

Name: _____

Class: _____

Date: _____

1 Sixty – three college men were asked what they thought was their ideal weight. A five – number summary of the responses (in pounds) is

Median 175

Q1 = 155; Q3 = 190

Min = 123; Max = 225

(Data source: idealwtmen dataset on the CD for the text)

- Find the value of the range for these data. _____
- Find the value of the interquartile range (IQR). _____
- About what percent of the men gave a response that falls in the interval 155 to 190 pounds? _____

2 Eighty eight (88) men and one hundred four (104) women responded to a survey conducted in a large statistics class at Penn State University. One of the items on the survey was, "What's the fastest you've ever driven?" Five – number summaries of the responses for each of the groups are provided below:

For the men

Median 110

Q1 = 95; Q3 = 120

Min = 55; Max = 150

For the women

Median 89

Q1 = 80; Q3 = 95

Min = 30; Max = 130

(Data source: pennstate1 dataset on the CD for the text)

- The fastest speed driven by anyone in the class is: _____
- The slowest speed driven by a male is: _____
- The speed for which 25% of the men had driven this fast or faster is: _____
- The number of women who had driven 80 mph or less is: _____
- The number of all students in the sample who had driven 95 mph or faster is: _____

3 Find the mean and the median for each list of values:

a. 64, 68, 72, 76, 80, 86

Mean = _____ Median = _____

b. 10, 6, 2, 7, 100

Mean = _____ Median = _____

c. 30, 10, 40, 30

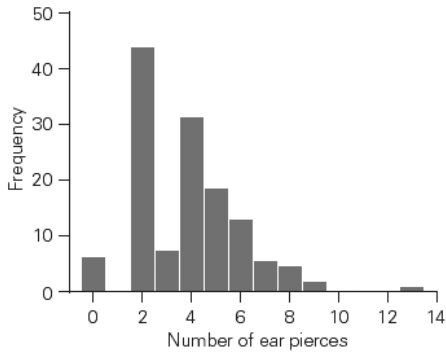
Mean = _____ Median = _____

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4 The figure for this exercise is a histogram summarizing the responses given by 137 college women to a question asking how many ear pierces they have. (Data source: pennstate2 dataset on the CD for this book.)



a. Describe the shape of the dataset. _____

b. Are there any outliers?

c. What was the most frequently reported value (approximately) number of ear piercings? _____

d. Roughly, how many students in the sample have 3 or fewer ear piercings? _____

5 Suppose a statistics teacher wants to know whether the number of hours students spend studying in a group affects the final course grade. In each part, explain whether the research method described is a randomized experiment or an observational study.

a. Each student keeps a log of the hours he or she spends studying in a group, and reports the total after the course is completed.

b. Students are randomly assigned to study groups. The teacher tells each group how often to meet. This varies from one hour the day before each exam to two hours per week. _____

c. Students voluntarily join groups based on how often the groups will meet. The groups are designated by the instructor as meeting weekly, meeting only before exams, or meeting whenever enough members feel it is necessary. _____

ANSWER KEY

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- 1.** 1: *102*
2: *35*
3: *50%*
50
- 2.** 1: *150*
2: *55*
3: *120*
4: *26*
5: *92*
- 3.** 1: 74.33
2: 74
3: 25
4: 7
5: 27.5
6: 30
- 4.** 1: skewed to the right
2: 1, at the upper end
3: 2 piercings
4: 54
- 5.** 1: an observational study
2: a randomized experiment
3: a randomized experiment