

TEST NAME: Probability Practice 2021
TEST ID: 4042903
GRADE: 07 - Seventh Grade
SUBJECT: Mathematics
TEST CATEGORY: My Classroom

Student: _____

Class: _____

Date: _____

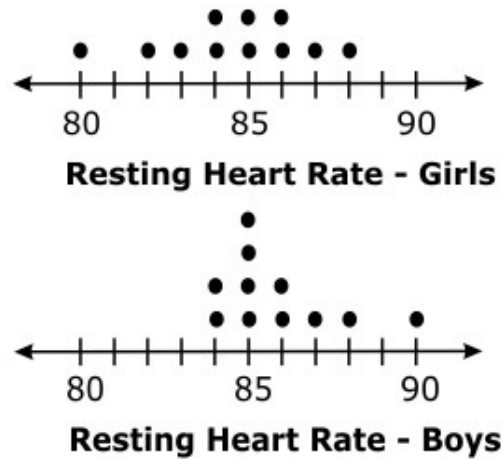
1. Sara has 3 choices to get to school: walk, ride a bike, or ride the bus. She has the same choices to get home after school. If Sara randomly chooses how she is getting to school and home, what is the probability that she will walk to school and then ride the bus home?
 - A. $\frac{1}{9}$
 - B. $\frac{1}{6}$
 - C. $\frac{2}{9}$
 - D. $\frac{2}{6}$

2. Cameron will spin a spinner that is divided into four sections. He will then flip two coins. How many outcomes are possible?
 - A. 2
 - B. 4
 - C. 8
 - D. 16

3. Paula rolls a fair number cube with sides labeled 1 through 6. What is the probability of Paula rolling a number that is 3 or greater?
 - A. $\frac{1}{3}$
 - B. $\frac{1}{2}$
 - C. $\frac{2}{3}$
 - D. $\frac{5}{6}$

4. Troy has 2 pairs of khaki pants, 2 pairs of blue pants, and 2 pairs of black pants hanging in his closet. He takes a pair of pants out of his closet without looking. What is the probability the pants are blue?
- A. $\frac{1}{6}$
- B. $\frac{1}{3}$
- C. $\frac{1}{2}$
- D. $\frac{2}{3}$
5. A spinner is divided into 5 equal sections using the pictures of a horse, dog, cat, house, and mouse. After 20 spins, the spinner lands on the horse 2 times, the dog 5 times, the cat 4 times, the house 4 times, and the mouse 5 times. What is the experimental probability of the spinner landing on a house?
- A. $\frac{1}{3}$
- B. $\frac{1}{4}$
- C. $\frac{1}{5}$
- D. $\frac{1}{10}$
6. Jamie has white, blue, and pink shirts. She has black, white, and beige pants. She has black and brown shoes. If she chooses one shirt, one pair of pants, and one pair of shoes, how many unique outfits can she make?
- A. 6
- B. 8
- C. 9
- D. 18

7. The heart rates are measured by beats per minute. These graphs show resting heart rates of 11 boys and 11 girls.



Based on the graphs, which statement is true?

- A. The boys have a lower median and interquartile range than the girls.
- B. The boys have a higher median and interquartile range than the girls.
- C. The girls have a lower interquartile range but a higher mean than the boys.
- D. The girls have a higher interquartile range but a lower mean than the boys.

8. The graph below compares the number of soccer goals a team scored per game for two years.



Based on the graph, which statement is true?

- A. The team's mean for year 1 is approximately 1.54 greater than the team's mean for year 2.
 - B. The team's mean for year 2 is approximately 1.54 greater than the team's mean for year 1.
 - C. The team's mean for year 1 is approximately 0.54 greater than the team's mean for year 2.
 - D. The team's mean for year 2 is approximately 0.54 greater than the team's mean for year 1.
9. Hayden wants to know if the residents in his town are interested in having a recreation center built. Which sample would allow Hayden to make a valid conclusion?
- A. asking the children living in town
 - B. asking the people living on his street
 - C. asking 50 randomly chosen people living in the town
 - D. asking a random group of 50 parents at a school meeting in town

10. Lacy recorded the number of minutes she exercised each day for 2 weeks. The results are listed below.

Week 1: 20, 30, 15, 25, 30, 20, 0

Week 2: 25, 15, 20, 35, 30, 25, 40

What is the **approximate** difference between the mean number of minutes exercised for week 1 and the mean number of minutes exercised for week 2?

- A. 3.8
- B. 5.0
- C. 7.1
- D. 11.2
11. Braden has 5 quarters, 3 dimes, and 4 nickels in his pocket. He pulls one coin out of his pocket. What is the probability Braden pulls out a dime?
- A. $\frac{1}{2}$
- B. $\frac{1}{3}$
- C. $\frac{1}{4}$
- D. $\frac{1}{12}$
12. Donald has a fair cube with the letters *E*, *G*, *I*, *K*, *M*, and *U* on the faces. He rolls the cube. What is the probability Donald rolls a vowel?
- A. $\frac{1}{6}$
- B. $\frac{1}{5}$
- C. $\frac{1}{3}$
- D. $\frac{1}{2}$

13. Two samples of 126 people were surveyed online and were asked, "Which is your favorite flavor of drink?" The results are displayed below.

	Tropical Punch	Grape	Orange	Cherry
Sample #1	46	41	39	0
Sample #2	58	31	33	4

Which choice is an inference that can be made based on the survey results?

- A. More people prefer Grape over Orange.
 - B. Grape is preferred 18 to 1 over Cherry.
 - C. Cherry is preferred 26 to 1 over Tropical Punch.
 - D. Sixteen times as many people prefer Orange over Cherry.
14. Last month, a hotel chain had 144,162 customers. The hotel chain randomly surveyed a group of these customers asking how many nights they plan to stay in a hotel during the next year. The results are in the table below.

