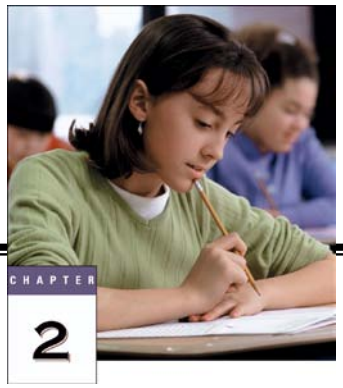

Chapter 2: Describing Location in a Distribution

Key Vocabulary:

- density curve
- μ mu
- σ sigma
- outcomes
- simulation
- normal curve
- normal distribution
- inflection point
- 68-95-99.7 rule
- percentile
- $N(\mu,\sigma)$
- 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, μ, σ)
- normalpdf(x, μ, σ)
- normalcdf(lowerbound, upperbound, μ, σ)
- EE (1E99 and -1E99)
- invNorm(area, μ, σ)

2.1 Measures of Relative Standing and Density Curves (pp.116-133)

1. Explain how to *standardize* a variable.

2. What is the purpose of standardizing a variable?

3. What is a *percentile*?

4. Is there a difference between the 80th percentile and the top 80%? Explain.

5. Is there a difference between the 80th percentile and the lower 80%? Explain.

6. What is a *density curve*?

7. What does the area under a *density curve* represent?

8. Describe the shape of the *normal* density curve.

9. Where is the median of a *density curve* located?

10. Where is the mean of a *density curve* located?

11. What is a *uniform distribution*?

12. What is the difference between the *randInt* and *rand* commands on the TI-83?

2.2 Normal Distributions (pp.133-167)

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. Describe two methods for assessing whether or not a distribution is *approximately normal*.

10. How can you produce a *normal probability plot* on a TI 83/84+, and what should this look like if the data are *normal*?

11. What information needs to used when using "*ShadeNorm(*" and what result will the calculator give?

12. What information needs to used when using "*normalcdf(*" and what result will the calculator give?

13. What information needs to used when using "*invNorm(*" and what result will the calculator give?