

## Statistics Exam 1 Review Sheet

### Chapter 2: Basic Terms and Concepts

- In your own words, define *statistics*.
- Understand the difference between *data* and *statistics*.
- Understand the major differences between *descriptive* and *inferential* statistics.
- Understand and apply the scientific tools of *reliability* and *validity*.
- What is the difference between a *sample* and a *population*?
- What is *bias* and how does it affect research? How do *random assignment* and *double-blinding* reduce bias?
- In your own words, define *correlational*, *experimental*, and *descriptive* studies. Come up with an original example of each.
- Understand the strengths and weaknesses of these different methods for conducting research.
- Provide a definition of the term “variable.” What are the differences between *independent* and *dependent* variables? Come up with an original example of each.

### Chapter 3: Variables and Scales of Measurement

- What is an *operational definition*? Can you come up with an operational definition for *patriotism*?
- Distinguish between *qualitative* and *quantitative* data. Come up with examples for each.
- Distinguish between *continuous* and *discrete* data. Come up with examples for each.
- Clearly define and give original examples of *nominal*, *ordinal*, *interval* and *ratio*-level data.
- Understand the differences among the scales of measurement.

### Chapter 4: Organizing Raw Data Into Distributions

- Understand and be able to construct and use a *frequency distribution*, *cumulative frequency distribution*, *percentage distributions based on frequency*, etc.
- Distinguish between *discrete* and *continuous* data.
- Understand the difference between *apparent* and *real limits*.
- Be able to calculate real limits.
- Know how to calculate *percentage* and *cumulative percentage* based on frequency.

### Chapter 5: Visually Depicting Data In Graphs and Charts

- Define the following: *positively skewed* curve, *normal* (symmetrical) curve, and *negatively skewed* curve. Draw and come up with several original examples of each.
- Explain the difference between a *normal* curve and a *skewed* curve?
- Be able to construct the following types of graphs: *frequency polygon*, *cumulative frequency curve*, *histogram*, *bar graph*, *stem-and-leaf plot* and *line graph*.
- Be able to interpret information summarized in these graphs.
- When is it appropriate to use these different types of graphs?