

Use the data below to answer questions 1 and 2.

The costs of 20 textbooks chosen randomly from a college bookstore are listed below.

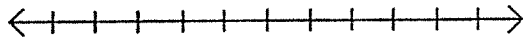
\$125 \$98 \$132 \$112 \$86 \$100 \$98 \$120 \$90 \$38
\$115 \$130 \$95 \$100 \$89 \$93 \$105 \$98 \$122 \$130

1. Find the following values for the data set. (Be careful with SD—is it sample or pop?)

Mean: _____ Stand Dev: _____ Min = _____ Max = _____

Q_1 = _____ Median: _____ Q_3 = _____ Mode: _____

2. Construct a box and whisker plot of the data below. You can add more tick marks if necessary.



3. Given the following data set, explain whether the mean or median would be the best measure of central tendency.

Ages of people in a library on a Tuesday afternoon:

63 36 28 42 39 53 59 45 62 23

4. The ages in years when 15 randomly people moved the first time shown below. Use the data to find the range and the sample standard deviation.

6 9 12 15 12 13 14 21 10 17 11 14

Range = _____ Standard deviation: _____

Did you use sample or population standard deviation? _____

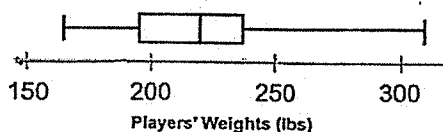
5. Grade points are assigned as follows: A = 4, B = 3, C = 2, D = 1 and E = 0. Grades are weighted according to credit hours. If a student receives an B in a 3-credit hour class, an A in a 4-credit hour class, an B in a 4-credit hour class, and a C in a 2-credit hour class, what is the student's grade point average?

6. The data below shows the number of miles that members of the cross country team ran in one week. Find the mean of the frequency distribution.

Number of miles run per week

Miles	Frequency
1 – 3	4
4 – 6	8
7 – 9	9
10 – 12	7
13 – 15	3

7. IQ scores in the U.S. generally have a mean of 100 with a standard deviation of 15. IQ scores follow a bell-shaped distribution. Estimate the percent of Americans with IQ scores above 115.
8. ACT scores in the U.S. are normally distributed, with a bell-shaped curve. It has been found that on the ACT, $\mu = 21$ and $\sigma = 4.7$. Between what two values would 99.7% of scores fall?
9. The ages of new hires at a corporation were collected and found that the mean age at the date of hire was 29 years old with a standard deviation of 3.6 years. If the data is skewed right, about what percentage of the employees are hired between the ages of 21.8 and 36.2?
10. The mean and standard deviation for a psychology test is $\bar{x} = 83.5$ and $s = 2.7$. If Martha received a score of 96, calculate her z-score. Is Martha's test score usual or unusual? Explain.
z-score: _____
- Explanation:
11. A newborn baby's weight placed her in the 84th percentile. What can you conclude about this baby's weight compared to other newborns?
12. The box and whisker plot graphs the weights of players on a football team. Use it to answer parts [A] – [D].



- [A] About 25% of weights are above _____.
[B] One half of the weights are between _____ and _____.
[C] About 75% of weights are below _____.
[D] About 75% of weights are above _____.