

## HOMEWORK: MEASURING DATA

(1) For each of the following, indicate whether the data is measured on a nominal, ordinal, interval, or ratio scale.

- \_\_\_\_\_ a) heights of CUNY college students
- \_\_\_\_\_ b) amount of sugar in a cheese danish
- \_\_\_\_\_ c) borough of origin of CUNY students
- \_\_\_\_\_ d) amount of snow that falls in Buffalo NY in January
- \_\_\_\_\_ e) languages spoken by CUNY college students
- \_\_\_\_\_ f) waist size of men who attend Weight Watchers every week
- \_\_\_\_\_ g) wrist sizes in inches of NFL players
- \_\_\_\_\_ h) gross income of high school dropouts
- \_\_\_\_\_ i) scores on the CPA exam for NYS students
- \_\_\_\_\_ j) how long it takes for SPS students to run the 100-yard dash
- \_\_\_\_\_ k) strength categories of hurricanes (1, 2, ..., 5)
- \_\_\_\_\_ l) genders of students at SPS
- \_\_\_\_\_ m) average lifespan of alcoholics
- \_\_\_\_\_ n) number of defective bulbs in batches of 100 made by GE
- \_\_\_\_\_ o) amount of alcohol (in ounces) consumed by high school seniors
- \_\_\_\_\_ p) how often college students use mouthwash in a typical week
- \_\_\_\_\_ q) scores on an algebra test (range is from 0 to 100)
- \_\_\_\_\_ r) scores on the GRE Exam (range is from 200 to 800)

(2) Indicate which of the following are discrete measurements and which are continuous measurements:

Discrete      Continuous

- |     |     |  |
|-----|-----|--|
| ___ | ___ | a) life of a Dell monitor                              |
| ___ | ___ | b) waist size of NFL football players                  |
| ___ | ___ | c) mileage of Japanese cars                            |
| ___ | ___ | d) length of NYC rats                                  |
| ___ | ___ | e) weight of human brains                              |
| ___ | ___ | f) number of left-handed people on basketball teams    |
| ___ | ___ | g) time to complete the task of assembling a computer  |
| ___ | ___ | h) amount of fat in a cheese danish                    |
| ___ | ___ | i) number of foreign students in each statistics class |
| ___ | ___ | j) speed of NYC roaches                                |
| ___ | ___ | k) number of bedrooms in your home                     |

(3) Indicate which of the following is a parameter and which is a statistic:

Parameter    Statistic

- |     |     |   |
|-----|-----|---|
| ___ | ___ | a) population mean  |
| ___ | ___ | b) population standard deviation  |
| ___ | ___ | c) sample standard deviation  |
| ___ | ___ | d) population variance  |
| ___ | ___ | e) population median  |
| ___ | ___ | f) sample mean  |
| ___ | ___ | g) a mean obtained from the U.S. census   |
| ___ | ___ | h) a mean obtained from sampling 2,000 American adults using random digit dialing (phone sample)    |
| ___ | ___ | i) a mean obtained from sampling 10,000 teenagers on Facebook                                       |
| ___ | ___ | j) average number of defects: a company manufactures 5,000 electron microscopes and tests them all. |

(4) For each of the following, indicate the appropriate statistical measures that may be used for analysis (e.g., proportions, median, quantiles, mode, mean, ...). List as many as are appropriate.

- a) For data measured on a nominal scale, you may use: \_\_\_\_\_
- b) For data measured on an ordinal scale, you may use: \_\_\_\_\_
- c) For data measured on an interval scale, you may use: \_\_\_\_\_

(5) Dell Computers manufactures 1,000 super computers. A researcher wants a sample of 50 of them. Each of the computers are assigned numbers and then random numbers are used so that every computer has an equal chance of being selected (5%).

- a) This is known as a: \_\_\_\_\_.
- b) Measurements obtained from this are known as: \_\_\_\_\_.
- c) Suppose the researcher decides to sample 1,000 computers. This is called a \_\_\_\_\_.
- d) Any measurement obtained is known as a \_\_\_\_\_.