Number of Nights	Number of Responses
2 or fewer	85
3 to 5	79
6 to 8	64
9 or more	22

Based on this data, what is the most reasonable estimate of the number of customers who plan to stay in a hotel 6 or more nights during the next year?

- A. 12,686
- B. 36,905
- C. 49,592
- D. 123,979

15. The test grades from two classes are shown.

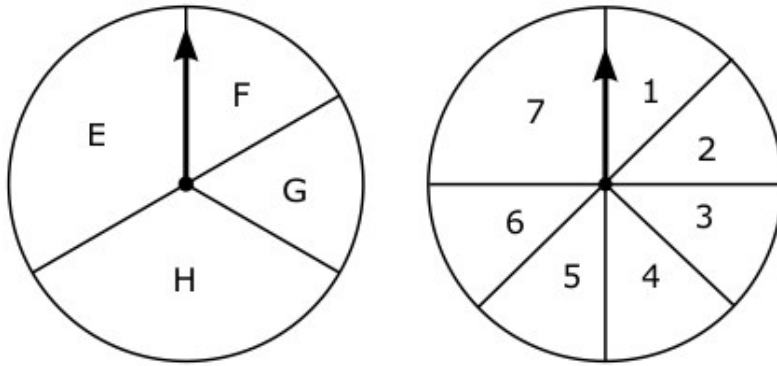
Class 1: 75, 82, 94, 95, 85

Class 2: 83, 88, 72, 94, 95

What is the difference between the medians of the two classes' grades?

- A. 1
 - B. 2
 - C. 3
 - D. 4
16. Joanna wants to determine the favorite movie of seventh-grade students in her school. Which would be the **best** way to conduct this survey?
- A. survey 30 randomly selected seventh-grade students in her school
 - B. survey all the seventh-grade students in her math class
 - C. survey 20 seventh-grade students on her bus
 - D. survey all of her seventh-grade friends
17. Cara has a set of 52 cards, numbered 1 through 52. She chooses a random card from the set of cards. What is the probability that Cara will choose a card with a number less than 21?
- A. $\frac{20}{52}$
 - B. $\frac{21}{52}$
 - C. $\frac{8}{13}$
 - D. $\frac{12}{13}$

18. Rhonda spins each spinner below one time.



What is the probability that the first spinner lands on E or G, and the second spinner lands on 6 or 7?

- A. $\frac{2}{14}$
- B. $\frac{3}{16}$
- C. $\frac{4}{11}$
- D. $\frac{7}{8}$

19. A spinner has five sections. The table below shows the results of 60 spins.

Section	Number of Spins
T	19
U	13
V	6
W	5
X	17

Based on the table, what is the probability the spinner lands on section U or section X on the next spin?

- A. 13%
- B. 17%
- C. 30%
- D. 50%

20. A jar contains 200 coins.

- Zack pulls out a coin, records its value, and then puts the coin back into the jar.
- Zack does this same process 8 times and records 1 quarter, 2 dimes, 2 nickels, and 3 pennies.

Based on these results, how many coins in the jar can Zach expect to have a value of \$0.10 or more?

- A. 75
- B. 67
- C. 50
- D. 25

21. Ann wants to know how many students in her senior class plan on going to a four-year university after graduation. Which sample would give Ann the **most accurate** data?

- A. asking 25 seniors who are in an honor society
- B. asking 25 seniors in the cafeteria during lunch
- C. asking 25 seniors taking a foreign language class
- D. asking 25 seniors that are on a school sports team

22. Adam has a bag that contains 8 red, 8 blue, 8 green, 8 purple, and 8 orange candies. Adam pulls a piece of candy out of the bag without looking. What is the probability Adam pulls out a green piece of candy?

- A. $\frac{1}{40}$
- B. $\frac{1}{8}$
- C. $\frac{1}{5}$
- D. $\frac{1}{4}$

23. Faye has a bag that contains 10 red, 13 blue, 16 white, 10 green, and 11 black marbles. She pulls a marble out of the bag without looking. What is the probability Faye pulls out a white marble?
- A. $\frac{4}{11}$
- B. $\frac{4}{15}$
- C. $\frac{1}{5}$
- D. $\frac{1}{16}$
24. Kim will choose 1 type of meat and 1 type of cheese for her sandwich. The meats offered are ham, turkey, or roast beef. The cheeses offered are American, Swiss, cheddar, or provolone. Kim dislikes roast beef and Swiss cheese. How many different possible sandwiches does that leave Kim?
- A. 5
- B. 6
- C. 8
- D. 12
25. Jared has 2 pennies and 3 dimes in his pocket. He needs \$0.20 to complete a purchase. He pulls 2 coins out of his pocket, one at a time without replacement. What is the probability the coins add up to \$0.20?
- A. $\frac{1}{20}$
- B. $\frac{3}{10}$
- C. $\frac{1}{3}$
- D. $\frac{9}{20}$

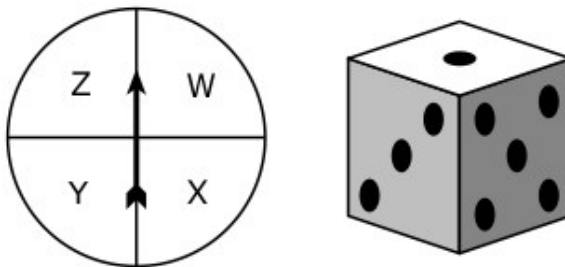
26. Nathan has 4 white socks and 4 black socks in a drawer. He pulls out one sock, keeps it, and then pulls out a second sock without looking. How many outcomes in this sample space would give Nathan 2 socks that do **not** match?
- A. 2
 - B. 3
 - C. 4
 - D. 8
27. Sally rolls 2 number cubes labeled 1 through 6. What is the probability that the cubes have a sum of 4?
- A. $\frac{1}{18}$
 - B. $\frac{1}{12}$
 - C. $\frac{1}{9}$
 - D. $\frac{1}{6}$
28. Samuel has 4 cards labeled *M*, *A*, *T*, and *H*. He picks a card without looking, puts it back, then picks another card. What is the probability he picks a vowel both times?
- A. $\frac{1}{16}$
 - B. $\frac{1}{8}$
 - C. $\frac{1}{4}$
 - D. $\frac{1}{2}$

29. Scott counted the number of people in each of the first 200 cars that parked in a parking lot. His results are shown in the chart below.

