

Student: Statistics: Probability Study Guide  
Class: Part 2  
Date: \_\_\_\_\_

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1. Statistical data for four data sets are shown below.

Data Set 1: Median 15 Absolute mean deviation 8

Data Set 2: Median 16 Absolute mean deviation 6

Data Set 3: Median 17 Absolute mean deviation 17

Data Set 4: Median 18 Absolute mean deviation 13

For which data set is there most likely the least variation in its values?

- A. Data Set 1  
B. Data Set 2  
C. Data Set 3  
D. Data Set 4

Pick the smallest

### absolute mean variation

2. José recorded the data below about the number of colors in each of 6 flags.

2, 2, 2, 4, 6, 8

What number could not be used to represent the center of the data?

- A. 2  
B. 3  
C. 4  
D. 6

## Measures of Center

Mean	$2+2+2+4+6+8 = 24 \div 6 = 4$
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Median  $7, 2, 2, 4, 6, 8$ ,  $2+4=6$ ,  $6 \div 2 = 3$

Mode number that occurs most

## Measures of Variation

Describes how the #'s

- vary
- range

- Interquartile range

- mean absolute deviation

## Measures of Center

Summarizes the data with one central number

• mean, median, mode

**Median** → middle #  
When arranged  
least to greatest

$\frac{1}{0, 0, 0, 0, 1, .05, .35, .8}$

$\frac{2}{0,0,0,0}, .02, .23, .25$

$\frac{3}{0,0, .08, .28, .3, .4, .49}$

$\frac{4}{0, 0, .02, .26, .42, .55, .76}$

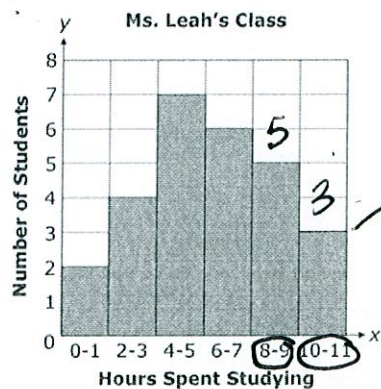
4. A city's daily rainfall for four weeks is listed in this table.

Week	Rainfall Totals (in inches)						
	M	T	W	Th	F	Sa	Su
1	0.80	0.00	0.35	0.05	0.00	0.00	0.01
2	0.00	0.00	0.00	0.23	0.25	0.02	0.00
3	0.00	0.49	0.28	0.08	0.00	0.40	0.30
4	0.76	0.55	0.26	0.00	0.02	0.42	0.00

Which week had the highest median daily rainfall?

- A. Week 1  
B. Week 2  
C. Week 3  
D. Week 4

5. Ms. Leah asked her students how many hours they spend studying each week. She created the histogram below from the results.



How many students spent at least 8 hours per week studying?

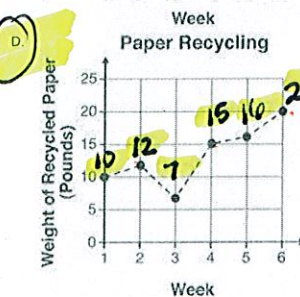
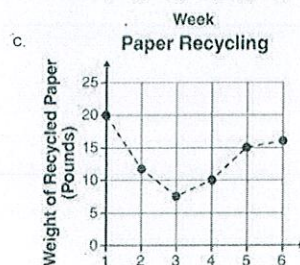
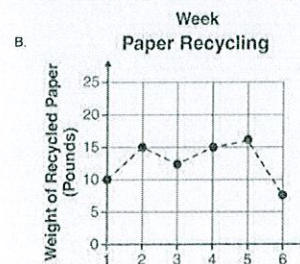
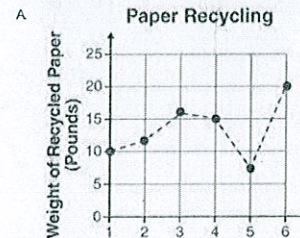
- A. 5  
B. 6  
C. 8  
D. 14

✓ greater than or = to 8

6. Students in a class kept a record of the amount of paper they collected for recycling over a 6-week period. The information they recorded is shown in the table.

Paper Recycling	
Week	Amount (Pounds)
1	10
2	12
3	7
4	15
5	16
6	20

Which graph correctly displays the information from the table?





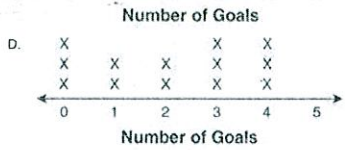
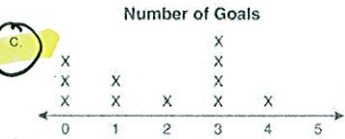
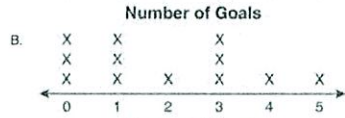
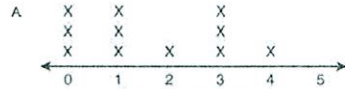
goals in order

0 0 0 1 1 2 3 3 3 3 4

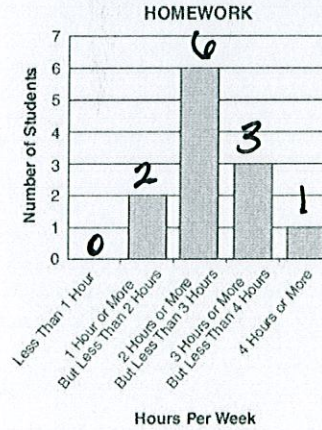
7. The table shows the number of goals a hockey team scored in their last 11 games.

