Key Vocabulary:

* density curve
*  mu
*  sigma
* outcomes
* simulation
* normal curve
* normal distribution
* inflection point
* 68-95-99.7 rule
* percentile
* 
* standardized value
* z-scores
* standard normal distribution
* normal probability plot

Calculator Skills:



* randInt
* X[35, 185]25
* Y[-.01, .02].01
* rand
* ShadeNorm(lowerbound, upperbound, , )
* normalpdf(x, , )
* normalcdf(lowerbound, upperbound, , )
* EE (1E99 and -1E99)
* invNorm(area, , )

**2.1 Measures of Relative Standing and Density Curves**

1. What is a percentile?
2. Is there a difference between the 80th percentile and the top 80%? Explain.
3. Is there a difference between the 80th percentile and the lower 80%? Explain.
4. What is the difference between relative frequency and cumulative relative frequency?
5. What is an ogive plot? How is it constructed?
6. Explain how to standardize a variable.
7. What is the purpose of standardizing a variable?
8. What effect does standardizing the values have on the distribution?
9. What is a density curve?
10. What does the area under a density curve represent?
11. Where is the median of a density curve located?
12. Where is the mean of a density curve located?
13. Where is the mean in relation to the median on a density curve that is

symmetric? Draw a picture.

1. Where is the mean in relation to the median on a density curve that is… (Draw a picture)

symetric?

Skewed right?

Skewed left?

1. What is the difference between  and ?
2. Describe the shape of the normal density curve.

**2.2 Normal Distributions**

1. How would you describe the shape of a normal curve? Draw several examples.
2. Where on the normal curve are the inflection points located?
3. Explain the 68-95-99.7 Rule.
4. What is the standard normal distribution?
5. What information does the standard normal table give?
6. How do you use the standard normal table (Table A) to find the area under the standard normal curve to the left of a given z-value? Draw a sketch.
7. How do you use Table A to find the area under the standard normal curve to the right of a given z-value? Draw a sketch.
8. How do you use Table A to find the area under the standard normal curve between two given z-values? Draw a sketch.
9. How do you use Table A to find x when you know the percent or area under the curve?
10. Describe two methods for assessing whether or not a distribution is approximately normal.
11. How can you produce a normal probability plot on a TI 83/84+, and what should this look like if the data are normal?
12. What will the normal probability plot look like if the distribution is skewed?
13. What information needs to used when using “ShadeNorm(” and what result will the calculator give?
14. What information needs to used when using “normalcdf(” and what result will the calculator give?
15. What information needs to used when using “invNorm(” and what result will the calculator give?