Number of People in Car	Frequency
1	37
2	98
3	40
4 or more	25

Based on the data, what is the probability that the next car that parks at the parking lot will have exactly 3 people in it?

- A. $\frac{1}{2}$
- B. $\frac{1}{3}$
- C. $\frac{1}{4}$
- D. $\frac{1}{5}$
30. Kelly spins the spinner and rolls the number cube, labeled 1 through 6, at the same time.



How many possible outcomes will include a letter and either a 1 or a 3?

- A. 24
- B. 12
- C. 8
- D. 2

31. Steve recorded the number of minutes he practiced playing the piano each day for two weeks. The results are listed below.

Week 1: 24, 32, 20, 0, 40, 29, 30

Week 2: 20, 15, 40, 32, 25, 16, 35

What is the difference in the interquartile ranges of the two data sets?

- A. 4
 - B. 7
 - C. 9
 - D. 15
32. A school librarian wants to know which genre of novels to add to the library's collection. Which survey method would provide the **best** representative sample?
- A. asking every teacher in the school
 - B. asking all the students in a teacher's homeroom
 - C. asking every 5th student who enters the cafeteria
 - D. asking students who have checked out graphic novels

33. The six highest grossing films for 2014 and 2015 are listed.

2014 Highest Grossing Movies Profit (in millions)	2015 Highest Grossing Movies Profit (in millions)
936	350
652	337
459	333
356	259
353	257
336	255

Which year averaged more money and by how much?

- A. 2015; by 216.8 million
 - B. 2014; by 216.8 million
 - C. 2015; by 505 million
 - D. 2014; by 505 million
34. How many sandwich combinations are possible from a choice of roast beef or ham with American cheese or Swiss cheese?
- A. 9
 - B. 8
 - C. 6
 - D. 4

35. The table below shows the results of rolling a number cube, labeled 1 through 6, 30 times.

Number on Cube	Frequency
1	6
2	4
3	5
4	5
5	7
6	3

Based on these results, if the cube is rolled 200 times, how many times is it expected to land on 1?

- A. 40
- B. 33
- C. 20
- D. 7

36. Mauro had a fair spinner with four equal sections. Each section had a different color: orange, silver, lavender, and gold. He spun the spinner 62 times. The results are shown below in the table.

Section Name	Frequency
orange	16
silver	8
lavender	21
gold	17

Which section's frequency is closest to its theoretical frequency?

- A. orange
 - B. silver
 - C. lavender
 - D. gold
37. Helen has 2 red, 4 blue, 2 yellow, 3 orange, and 5 purple crayons in a bag. She pulls a crayon out of the bag without looking. What is the probability the crayon is yellow?
- A. $\frac{1}{8}$
 - B. $\frac{1}{5}$
 - C. $\frac{2}{5}$
 - D. $\frac{1}{2}$

38. Wyatt's math teacher wrote the following data set on the board.

10, 2.8, 6.5, 21.6, 8.2, 9.3, 4, 2.8

What is the range of the data?

- A. 7.8
- B. 11.6
- C. 18.8
- D. 24.4

39. For her Music Appreciation class, Ajaya surveyed students at two local colleges to determine their favorite kind of music. The results are shown in the table below.

	Rock	Country	Rap	Pop	Classical
Males	36	38	49	22	14
Females	48	40	51	6	14

Which is an appropriate inference based on the survey?

- A. More male college students enjoy rap music than female college students.
- B. Classical music is the least favorite musical choice of college students.
- C. More female college students prefer country music to rock music.
- D. Rap music is the most favorite musical choice of college students.

40. Caroline and Bertha each recorded the number of minutes they walked each day for 5 days. The data is shown in the table below.

Minutes Caroline Walked Each Day	Minutes Bertha Walked Each Day
20	30
15	20
30	15
35	25
30	15

What is the difference between the mean number of minutes Caroline walked each day and the mean number of minutes Bertha walked each day?

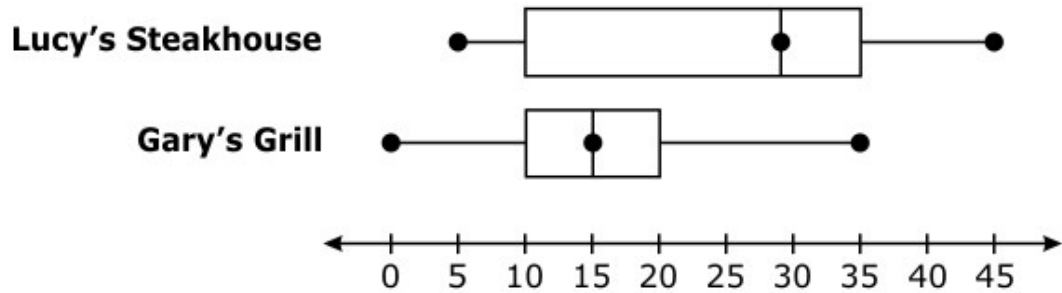
- A. 4 minutes
 - B. 5 minutes
 - C. 10 minutes
 - D. 15 minutes
41. Which would be the **best** sample to determine what video game most girls play after school?
- A. all girls in the cafeteria line
 - B. all the girls on the track team
 - C. every 3rd girl on the softball team
 - D. every 5th student in the cafeteria line
42. A coin is tossed 50 times. It lands on heads 30 times. Based on this outcome, how many times is the coin expected to land on heads if tossed 200 times?
- A. 60
 - B. 80
 - C. 100
 - D. 120

43. Lauren has a bowl of colored candies.
- She has 48 red, 36 blue, 18 yellow, 32 brown, and 16 green.
 - Lauren pulls out a piece of candy without looking.

