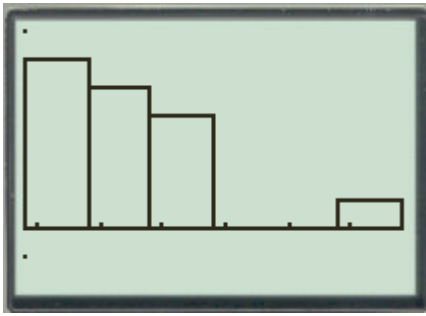# Statistics H – Chapter 1 Test Review

1. Decide whether each statement is true or false about the histogram below.

   a. The histogram is skewed right. _____

   b. The histogram appears to have an outlier. _____

   c. The histogram is symmetric. _____

   d. The histogram is bimodal. _____

   e. The median falls in the last class on the right. _____

2. State whether each variable is quantitative or categorical.

   a. Person's weight _____   e. Area code _____

   b. Salary _____   f. Football position _____

   c. Monthly water bill _____   g. Model of a car _____

   d. Driver's license # _____   h. Car's gas mileage _____

3. The box plot to the left shows the test grades of 60 students on a 50 point test. Fill in the blanks below.
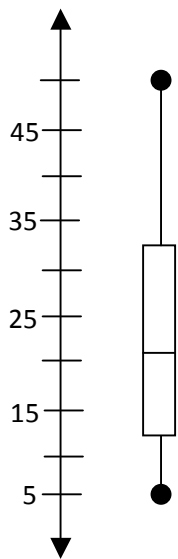
   a. The highest test score is _____ out of 50.

   b. The median test score is about _____ out of 50.

   c. The data is skewed _____.

   d. The range is about _____.

4. What happens to the standard deviation as the spread decreases? _____

5. What does it mean if you have a standard deviation of zero? _____

6. What does it mean if you have a variance of zero? _____

7. Are the following measures affected by an extreme outlier? Write yes or no in the space.

   a. Mean _____   c. Mode _____

   b. Median _____   d. IQR _____

8. Find the median of the data: 11   12   29   36   63   86   89   94   59

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9. The standard deviation of the data in #8 is 32.6182. If a constant of 5 is added to all of the data, what would the new standard deviation be? _____

10. The mean of the data in #8 is 53.2222. If a constant of 5 is added to all of the data, what would the new mean be? _____

11. A sample that has a larger variance, has a larger _____.

    a. Mean   b. Median   c. Spread   d. Outlier

12.

Temperature (Fahrenheit)	Days
50-60°	10
60-70°	308
70-80°	1519
80-90°	1626
90-100°	403
100-110°	11

Source: NOAA

Label each statement with "true" or "false".

a. The data is roughly symmetric. _____

b. The median is 80 - 90 degrees. _____

c. There appears to be one outlier. _____

13. How do we find range? _____ IQR? _____

14.

```
10| 0  0  2  9
11| 0  1  1  3  4  4  4  6  9
12| 0  0  3  4  4  5  5  5  6  6  6  6
13| 0  1  3  3  4  4  5  6  7  7  9  9  9
14| 2  3  4  5  5
15| 2  3  7  9       Key: 15| 2 means 152
```

Find the five number summary for the data to the left

15. Roger Maris had these homerun totals in 10 years in the American League:

     13   23   26   16   33   61   28   39   14   8

    a. What is the mean of the data? _____

    b. What is the IQR of the data? _____

    c. What is the standard deviation of the data? _____

16. If you are given data that is skewed…

    a. What is the best measure of center to use? _____

    b. What is the best measure of spread to use? _____

    c. What is the best graph to use to display the data? _____

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17. If you are given data that is perfectly symmetric…

    a. What is the best measure of center to use? _____

    b. What is the best measure of spread to use? _____

    c. What is the best graph to use to display the data? _____

18. If you are given data that has one outlier…

    a. What is the best measure of center to use? _____

    b. What is the best measure of spread to use? _____

    c. What is the best graph to use to display the data? _____

19. Use the dotplot below to answer the following questions.

Goals scored by the U.S. women's soccer team in 2012

Number of goals scored
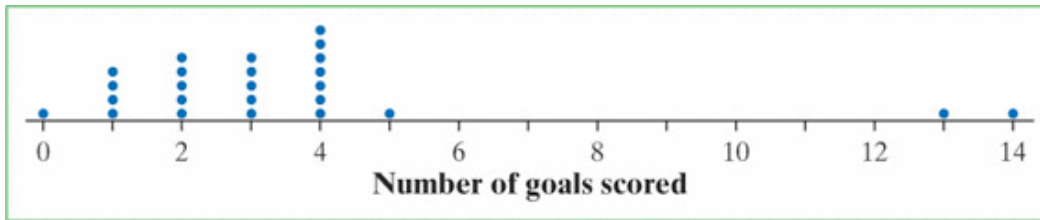
    a. What is the shape? _____   b. What is the center? _____

    c. What is spread? _____   d. Do there appear to be any outliers? _____

    e. What does the graph tell you? _____

20. The following two-way table displays data for the 219 students who responded to a recent
    Survey regarding Facebook usage.

Facebook user?	Age			
	Younger (18 – 22)	Middle (23-27)	Older (28 & up)	Total
Yes	78	49	21	148
No	4	21	46	71
Total	82	70	67	219

    a. What percent of the respondents were Facebook users? _____

        i. Is this percent part of a marginal or conditional distribution? Explain. _____

        _____

    b. What percent of the younger students in the sample were Facebook users? _____

    c. What percent of the Facebook users in the sample were younger students? _____