

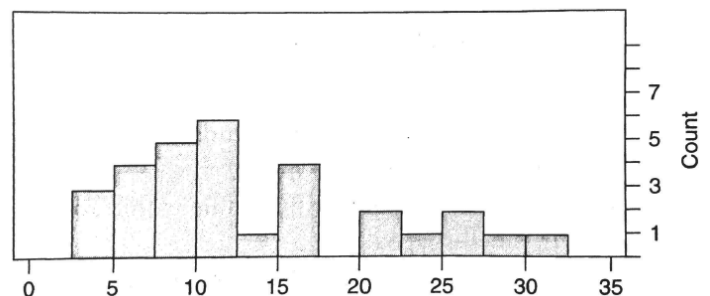
Multiple Choice

- Which of the following are examples of qualitative data?
 - The airline on which a person chooses to book a flight
 - The average number of women in chapters of the Gamma Goo sorority
 - The closing Dow Jones average on 50 consecutive market days
 - The scores on a given examination
 - None of the above are examples of qualitative data
- Free response questions on the AP Statistics Exam are graded on 4, 3, 2, 1, or 0 basis. Question #2 on the exam was of moderate difficulty. The average score on question #2 was 2.05 with a standard deviation of 1. To the nearest tenth, what score was achieved by a student who was at the 90th percentile of all students on the test? You may assume that the scores on the question were approximately Normally distributed.
 - 3.5
 - 3.3
 - 2.9
 - 3.7
 - 3.1
- The first quartile (Q1) of a data set is 12 and the third quartile (Q3) is 18. What is the largest value above Q3 in the data set that would not be an outlier?
 - 12
 - 24
 - 15
 - 27
 - 30
- In a Normal distribution with mean 25 and standard deviation 7, what proportion of values are less than 20?
 - 0.71
 - 0.71
 - 0.24
 - 0.24
 - 0.76
- What are the mean, median, mode, and standard deviation of a Normal curve?
 - Mean = 1, median = 1, mode = 1, standard deviation = 1
 - Mean = 1, median = 1, mode = 1, standard deviation = 0
 - Mean = 0, median = 1, mode = 1, standard deviation = 1
 - Mean = 0, median = 0, mode = 0, standard deviation = 1
 - Mean = 0, median = 0, mode = 0, standard deviation = 0

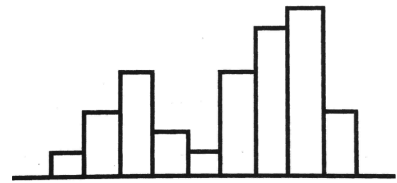
6. Jenny is 5'10" tall and is wondering about her height. The heights of girls in the school are approximately Normally distributed with a mean of 5'5" and a standard deviation of 2.6". What is the percentile rank of Jenny's height?
- 59
 - 65
 - 74
 - 92
 - 97
7. A set of 5000 scores on a college readiness exam are known to be approximately Normally distributed with a mean of 72 and standard deviation of 6. To the nearest integer value, how many scores are there between 63 and 75?
- 0.6247
 - 4115
 - 3650
 - 3123
 - 3227
8. One of the values in a Normal distribution is 43 and its z-score is 1.65. If the mean of the distribution is 40, what is the standard deviation of the distribution?
- 3
 - 1.82
 - 0.55
 - 1.82
 - 0.55
9. Which of the following statements is (are) true?
- The median is resistant to extreme values.
 - The mean is resistant to extreme values.
 - The standard deviation is resistant to extreme values.
- I only
 - II only
 - III only
 - II and III only
 - I and III only

10. The following histogram pictures the number of students who visited the Career Center each week during the school year. The shape of this graph could best be described as:

- Mound-shaped and symmetric
- Bi-modal
- Skewed to the left
- Uniform
- Skewed to the right



11. Describe the distribution of the histogram below:



Would you expect the mean or median to be larger? Why?

12. Find the five-number summary and draw the modified box plot for the following set of data: 12, 13, 13, 14, 16, 17, 20, 28



13. A distribution of quiz scores has mean = 35 and standard deviation = 4. Sara got 40. What was her z-score? What information does that give you if the distribution is approximately Normal?

14. On the first test of the semester, the class average was 72 with a standard deviation of 6. On the second test, the class average was 65 with a standard deviation of 8. Nathan scored 80 on the first test and 76 on the second. Compared to the rest of the class, on which test did Nathan do better?

15. Make a stemplot for the number of home runs hit by Mickey Mantle during his career using the following numbers: 13, 23, 21, 27, 37, 52, 34, 42, 31, 40, 54, 30, 15, 35, 19, 23, 22, 18. Do it first using an increment of 10, then do it again using an increment of 5. What can you see in the second graph that was not obvious in the first?

16. The actual weights of 8-oz chocolate bars produced by a certain machine is Normal with a mean of 8.1 oz and a standard deviation of 0.1 oz.

- Draw and label the Normal model for the data.

b. What percentage of chocolate bars will be underweight according to their 8-oz label?

c. The company that makes the chocolate bars wants to change the mean weight of the chocolate produced so that no more than 8 percent of the chocolate bars are underweight. What mean setting should the company use?