What is the probability that the piece of candy is blue?

- A. $\frac{6}{25}$
- B. $\frac{6}{19}$
- C. $\frac{9}{25}$
- D. $\frac{9}{19}$

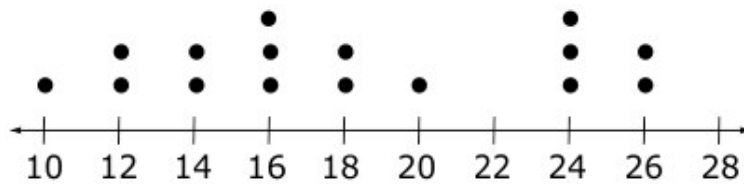
44. These box plots show the number of minutes customers waited for a table at two restaurants.



What is the interquartile range of the wait times at Gary's Grill?

- A. 10
- B. 20
- C. 35
- D. 40

45. This is a dot plot.



What is the measure of the interquartile range?

- A. 18
- B. 16
- C. 12
- D. 10

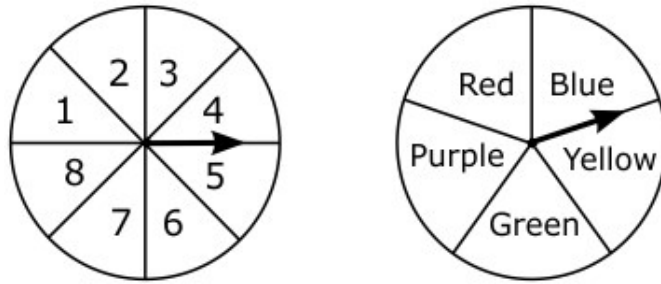
46. The table below shows the high temperatures for 5 days in Oak City and Lincoln City.

Oak City	Lincoln City
85	86
90	89
87	88.5
86.5	87
89.5	84.5

What is the difference in the mean absolute deviation of the two data sets?

- A. 0.32
- B. 0.60
- C. 1.50
- D. 1.56

47. Erica spins each spinner below one time.



What is the probability that the first spinner lands on a number divisible by 4, and the second spinner lands on yellow or purple?

- A. $\frac{1}{40}$
- B. $\frac{13}{20}$
- C. $\frac{4}{13}$
- D. $\frac{1}{10}$

48. Valerie surveyed employees at her company about the number of computers in their homes. The results are shown in the table below.

Number of Computers	Number of Employees
0	3
1	5
2	16
3	6

Based on these results, which statement is true?

- A. The number of employees without a computer is less than 5%.
- B. The number of employees who have one computer is 5%.
- C. Less than 10% of the employees have three computers.
- D. More than 50% of the employees have two computers.

49. For perfect attendance, a school principal has a drawing for a prize. The principal placed 6 female names and 4 male names into the drawing. What is the probability that a male will be selected to win the prize?
- A. $\frac{1}{10}$
 - B. $\frac{1}{5}$
 - C. $\frac{3}{10}$
 - D. $\frac{2}{5}$
50. Trent rolls a number cube labeled 1 through 6. What is the probability that Trent rolls a number smaller than 5?
- A. $\frac{1}{6}$
 - B. $\frac{1}{3}$
 - C. $\frac{2}{3}$
 - D. $\frac{5}{6}$
51. A cube numbered 1 through 6 is rolled thirty-six times. It lands on the number 2 four times. How does the experimental probability differ from the theoretical probability?
- A. The experimental probability is $\frac{1}{3}$ of the theoretical probability.
 - B. The theoretical probability is $\frac{1}{3}$ of the experimental probability.
 - C. The experimental probability is $\frac{2}{3}$ of the theoretical probability.
 - D. The theoretical probability is $\frac{2}{3}$ of the experimental probability.

52. Ryan rolls two fair number cubes labeled 1 through 6. What is the probability that the sum of the two number cubes is 5 or more?

A. $\frac{5}{6}$

B. $\frac{2}{3}$

C. $\frac{1}{2}$

D. $\frac{1}{3}$

53. Tim has 2 red shirts, 2 white shirts, 1 black shirt, and 1 blue shirt. He also has 1 pair of black pants, 3 pairs of khaki pants, and 2 pairs of blue pants. Tim randomly chooses a shirt and a pair of pants. What is the probability that Tim will choose a blue shirt and a pair of khaki pants?

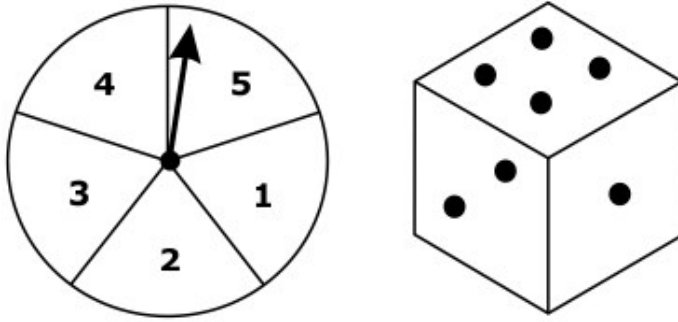
A. $\frac{1}{12}$

B. $\frac{1}{6}$

C. $\frac{1}{2}$

D. $\frac{2}{3}$

54. Derwin has a spinner and a fair number cube, as shown.



If Derwin spins the spinner and rolls the cube at the same time, what is the probability of the spinner landing on the number 1 and the number cube landing on a 6?

