120	105	79
120	91	145	159	83	109	102	78	224
199	198	137	142	76	195	253	231	259
192	128	106	84	153	151	145	171	160

Construct the frequency distribution.

Service Time (seconds)	Frequency
70– ☐	☐
☐ – ☐	☐
☐ – ☐	☐
☐ – ☐	☐
☐ – ☐	☐

4. The histogram below represents the weights (in pounds) of members of a certain high-school math team.

a. What is the class width? (1 pt)
b. What is the lower class limit of the third class? (1 pt)
c. What is the upper class limit of the sixth class? (1 pt)

5. Construct the cumulative frequency distribution for the given data below. (6 pts)

Daily Low (°F)	Frequency	Relative Frequency	Cumulative Frequency
35-39	3		
40-44	2		
45-49	6		
50-54	15		
55-59	5		
60-64	7		
65-69	1		

6. The state gas tax in cents per gallon for 25 states is given below.

7.5	16	23.5	17	22
21.5	19	20	27.1	20
22	20.7	17	28	20
23	18.5	25.3	24	31
14.5	25.9	18	30	31.5

a. Construct a frequency distribution, a relative frequency, and a cumulative frequency distribution with 5 classes. (8 pts)
b. Using the answer from a above to create a histogram. (3 pts)
c. What kind of distribution is your data? (1 pts)

7. The following data represent the scores of 40 students on a college qualification test.

95	98	106	115	115	119	126	131	133	135
137	138	143	144	144	145	145	147	152	154
156	158	160	161	162	162	162	163	165	166
166	171	174	176	178	178	182	184	190	194

a. Construct and label a boxplot for the data by finding a 5-number summary. (8 pts)
b. Does the distribution appear to be normal or does it appear to be skewed? (1 pts)

8. Ehe data set below are the times in minutes people had to wait in grocery store lines.

Lane at Safeway	4.2	5.4	5.8	6.2	6.7	7.7	7.7	8.5	9.3	10.0

Find the given statistics for : (12 pts)
a. The mean
c. The mode(s), if any.
e. The range

b. The median
d. The midrange
f. Standard deviation

Keys:

1. Varied.
2. a. collegiate soccer player; b. 2958; c. 1.6%
3. 70-109 11, 110-149 19, 150-189 6, 190-229 6, 230-269 3.
4. a. 10; b. 130; c. 170.
5. .08 .05 .15 .38 .13 .18; 3 5 11 26 31 38 39
6. a. varied; b. varied; c. approximately normal.
7. a. varied; b. left-skewed, since min and Q1 are far apart, majority of data on the right.
8. a. 7.15; b. 7.2; c. 7.7; d. 7.1; e. 5.8; f. 1.82.