

Unit 6: Describing Data

1. A reading teacher recorded the number of pages read in an hour by each of her students. The numbers are shown below.

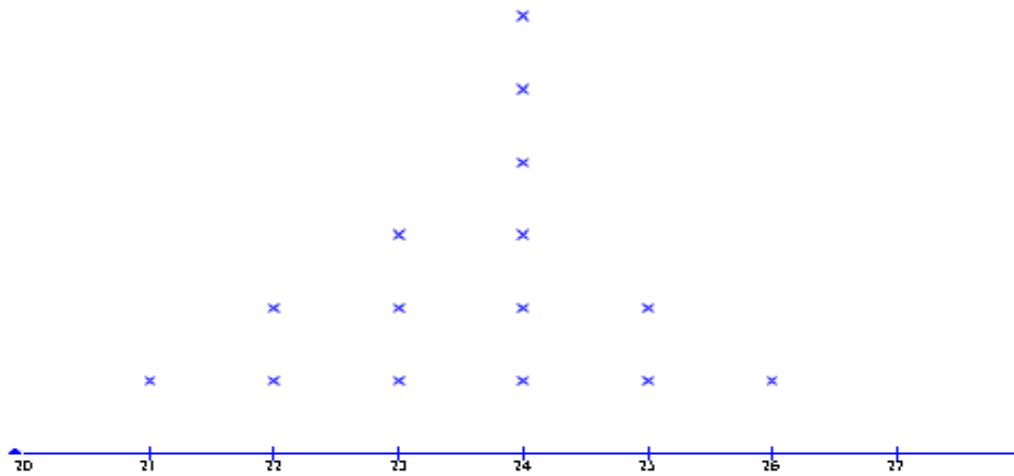
**DOK:** 44, 49, 39, 43, 50, 44, 45, 49, 51

- 2 For this data, which summary statistics is NOT correct?

- A. The minimum is 39  
 B. The lower quartile is 44  
 C. The median is 45  
 D. The maximum is 51

2. Small packages of raisins contain different numbers of raisins in each package. The dot plot here shows the number of raisins found in 15 individual packages. What can you conclude from this plot?

**DOK:** 1



- A. The most common number of raisins per box was 24  
 B. The most common number of raisins per box was 25  
 C. More packages contained 25 raisins than 23 raisins  
 D. More packages contained 22 raisins than 23 raisins

3. The data below are final exam scores of 10 randomly selected students and the number of hours they studied for the exam. Predict the score for a student who studied for 8.5 hours

**DOK:**

2

Hours, x	3	5	2	8	2	4	4	5	6	3
Scores, y	65	80	60	88	66	78	85	90	90	71

- A. 90  
 B. 99  
 C. 92  
 D. 97

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4. The table below shows the average grades of five students in Algebra 1 and then the grades of the students when they were in Algebra 2

**DOK:**  
**3**

Algebra 1	77	71	83	75	81
Algebra 2	69	82	77	85	76

Which of the following conclusions is correct?

- A. The median for both classes was the same but the mean was higher for the Algebra 1 class
- B. The median for both classes was the same but the mean was higher for the Algebra 2 class
- C. The mean for both classes was the same but the median for Algebra 1 was higher
- D. The mean was the same for both classes but the median for Algebra 2 was higher
5. Rank the students based on their average quiz scores (highest to lowest)

**DOK:**  
**2**

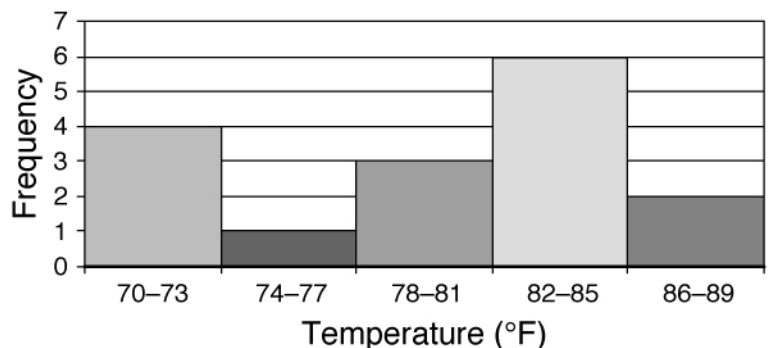
Student	Quiz Score
Anna	80,90,75,75
Jim	100,70,80,70
Stacy	92,78,68,82
Ted	71,84,84,81

- A. Anna, Jim, Stacy, Ted
- B. Ted, Jim, Stacy, Anna
- C. Jim, Anna, Stacy, Ted
- D. All have the same average
6. The high temperatures in Concord, CA for October 1-15, 2005 are given below. What error is evident in the histogram?