- A. $\frac{1}{15}$
- B. $\frac{1}{30}$
- C. $\frac{2}{11}$
- D. $\frac{2}{15}$

55. The school cafeteria wants to increase the total number of lunches that it sells by adding new items to its menu.

Which group should be surveyed to determine what items should be added?

- A. students who currently buy lunches
- B. students who bring their lunch
- C. students who play sports
- D. students in the library

56. The music department wants to get input on new uniforms for the marching band. Which random sample would provide the **best** input?

- A. students who have graduated but used to be members of the marching band
- B. every other student paying admission to the upcoming football game
- C. every other student participating in the music department
- D. every third student being dropped off in the morning

57. Anna wants to open an after-school day care center. She wants to survey people to find out what percent of the adults in her area need after-school day care for their kids. Which group would provide Anna the **best** data?
- A. 100 people at the mall in the afternoon
 - B. 100 teachers that work at local elementary schools
 - C. 100 people randomly chosen from a local restaurant
 - D. 100 parents picking up their kids from local elementary schools
58. Micah recorded the high and low temperatures in degrees Fahrenheit for 5 days in December. The results are in the table below.

High Temperature	Low Temperature
52°	30°
50°	35°
45°	32°
34°	28°
46°	31°

What is the difference between the median high temperature and the median low temperature?

- A. 11.0°
- B. 13.0°
- C. 14.2°
- D. 15.0°

59. The ages of the students in the music club are recorded below.

8, 8, 12, 10, 12, 10, 8, 12, 10

What is the interquartile range of the data?

- A. 3
- B. 4
- C. 6
- D. 7

60. This table shows the number of grams of fat Richard consumed each day for two weeks.

Week 1 (grams)	Week 2 (grams)
40	37
35	36
33	39
39	33
37	35
39	38
39	37

What is the difference between the mean number of fat grams Richard consumed per day during Week 1 and Week 2?

- A. 1 gram
- B. 2 grams
- C. 6 grams
- D. 7 grams

61. The table shows points scored by Jason and Andre during their last five games.

Jason	Andre
12	12
19	23
17	14
20	19
24	17

Which statement is true about the points scored?

- A. The mean absolute deviation for Jason is 10 points higher than Andre.
- B. The mean absolute deviation for both sets of points scored is exactly the same.
- C. The mean absolute deviation for Andre is 8% higher than the mean absolute deviation for Jason.
- D. The mean absolute deviation for Andre is 0.08 of a point higher than the mean absolute deviation for Jason.

62. A shoe store recorded the types of shoes the first 50 customers purchased each day over a two-week period. The average of the results is shown in this table.

Type of Shoe	Average Purchased Each Day
tennis shoes	15
dress shoes	6
sandals	13
running shoes	16

What is true about the shoes purchased?

- A. On average, 15% of the customers purchased tennis shoes.
 - B. On average, 16% of the customers purchased running shoes.
 - C. On average, 31% of the customers purchased tennis shoes or running shoes.
 - D. On average, 62% of the customers purchased tennis shoes or running shoes.
63. This table shows the final scores of two football teams during a season.

Team 1	Team 2
21	10
17	20
19	28
35	21
21	42

What is the difference in the mean absolute deviation of the two football teams' final scores?

- A. 3.68
- B. 4.96
- C. 6.96
- D. 8.64

64. Mr. Iman records the shoe sizes of his family members.

4.5, 2.5, 7.5, 5.5, 9.5, 12.5, 9.5, 8.5, 8.5, 11.5

What is the interquartile range of the shoe sizes?

- A. 4
- B. 8
- C. 8.5
- D. 10.5

65. The table below shows Caroline’s and Brad’s daily calorie intake for a week.

Caroline	Brad
1,671	1,219
1,025	1,630
1,895	2,320
1,440	1,398
1,554	1,873
1,312	1,570
1,478	2,116

Which statement is true about their calorie intake?

- A. Brad has a lower mean daily calorie intake than Caroline.
- B. Caroline has a higher median daily calorie intake than Brad.
- C. The interquartile range for Brad’s daily calorie intake is twice that of Caroline’s.
- D. Caroline’s median daily calorie intake is half of Brad’s median daily calorie intake.

66. A new school wants to select its school colors and is seeking input from the community. Which would be the **best** way for the school to gather the input?
- A. surveying students and parents of students who will attend the new school
 - B. surveying adults in the community where the new school is located
 - C. surveying students at another local school
 - D. surveying students at a local college
67. Jenny wants to determine the favorite football team of the students at her school. Which method would provide the **best** data?
- A. surveying 15 students from the football team
 - B. surveying all the students from her volleyball team
 - C. surveying 30 randomly chosen students from each grade
 - D. surveying 30 randomly chosen students from seventh grade
68. The set of data below shows the length, in minutes, of eleven popular children's movies.

94, 92, 88, 136, 113, 84, 104, 63, 107, 89, 79

What is the interquartile range of this data?