Game	1	2	3	4	5	6	7	8	9	10	11
Goals	1	0	1	0	0	3	2	3	4	3	3

Which line plot corresponds to the data in the table?



8. Sarah asked her classmates how many hours they spend on homework per week. She constructed the histogram shown below to represent her data.



Which data set matches her histogram?

A.

Student	Homework Hours Per Week
Luis	4.2
Abby	3.7
Douglas	3.6
Vanessa	3.4
Haley	2.9
June	2.8
Maggie	2.5
Oliver	2.5
Jerome	2.2
Fran	2.0
Bryce	1.9
Ebony	1.8

less than 1 hour = none, 0  
 1-1.9 hours = 2  
 2-2.9 hours = 6  
 3-3.9 hours = 3  
 4-4.9 hours = 1

B.

Student	Homework Hours Per Week
Luis	4.2
Abby	4.0
Douglas	3.6
Vanessa	3.4
Haloy	2.9
June	2.8
Maggio	2.5
Oliver	2.5
Jerome	2.2
Fian	2.0
Bryce	1.9
Ebony	1.8

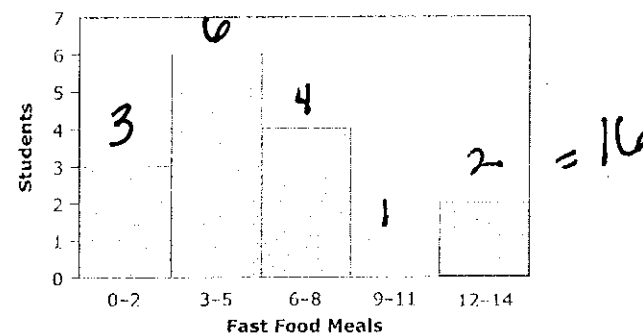
C.

Student	Homework Hours Per Week
Luis	4.2
Abby	3.7
Douglas	3.6
Vanessa	3.4
Haloy	2.9
June	2.8
Maggio	2.5
Oliver	2.5
Jerome	2.2
Fian	2.0
Bryce	1.9
Ebony	0.9

D.

Student	Homework Hours Per Week
Luis	4.2
Abby	3.7
Douglas	3.6
Vanessa	3.4
Haloy	3.0
June	2.8
Maggio	2.5
Oliver	2.5
Jerome	2.2
Fian	2.1
Bryce	1.9
Ebony	1.8

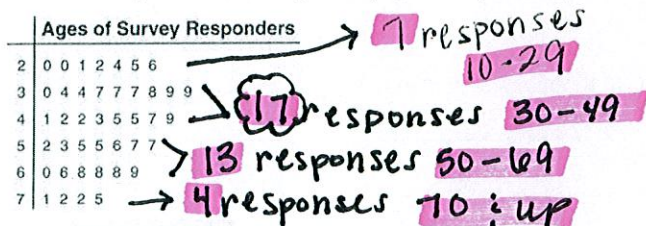
9. The school nurse observed several 6<sup>th</sup> grade students at lunch. She recorded how many students brought fast food meals as their lunch during a 3-week period. She made this histogram.



Which number represents how many students the school nurse observed?

- A 5  
B 6  
C 14  
☒ D 16

10. The stem-and-leaf plot below shows the ages of the people who responded to a political survey.



Key: 2 | 3 = age 23

Which range of ages had the greatest number of responses to the survey?

- A. 10-29  
☒ B. 30-49  
 C. 50-69  
 D. 70-89
11. Juanita asked fifth and sixth grade students to place a lunch order for the school picnic. She organized their orders on the frequency table below.

MEAL CHOICES

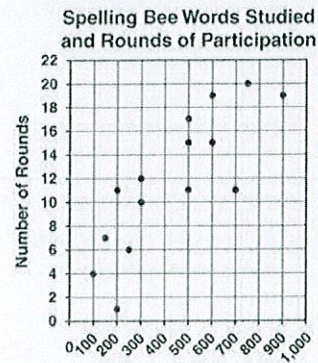
Type of Meal	Fifth Grade	Sixth Grade	Total
Hamburger	25	15	40
Cheeseburger	18	15	33
Chicken	15	12	27
Veggie Burger	10	28	38
Total	68	70	

$$\begin{array}{r} 70 \\ + 68 \\ \hline 138 \end{array}$$

How many students ordered lunch for the picnic?

- A. 68  
 B. 70  
 C. 128  
☒ D. 138

12. The scatterplot shows information about the number of words students reported studying and the number of rounds they participated in during the city spelling bee.



Number of Words Studied

How many students are represented in the data?

