Math 160 -- Quiz 3
Professor Busken

Name_____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Use the empirical rule to solve the problem.

1) At one college, GPA's are normally distributed with a mean of 2.9 and a standard deviation of 0.6. What percentage of students at the college have a GPA between 2.3 and 3.5? 1) _____

A) 68% B) 99.7% C) 95% D) 84.13%

Solve the problem. Round results to the nearest hundredth.

2) The mean height of a basketball team is 6.3 feet with a standard deviation of 0.2 feet. The team's center is 6.7 feet tall. Find the center's z score. Is his score unusual? 2) _____

A) 1.5, no B) 1.7, no C) 2, yes D) 2.2, yes

Find the number of standard deviations from the mean. Round your answer to two decimal places.

3) The test scores on the Chapter 7 mathematics test have a mean of 66 and a standard deviation of 13. Andrea scored 89 on the test. How many standard deviations from the mean is that? 3) _____

A) 1.77 standard deviations below the mean
B) 0.60 standard deviations above the mean
C) 1.77 standard deviations above the mean
D) 0.60 standard deviations below the mean

4) In one town, the number of pounds of sugar consumed per person per year has a mean of 6 pounds and a standard deviation of 1.5 pounds. Tyler consumed 13 pounds of sugar last year. How many standard deviations from the mean is that? 4) _____

A) 2.33 standard deviations below the mean
B) 2.33 standard deviations above the mean
C) 4.67 standard deviations above the mean
D) 4.67 standard deviations below the mean

Find the z-score corresponding to the given value and use the z-score to determine whether the value is unusual. Consider a score to be unusual if its z-score is less than -2.00 or greater than 2.00. Round the z-score to the nearest tenth if necessary.

5) A time for the 100 meter sprint of 14.2 seconds at a school where the mean time for the 100 meter sprint is 17.6 seconds and the standard deviation is 2.1 seconds. 5) _____

A) -3.4; unusual
B) 1.6; not unusual
C) -1.6; not unusual
D) -1.6; unusual

Determine which score corresponds to the higher relative position.

6) Which score has a higher relative position, a score of 43 on a test for which $\bar{x} = 34$ and $s = 9$, or a score of 270 on a test for which $\bar{x} = 212$ and $s = 58$? 6) _____

A) A score of 43
B) Both scores have the same relative position.
C) A score of 270

Find the percentile for the data value.

7) Data set: 6 6 21 18 6 15 27 27 33 9 6 27 18 3 27; data value: 21 7) _____

A) 35 B) 60 C) 52 D) 70

Find the indicated measure.

8) The test scores of 32 students are listed below. Find P_{46}. 8) _____

32 37 41 44 46 48 53 55
56 57 59 63 65 66 68 69
70 71 74 74 75 77 78 79
80 82 83 86 89 92 95 99

A) 67 B) 15 C) 68 D) 14.72

9) The test scores of 32 students are listed below. Find Q_3. 9) _____

32 37 41 44 46 48 53 55
56 57 59 63 65 66 68 69
70 71 74 74 75 77 78 79
80 82 83 86 89 92 95 99

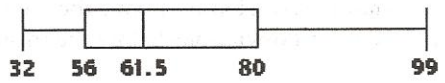
A) 79 B) 80 C) 24 D) 79.5

Construct a boxplot for the given data. Include values of the 5–number summary in all boxplots.

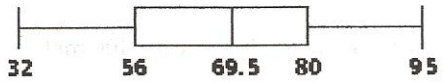
10) The test scores of 32 students are listed below. Construct a boxplot for the data set. 10) _____

32 37 41 44 46 48 53 55
57 57 59 63 65 66 68 69
70 71 74 74 75 77 78 79
81 82 83 86 89 92 95 99

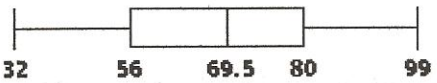
A)



B)



C)



D)