**DOK:**  
**2**

High Temperatures (°F)
80 73 72 76 84 86 82 73
81 84 78 85 87 84 70

**High Temperatures for Oct. 1–15, 2005**

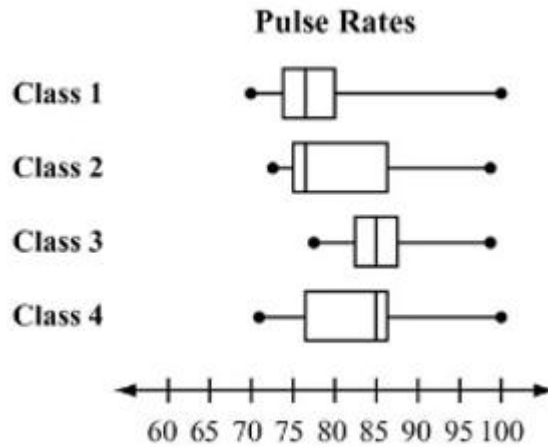


- A. The bar for 74-77 is too short
- B. The bar for 78-81 is too tall
- C. The bar for 82-85 is too tall
- D. The bar for 86-89 is too short

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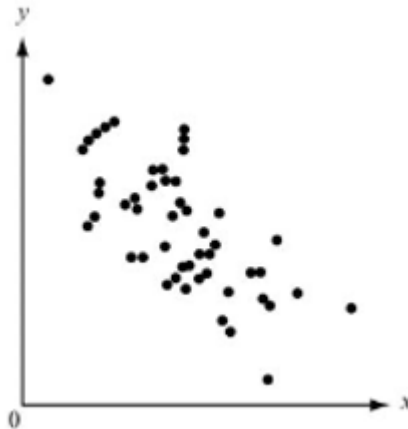
7. A science teacher recorded the pulse rates for each of the students in her classes after the students had climbed a set of stairs. She displayed the results, by class, using the box plots shown. Which class had the highest pulse rates after climbing the stairs?

**DOK:**  
2



- A. Class 1  
B. Class 2  
C. Class 3  
D. Class 4
8. Which BEST describes the correlation of the two variables shown in the scatter plot?

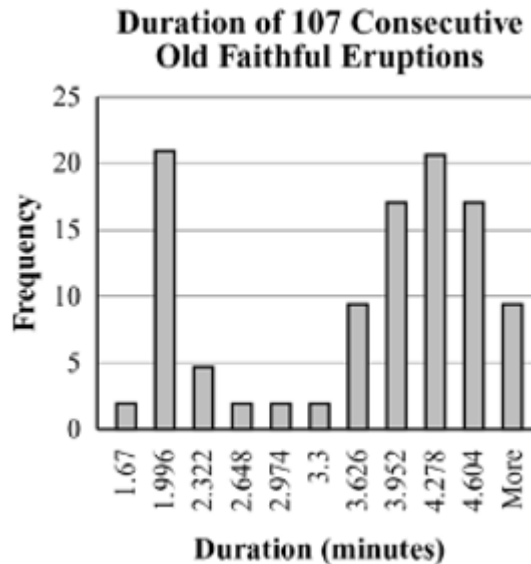
**DOK:**  
1



- A. Weak positive  
B. Strong negative  
C. Weak negative  
D. Strong negative
9. Which causal relationship is justifiable?
- DOK:**  
1
- A. Children with bigger feet spell better. Spelling better causes a child's feet to grow  
B. Surf board sales rise when lemonade sales rise. Drinking lemonade causes more people to buy surf boards  
C. The traffic is heavier around the stadium when a game is being played. Games being played cause more traffic  
D. An elementary school child has more cavities than his baby brother. He also has a larger vocabulary. An increased vocabulary causes cavities.

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10. This histogram shows the frequency distribution of duration times for 107 consecutive eruptions of the Old Faithful geyser. The duration of an eruption is the length of time, in minutes, from the beginning of the spewing of water until it stops. Which is the BEST description of the distribution?
- DOK: 1**



- A. Bimodal  
 B. Uniform  
 C. Multiple outliers  
 D. Skewed to the right
11. Jordan interviewed her 30 classmates on whether or not they played video games and if they drink soda. She displayed her results in the two-way table shown. Which statement is true?
- DOK: 3**

**Video Games and Soda**

	Drink Soda	Does Not Drink Soda
Play Video Games	13	7
Does Not Play Video Games	6	4

- A. About 67% of her classmates play video games  
 B. More than half of her classmates drink soda and play video games  
 C. There is a greater percentage of students who don't play video games than those who don't drink soda  
 D. The same percentage of students who don't play video games and don't drink soda as those who don't play video games and drink soda
12. What is the mean of the data after the outlier is removed from the data set?  
**{73, 85, 70, 86, 75, 90, 23, 74}**
- DOK: 2**
- A. 69  
 B. 72  
 C. 75  
 D. 79

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13. In an area of the Midwest, records were kept on the relationship between the rainfall (in inches) and the yield of wheat (bushels per acre). The data for a 9 year period is given in the table. The equation of the line of best fit for this data is  $y = 47.3 + 0.78x$ . How many bushels of wheat per acre can be predicted if it is expected that there will be 17 inches of rain?

