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

1. The 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:

a. The mean
b. The median
c. The mode(s), if any.
d. The midrange
e. The range
f. Standard deviation

2. A die with 12 sides is rolled. What is the probability of rolling a number less than 11?

3. The table below shows the soft drink preference of people in three age groups. If one of the 255 subjects is randomly selected, find the probability that the person is over 40 years of age given that they drink root beer.

Age	Cola	Root beer	Lemon-lime
Under 21 years	40	25	20
Between 21 and 40	35	20	30
Over 40 years	20	30	35

4. The number of students using the Open Math Lab per day is found in the distribution below.

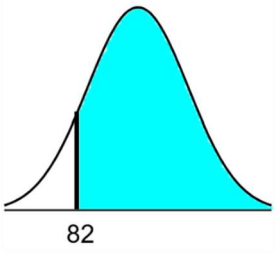
X	30	40	50	60	70
P(X)	0.04	0.08	0.5	0.21	0.17

a. Find the mean, variance, and standard deviation for the probability distribution above.
b. A instructor stated that 95 students used the Lab in one day. Is this a believable claim?

5. Suppose the probability of randomly selecting a left-handed person is 0.1.
a. Verify that this is a binomial distribution (check all requirements).
b. In a class of 35 students, what is the mean number of left-handed students?
c. Find the standard deviation.

6. Find the value of *a* (a z-score) such that:
a. $P(z > a) = 0.65$
b. $P(-a < z < a) = 0.90$

7. Find the area of the shaded region. The graph to the right depicts IQ scores of adults, and those scores are normally distributed with a mean of 100 and a standard deviation of 15.



8. A government agency wishes to assess the rate of unemployment in a particular county. A poll is conducted, and 500 randomly selected persons are interviewed and 41 are found to be unemployed. Compute a 95% confidence interval for the proportion of unemployed in the county. Interpret your result.

Key:

1. a. 7.15; b. 7.2; c. 7.7; d. 7.1; e. 5.8; f. 1.82;
2. 5/6
3. 0.4
4. a. 53.9, 97.8, 9.9; b. 73.7, not believable
5. a. varied; b. 3.5; c.1.8
6. a. $a = -0.385$; b. $a = 1.645$
7. 0.8849
8. $0.058 < p < 0.106$. Various interpretation.