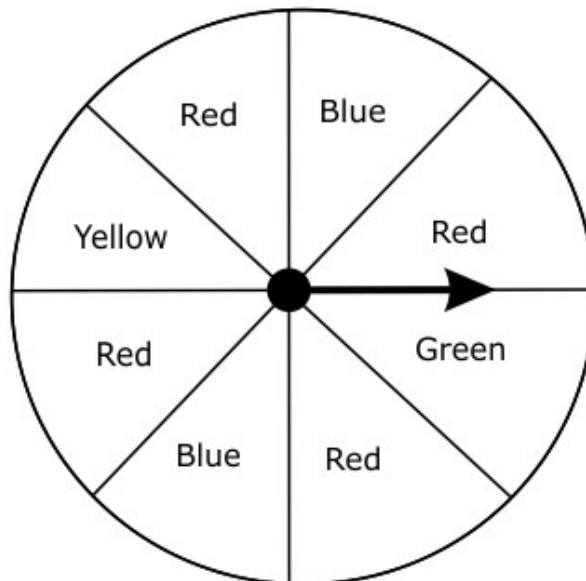
- A. 15
- B. 19
- C. 23
- D. 73

69. For two weeks, Doug recorded the number of minutes he jogged each day. The data is shown below.

30, 15, 18, 20, 24, 25, 28, 0, 22, 25, 0, 22, 28, 30

What is the interquartile range of the data?

- A. 7
B. 10
C. 23
D. 30
70. Chloe will spin this spinner 300 times and record the results.



About how many times should Chloe expect the spinner to land on red?

- A. 75 times
B. 150 times
C. 200 times
D. 250 times

71. Hannah places all the letters from the word "substitute" into a bag. One letter is chosen at random. What is the probability that the letter will be a "t"?
- A. $\frac{1}{10}$
 - B. $\frac{1}{5}$
 - C. $\frac{3}{10}$
 - D. $\frac{2}{5}$
72. Shelley spins a spinner, labeled 1 through 4, and rolls a number cube labeled 1 through 6. She finds the sum of the results of the spinner and number cube. If Shelley repeats this process for a total of 340 times, **about** how many times should she expect the sum to equal 5?
- A. 37
 - B. 47
 - C. 57
 - D. 67
73. Harry has 2 black, 1 white, and 2 blue shirts that he wears to school. There are 180 days of school in a year. **About** how many days in a school year will Harry wear a blue shirt?
- A. 36
 - B. 60
 - C. 72
 - D. 90

74. A national music magazine surveyed several random samples of 900 people to determine their favorite type of music. The average of the responses are shown in the table below.

Favorite Type of Music	Average Number of Responses
rock	220
country	290
rap	300
no preference	90

Which statement is correct?

- A. Of the people surveyed, 10% did not have a music preference.
 - B. Of the people surveyed, 50% preferred rock or country music.
 - C. Of the people surveyed, less than $\frac{1}{3}$ preferred rap music.
 - D. Of the people surveyed, $\frac{1}{4}$ preferred country music.
75. Tami surveyed several groups of randomly chosen students about their favorite type of cake. The averages of all the sample groups are shown in this table.

Type of Cake	Response
vanilla	10
chocolate	33
strawberry	5
marble	12

Which statement is true about the data collected?

- A. $\frac{1}{10}$ chose vanilla as their favorite cake.
- B. $\frac{1}{3}$ chose chocolate as their favorite cake.
- C. 20% chose marble as their favorite cake.
- D. 5% chose strawberry as their favorite cake.

76. The school PTA randomly surveyed groups of students to determine which theme to use for the school's dance. The average of all of the sample groups of students are shown in the table.

	Luau	Favorite Movie	Masquerade
Averages of the Samples	58	48	39

Which statement is true?

- A. On average, 40% of the students chose the luau theme.
 - B. On average, 1 out of every 5 students chose the movie theme.
 - C. On average, 15% of the students chose the masquerade theme.
 - D. On average, twice as many students chose luau as those that chose all other themes.
77. The list below shows Mya's choices for lunch in the school cafeteria.

Sandwiches	ham or turkey
Desserts	pie, ice cream, or cake
Drink	milk or apple juice

If Mya chooses her lunch randomly, what is the probability that she chooses a turkey sandwich, pie, and apple juice?

- A. $\frac{1}{6}$
- B. $\frac{1}{8}$
- C. $\frac{1}{10}$
- D. $\frac{1}{12}$

78. Mike, Nancy, Orlando, and Paul are running in a race. In how many ways can the four friends finish the race?

- A. 4
- B. 6
- C. 12
- D. 24

79. A large jar of candy contains red, green, and yellow candy.

- The probability of pulling a red candy out of the jar is $\frac{1}{4}$.
- The probability of pulling a green candy out of the jar is $\frac{5}{8}$.

What is the probability of randomly pulling a yellow candy out of the jar?

- A. $\frac{1}{8}$
- B. $\frac{1}{3}$
- C. $\frac{3}{8}$
- D. $\frac{7}{8}$

80. Don conducted several surveys of 120 randomly chosen students at his school regarding the number of bathrooms they have in their home. The averages are shown in this table.

Number of Bathrooms	Responses
1	3
$1\frac{1}{2}$	21
2	54
$2\frac{1}{2}$	36
3 or more	6

Which statement is true?

- A. About 10% of the students had 3 or more bathrooms in their home.
- B. Less than $\frac{1}{4}$ of the students had 1 or $1\frac{1}{2}$ bathrooms in their home.
- C. More than 35% of the students had $2\frac{1}{2}$ bathrooms in their home.
- D. About $\frac{1}{2}$ of the students had exactly 2 bathrooms in their home.
81. Charles reviewed the average rainfall for the past ten years in his town. The data is listed below.

35.1, 38.3, 45.2, 49.2, 49.3, 52.8, 53.6, 56.5, 58.1, 61.9

What is the **approximate** mean absolute deviation for this set of data?

- A. 6.0
- B. 6.6
- C. 50.0
- D. 51.1

82. This table shows the daily high temperatures in February for Cary and Raleigh.

Daily High Temperature (°F)

Cary	Raleigh
32	44
36	48
28	50
35	36
24	32

Which statement **best** describes the mean absolute deviation for each set of data?