**DOK:**  
2

Rain Fall (x)	13.1	11.4	16.0	15.1	21.4	12.9	9.6	18.2	18.6
Yield (y)	48.5	44.2	56.8	80.4	47.2	29.9	74.0	74.0	76.8

- A. 5.96  
B. 52.06  
C. 60.56  
D. 65.34

14. The table shows the break down of the number of juniors and seniors taking foreign languages and which foreign language they are taking. What is the probability that a junior is taking Spanish?

**DOK:**  
2

	French	German	Latin	Spanish
Juniors	32	25	18	58
Seniors	20	30	15	45

- A. 0.239  
B. 0.436  
C. 0.547  
D. 0.761

15. The table shows the highest video game scores for two players, Aaron and Andy. The data was collected over the past 6 months. Who had the greater mean deviation and what was it?

**DOK:**  
3

	April	May	June	July
Aaron	750	815	824	874
Andy	620	768	830	894

- A. Andy, 84  
B. Aaron, 44.79  
C. Andy, 101.52  
D. Aaron, 34

16. The Dudley family just brought home twins from the hospital. Their neighbors believe that the Dudley family will spend more on diapers. Which of the following best describes the relationship between the number of babies the Dudley's have and amount they spend on diapers

**DOK:**  
1

- A. There is a negative causal relationship  
B. There is a positive causal relationship  
C. There is correlation but no causation  
D. There is no correlation

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17. Mike owns two hardware stores. The scatterplots show the number of items sold at a specific price for each store in one week. If he wants to sell a new type of hammer for \$30, at which store should Mike sell the hammer?

**DOK:**  
2



- A. Store #2. This store makes more money  
 B. Store #1. This store makes more money  
 C. Store #1. Mike sells more \$30 items at this store  
 D. Store #2. Mike sells more \$30 items at this store
18. Fiona interviewed her 30 classmates on whether or not they had a sibling and if they have assigned chores at home. She displayed her results in the two-way table shown. Which category had the highest relative frequency?

**DOK:**  
1

	Have Brother	Have Sister	Only Child
Do Not have Chores	6	6	8
Have Chores	8	10	1

- A. Sisters  
 B. Brothers  
 C. Have chores  
 D. Do not have chores
19. After viewing the test scores of an Algebra II class, Ms. Dorsey decided to grade students based on the median score and variability of the scores. Which graph would best help her decide how to grade the students?

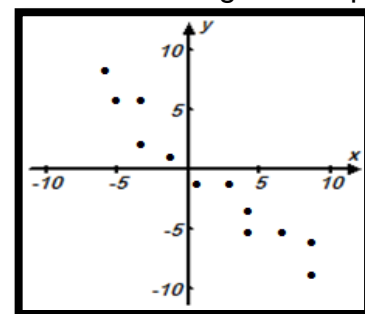
**DOK:**  
1

- A. Box-and-whisker plot  
 B. Frequency table  
 C. Stem-and-leaf  
 D. Scatter plot

20. What would be the most likely correlation coefficient ( $r$ ) for the following scatter plots

**DOK:**  
1

- A.  $r \approx 0.922$   
 B.  $r \approx 0.356$   
 C.  $r \approx -0.351$   
 D.  $r \approx -0.913$



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ANSWERS Unit 6:

1) B	11) A
2) A	12) D
3) B	13) C
4) B	14) B
5) D	15) A
6) C	16) B
7) C	17) C
8) C	18) D
9) C	19) A
10) A	20) D

ANSWERS Unit 6:

1) B	11) A
2) A	12) D
3) B	13) C
4) B	14) B
5) D	15) A
6) C	16) B
7) C	17) C
8) C	18) D
9) C	19) A
10) A	20) D

ANSWERS Unit 6:

1) B	11) A
2) A	12) D
3) B	13) C
4) B	14) B
5) D	15) A
6) C	16) B
7) C	17) C
8) C	18) D
9) C	19) A
10) A	20) D

ANSWERS Unit 6:

1) B	11) A
2) A	12) D
3) B	13) C
4) B	14) B
5) D	15) A
6) C	16) B
7) C	17) C
8) C	18) D
9) C	19) A
10) A	20) D