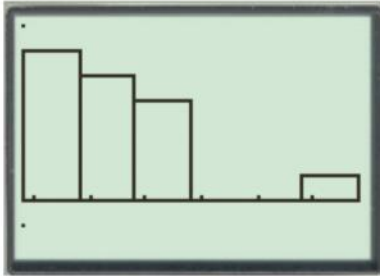


Wednesday, October 18, 2017
6:39 PM

Statistics H - Chapter 1 Test Review

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

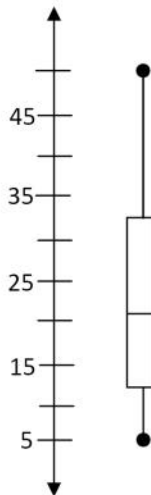


- a. The histogram is skewed right. _____
- b. The histogram appears to have an outlier. _____
- c. The histogram is symmetric. _____
- d. The histogram is bimodal. _____
- e. The median falls in the last class on the right. _____

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 _____ |

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8. Find the median of the data: 11 12 29 36 63 86 89 94 59
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
 a. mean be? _____
 b. standard deviation be? _____
10. The mean of the data in #8 is 53.2222. If a constant of 5 is multiplied to all of the data, what would the new
 a. mean be? _____
 b. standard deviation 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

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. _____
- Source: NOAA*

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									

Find the five number summary for the data in the stemplot.
- Key: 15| 2 means 152

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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...

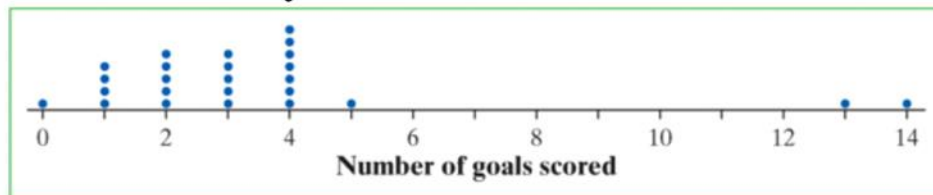
- a. What is the best measure of center to use? _____
- b. What is the best measure of spread to use? _____
- c. What is the best graph to use to display the data? _____

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. Use the dotplot below to answer the following questions.

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



- 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? _____

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19. If you are given data that has one outlier...

- What is the best measure of center to use? _____
- What is the best measure of spread to use? _____
- What is the best graph to use to display the data? _____

20. In 1798, the English scientist Henry Cavendish measured the density of the earth several times by careful work with a torsion balance. The variable recorded was the density of the earth as a multiple of the density of water. Here are Cavendish's 29 measurements:

Remember that a leaf can only be one digit!

5.50	5.61	4.88	5.07	5.26	5.55	5.36	5.29	5.58	5.65
5.57	5.53	5.62	5.29	5.44	5.34	5.79	5.10	5.27	5.39
5.42	5.47	5.63	5.34	5.46	5.30	5.75	5.68	5.85	

- Present these measurements graphically in a stemplot.
- Discuss the distribution of your graph. *Show all calculations.*
- What is your estimate of the density of the earth based on these measurements? Explain.