2.1 Describing Location in a Distribution

1. A percentile is...

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

3. Refer to the “Cumulative Relative Frequency Graphs” section on page 86 to answer the following questions:
   
a. Explain how to find the relative frequency column.

b. Explain how to find the cumulative frequency column.

c. Explain how to find the cumulative relative frequency column.

4. Explain how to make a cumulative relative frequency graph.

5. Explain the effects of adding or subtracting a constant from each observation when transforming data.

6. Explain the effects of multiplying or dividing by a constant from each observation when transforming data.

7. What is a density curve? What does the area under a density curve represent?
2.2 Normal Distributions

1. How would you describe the shape of a Normal curve? Draw two examples.

2. Explain how the mean and the standard deviation are related to the Normal curve.

3. Define Normal distribution and Normal curve.

4. What is the abbreviation for a Normal distribution with a mean \( \mu \) and a standard deviation \( \sigma \)?

5. Explain the 68-95-99.7 Rule. When does this rule apply?

6. What is the standard Normal distribution?

7. What information does the standard Normal table give?

8. 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.
9. 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.

10. How do you use Table A to find the area under the standard Normal curve between two given z-values? Draw a sketch.

11. Summarize the steps on how to solve problems involving Normal distributions as outlined in your PowerPoint notes.

12. When is it appropriate to use Table A “backwards”?

13. Describe two methods for assessing whether or not a distribution is approximately Normal.

14. What is a Normal probability plot?

15. How do you interpret a Normal probability plot?

16. When is it appropriate to use the NormalCDF and Inverse Normal functions on the calculator?