- A. 10  
 B. 13  
☒ C. 15  
 D. 18

→ count the dots

13. A basketball team played 20 games this season. Which method could be used to determine the average number of fans who attended the games?

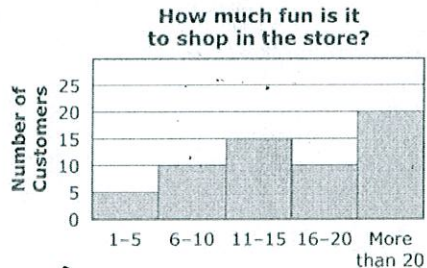
- ☒ A. Count the number of fans at each game and divide the total by 20.  
 B. Count the number of fans at the first and last game and divide the total by 2.  
 C. Count the number of fans at the first and last game and find the difference.  
 D. Count the number of fans at each game and find the difference between the maximum and minimum number of fans.

Average or mean is found by adding all the data & dividing by how many data points there are.

all the fans who attended the games  
20



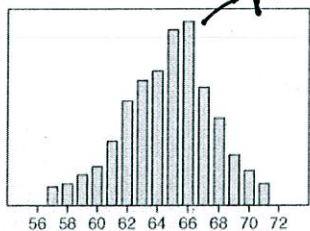
14. A store manager wants to answer the question "How much fun is it to shop in the store?" He decides to gather data.



Which statement describes the attribute the manager chose to measure "how much fun" the customers had shopping?

- A. The amount of money spent by each customer.  
 B. The number of items purchased by each customer.  
 C. The amount of time each customer spent in the store.  
 D. The number of friends each customer met in the store.

15. Look at the graph below.



Which attribute is most likely being measured?

- A. height of adult women in inches  
 B. age in months of pennies in circulation  
 C. miles traveled to work by residents of a city  
 D. weight of pumpkins in pounds at a marketplace

The most reasonable answer would be "A".

16. Jasmine was studying house values in her town. She found that the median house value was \$92,000. What does this median mean?

- A. \$92,000 is the most frequent house value.  
 B. The middle half of all the houses has a value of \$92,000.  
 C. Half the houses are worth less than \$92,000 and half are worth more than \$92,000.  
 D. All the house values were added together and that sum divided by the number of houses to get \$92,000.

The middle or center value.

17. The table shows the number of students in 5th grade classes at Welsh Elementary.

Number of Students in Sixth Grade

Class	Number of Students
Mrs. Austin	26
Mr. Brown	26
Mrs. Kelly	28
Ms. Jones	30
Mrs. Gilbert	25

What is the mean number of students in these classes?

- A. 25  
 B. 26  
 C. 27  
 D. 28

$$135 \div 5 = 27$$

18. During the week, Kiana, kept a log of how many hours she spent after school on homework.

Homework Log

Day	Hours
Monday	3
Tuesday	2.5
Wednesday	2.5
Thursday	2
Friday	1.5

Based on the information in the table above, which would best describe her homework habits?

- A. Kiana studied an average of 2.3 hours a week.  
 B. The range is so spread out; it appears Kiana has inconsistent study habits.  
 C. Kiana spends, on average, at least 20% of each day doing homework.  
 D. The data indicates that Kiana studies more towards the end of the week.

add the total is 11.5

$$\frac{11.5}{5} = 2.3$$



19. Ms. Kean measured the heights of 9 students in centimeters. The results are listed below.

147 151 145 146 151 151 147 145 151  
What is the median height of the students?

- A. 145 cm  
B. 147 cm  
C. 148 cm  
D. 151 cm

145, 145, 146, 147, 147, 151, 151, 151, 151

median

20. The table shows the number of minutes that Susie spent on her homework.

Day	Time (in minutes)
Monday	17
Tuesday	35
Wednesday	12
Thursday	41
Friday	21
Saturday	0
Sunday	35

sum = 161

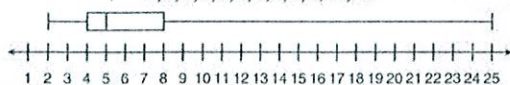
$161 \div 7 = 23$

What was the mean (average) time in minutes that Susie spent on her homework?

- A. 21  
B. 23  
C. 27  
D. 35

21. Shelley babysits her neighbor's children. The hours Shelley babysat over the last 12 weeks are shown.

Babysitting Hours  
2, 2, 3, 5, 5, 5, 5, 5, 8, 9, 10, 25



Based on this information, which measure of center and variability is not the best representation of these data?

- A. range  
B. mean  
C. mode  
D. median

median =  $Q2 = 2^{nd}$  vertical line in the box  
5

mean =  $\frac{84}{12} = 7$

range =  $\frac{25 - 2}{2} = 23$

mode = 5

22. Four sets of test scores are shown below. For which set is the mean score least representative of the individual scores?

- A. 90, 90, 90, 90, 90  
B. 0, 90, 90, 100, 100  
C. 0, 20, 30, 60, 90, 100  
D. 80, 80, 90, 100, 100, 100

The mean is 76  
but all the scores but 1  
are greater than 76.

#21 The range is the #  
that is the farthest away  
from all the other data. Only 1 babysat for "about" 23 hours.