NAME:_____

800:072 01 **TEST** 15 SE 06 R. B. Campbell

WORK ALONE

Four pages — 5 points per problem — 100 points total

Choose the best (closest) answer to each question.

(5) 1. Which of the following are qualitative characteristics of a cookie?

(a) calories
(b) shape
(c) weight
(d) Exactly two of the above
(e) All three of the above

(5) 2. Which of the following information for an ice cream shop could be displayed with a pie chart with one wedge for each flavor?

(a) time of day that the first scoop was sold
(b) number of scoops sold in a day
(c) number of calories in a scoop
(d) Exactly two of the above
(e) All three of the above

(5) 3. If there are 3 red balls, 5 green balls, and 7 blue balls, what is the relative frequency of red balls?

(a) 20%
(b) 30%
(c) 33%
(d) 47%
(e) 70%

(5) 4. If the five number summary is: $\{120, 150, 170, 200, 260\}$, and there are no outliers, what is the length of the right whisker of the box-and-whisker plot?

(a) 30
(b) 35
(c) 60
(d) 90
(e) 110

(5) 5. Which pair of statistics gives you information about the skewness of a distribution?

(a) mean and standard deviation
(b) median and inter-quartile range
(c) mean and median
(d) standard deviation and inter-quartile range
(e) standard deviation and variance

(5) 6. What is the mean of the data set: $\{2, 1, 5, 8, 9, 8\}$?

(a) 4.5
(b) 5
(c) 5.5
(d) 6
(e) 6.5

(5) 7. What is the median of the data set: $\{2, 1, 5, 8, 9, 8\}$?

(a) 4.5
(b) 5
(c) 5.5
(d) 6
(e) 6.5

(5) 8. What is the midrange of the data set: $\{2, 1, 5, 8, 9, 8\}$?

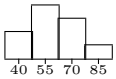
(a) 4.5
(b) 5
(c) 5.5
(d) 6
(e) 6.5

(5) 9. What is the range of the data set: $\{2, 1, 5, 8, 9, 8\}$?

(a) 6
(b) 8
(c) 10
(d) 12
(e) 14

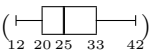
(5) 10. What is the standard deviation of the data set: $\{2, 1, 5, 8, 9, 8\}$?

(a) 1.5
(b) 2.3
(c) 3.4
(d) 7.3
(e) 11.5

(5) 11. Which of the following is either displayed in a histogram (

) or can be calculated from the information in a histogram?

(a) mean
(b) median
(c) midrange
(d) Exactly two of the above
(e) None of the above

(5) 12. Which of the following is either displayed in a box-and-whisker plot (

) or can be calculated from the information in a box-and-whisker plot?

(a) mean
(b) median
(c) midrange
(d) Exactly two of the above
(e) None of the above

(5) 13. Which of the following would increase by 5 if all the weights in a class were increased by 5?

(a) the mean and the standard deviation
(b) the mean and the median
(c) the standard deviation and the interquartile range
(d) two of the above (i.e., both statistics in two of the entries)
(e) all of the above

(5) 14. Which of the following would double if all of the weights in a class were multiplied by 2?

(a) the mean and the standard deviation
(b) the mean and the median
(c) the standard deviation and the interquartile range
(d) two of the above (i.e., both statistics in two of the entries)
(e) all of the above

(5) 15. Approximately what fraction of a data set lies within the box of a box-and-whisker plot?

(a) 25%
(b) 50%
(c) 68%
(d) 95%
(e) 99%

(5) 16. A box-and-whisker plot, a histogram, and a stem-and-leaf plot all group data into classes (categories). In which are all the classes the same size (i.e., the same range of values)?

(a) box-and-whisker plot

(b) histogram

(c) stem-and-leaf plot

(d) box-and whisker plot and histogram

(e) histogram and stem-and-leaf plot

(5) 17. The 50^{th} percentile is the

(a) mean

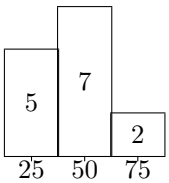
(b) median

(c) midrange

(d) maximum

(e) minimum

(5) 18. What is the "best" estimate for the mean of the data represented in the displayed histogram?



(a) 37.5

(b) 44.6

(c) 48.4

(d) 50

(e) 62.5

(5) 19. Consider the weights: 95, 105, 108, 110, 115, 115, 120, 120, 120, 122, 125, 125, 125, 128, 130, 130, 135, 135, 135, 140, 140, 140, 142, 145, 145, 145, 145, 145, 148, 150, 150, 150, 150, 150, 155, 155, 155, 155, 160, 160, 162, 165, 165, 165, 165, 165, 167, 168, 170, 170, 175, 175, 175, 175, 178, 180, 180, 180, 180, 180, 185, 185, 185, 190, 190, 195, 195, 195, 198, 210, 215, 240. (There are 72 weights.) What percentile is 178 pounds?

(a) 47

(b) 54

(c) 65

(d) 75

(e) 83

(5) 20. For the above data set, the mean is 156.19, the median is 155, the standard deviation is 28.55, and the inter-quartile range is 41.5. What weight has a z-score equal to -1.2?

(a) 107

(b) 122

(c) 132

(d) 144

(e) 155