- A. The mean absolute deviation of Cary's temperatures is approximately 1.5 times that of Raleigh's temperatures.
 - B. The mean absolute deviation of Raleigh's temperatures is about 6.4°F more than that of Cary's temperatures.
 - C. The mean absolute deviation of Cary's temperatures is about 2.4°F less than that of Raleigh's temperatures.
 - D. The mean absolute deviation of each set of data is approximately 4°F.
83. This list shows the cost of 8 different wedding dresses.

\$112, \$98, \$131, \$105, \$99, \$120, \$115, \$125

What is the **approximate** mean absolute deviation for this set of data?

- A. \$113.13
- B. \$122.5
- C. \$11.99
- D. \$9.62

84. Vera asked her classmates how many siblings are in each of their families. The data is shown below.

{0, 2, 2, 4, 1, 1, 1, 0, 1, 1, 2, 3, 4}

What is the interquartile range of the data?

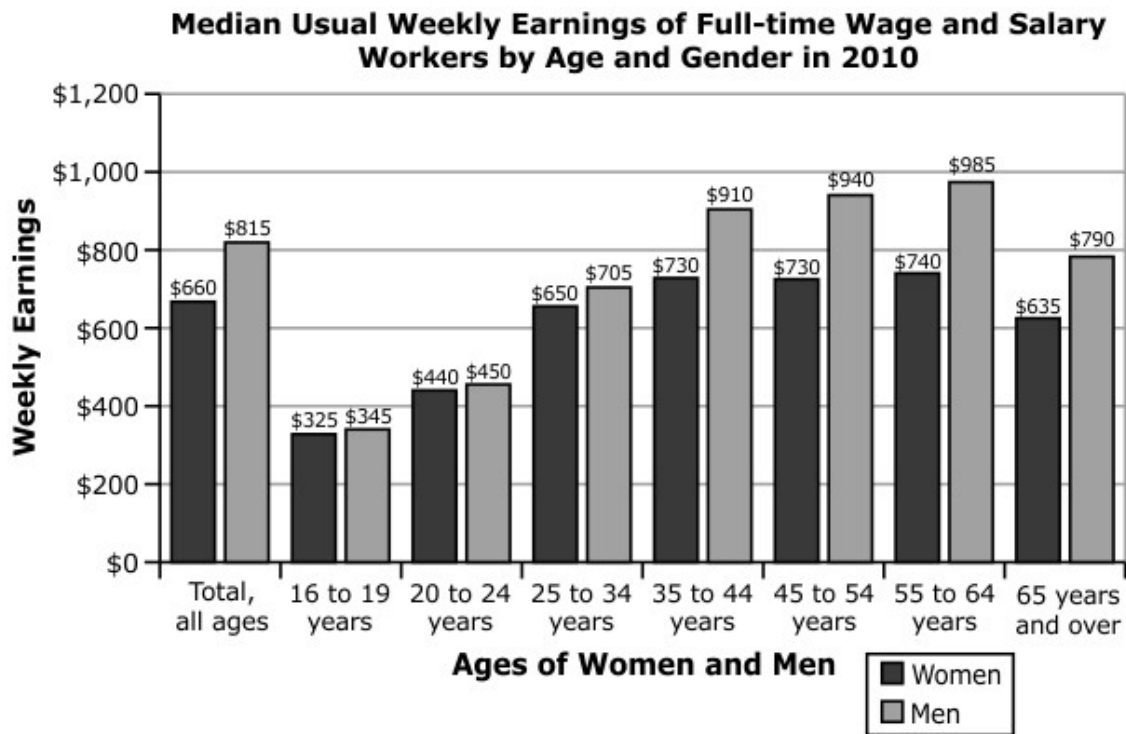
- A. 1.00
 - B. 1.50
 - C. 1.75
 - D. 2.00
85. The set of data represents the class sizes of all of the sixth-grade classes at a middle school:

20, 23, 24, 24, 26, 29, 31, 31

What is the **approximate** mean absolute deviation for this set of data?

- A. 3.1
- B. 3.3
- C. 25
- D. 26

86. This chart details median weekly earnings for men and women in 2010.



Which statement is true about the weekly earnings?

- A. The median income for women age 25 to 64 is about 25% higher than for men age 25 to 64.
- B. The median income for men age 25 to 64 is about 25% higher than for women age 25 to 64.
- C. The median income per week for both men and women age 20 to 64 is the same.
- D. The median income for both men and women age 25 to 64 is the same.

87. This table details the high and low forecasted temperatures for Concord, North Carolina.

	High (°F)	Low (°F)
Monday	66	61
Tuesday	81	66
Wednesday	79	61
Thursday	70	50
Friday	73	48

Which statement is true?

- A. The mean of both the highs and lows is exactly 20 degrees apart.
- B. The mean absolute deviation of both the high and low temperatures is less than 1 degree apart.
- C. The mean absolute deviation of both the high and low temperatures is just over 2 degrees apart.
- D. The mean absolute deviation of both the high and low temperatures is between 1 and 2 degrees apart.

88. The table below details high temperatures for two cities.

High Temperatures		
	Washington, DC	New Carrollton, MD
Sat	35°F	35°F
Sun	33°F	31°F
Mon	38°F	37°F
Tue	47°F	46°F
Wed	49°F	48°F

Which is true about the high temperatures?

- A. There is no difference in the mean temperatures of both cities.
- B. The difference in the mean temperatures of both cities is 1 degree.
- C. The difference in the mean temperatures of both cities is 2 degrees.
- D. The difference in the mean temperatures of both cities is 10 degrees.

89. Kiera recorded the number of dogs she walked each month last year in the chart below.

Month	Number of Dogs
January	8
February	10
March	8
April	6
May	9
June	10
July	5
August	5
September	7
October	9
November	10
December	9

What is the mean absolute deviation for this set of data?

- A. 1.0
 - B. 1.5
 - C. 2.0
 - D. 2.5
90. Michael is unhappy with the choices for hot lunch. He wants to collect data to see what other choices students would be interested in. What is the **best** sample from which to collect data?
- A. randomly surveying ten students who eat a cold or hot lunch each day
 - B. randomly surveying ten students who only eat a hot lunch each day
 - C. randomly surveying ten students who eat a cold lunch each day
 - D. randomly surveying ten students from the lunchroom

91. The table below shows the number of times pairs of students could throw a ball back and forth without allowing the ball to touch the ground.

Attempt	1	2	3	4	5	6
Abby and Bill	5	5	9	6	4	8
Cammie and Derek	6	4	5	7	5	8

Which is true about the measures of central tendencies for this data?

- A. The means are the same, and the medians are the same.
 - B. The means are the same, but the median is higher for Cammie and Derek.
 - C. Both the mean and the median were higher for Abby and Bill than for Cammie and Derek.
 - D. The mean for Abby and Bill was greater than for Cammie and Derek, but the medians are the same.
92. In a standard deck of cards there are 52 cards.
- There are 4 suits: diamonds, hearts, spades, and clubs.
 - Each suit has 13 cards.

Jenny randomly picks a card and records its suit. If she does this 400 times, **about** how many times can Jenny expect to pick a diamond?

- A. 13
- B. 52
- C. 100
- D. 400

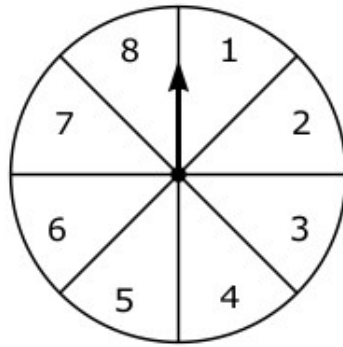
93. The table compares Ryan and Patrick's quiz scores in math class.

Ryan's Quiz Scores (%)	Patrick's Quiz Scores (%)
89	91
85	93
94	89
91	90
92	92
88	90
91	92

Which statement is true about the quiz scores?

- A. Patrick's median quiz score is about 1% higher than Ryan's median quiz score.
 - B. Ryan's median quiz score is about 1% higher than Patrick's median quiz score.
 - C. Patrick's mean score is about 1% higher than Ryan's mean score.
 - D. Ryan's mean score is about 1% higher than Patrick's mean score.
94. John rolls a fair number cube labeled 1 through 6. **About** how many times should John expect to roll a 6 if he rolls the cube 550 times?
- A. 6 times
 - B. 55 times
 - C. 92 times
 - D. 458 times

95. Robert spun the fair spinner shown below 1,060 times.



About how many times would Robert expect to spin a 1, 3, or 8?

- A. 100 times
 - B. 130 times
 - C. 350 times
 - D. 400 times
96. Alex asked 70 students at his school which fundraiser they would like to attend. The responses are shown in the table below.

Choice	Response
Carnival	22
Car Wash	14
Bake Sale	17
Candy Sale	12
Don't Know	5

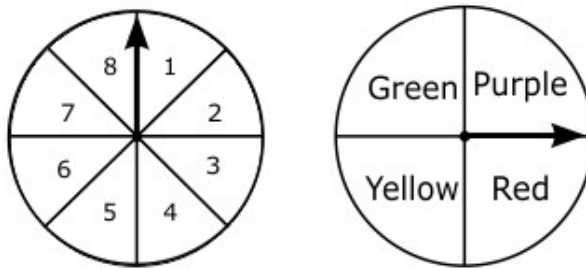
Which statement is true?

- A. Most of the students do not know the fundraiser they would attend.
- B. About 12% of the students chose candy sale as the fundraiser they would attend.
- C. More than 50% of the students chose carnival or car wash as the fundraiser they would attend.
- D. Less than 30% of the students chose bake sale or candy sale as the fundraiser they would attend.

97. Janet has a bag with 15 red marbles, 5 green marbles, and 5 blue marbles. Without looking, she chooses a marble from the bag. What is the probability that Janet chooses a red marble?

- A. $\frac{1}{5}$
- B. $\frac{2}{5}$
- C. $\frac{3}{5}$
- D. $\frac{4}{5}$

98. Mary will spin each of these spinners one time.



What is the probability that the first spinner lands on a number greater than 5 and the second spinner lands on purple?

- A. $\frac{3}{32}$
- B. $\frac{5}{32}$
- C. $\frac{1}{5}$
- D. $\frac{1}{3}$

99. A restaurant manager surveyed several samples of 60 customers regarding their favorite breakfast juice. The average results of all the samples are shown in this table.

Favorite Juice	Number of Customers
orange	18
grape	12
cranberry	5
apple	25

Which statement is true?

- A. On average, less than 20% of the customers chose orange juice as their favorite.
 - B. On average, more than 50% of the customers chose apple juice as their favorite.
 - C. On average, 5% of the customers chose cranberry juice as their favorite.
 - D. On average, 20% of the customers chose grape juice as their favorite.
100. This table shows the data collected from two random samples of 100 students regarding their preference of field trips.

Student Sample	Zoo	Planetarium	Museum	Aquarium	Total
#1	32	27	12	29	100
#2	24	18	33	25	100

Which is true about the data collected from both samples?

- A. 25% of the students chose to go to the museum.
- B. 27% of the students chose to go to the aquarium.
- C. 50% of the students chose to go to the zoo or planetarium.
- D. 20% of the students chose to go to the planetarium or museum.