

Name: _____ Date: _____

Statistics and Probability: Multiple-Choice Assessment Prep

Directions: Circle the choice that best answers the question.

<p>1. Which one best describes <i>measure of center</i> for a numerical data set?</p> <p>A. Mean</p> <p>B. Median</p> <p>C. A single number that summarizes all of the values</p> <p>D. How the data values vary with a single number</p>	<p>3. Which one <i>cannot</i> be used to display numerical data on a number line?</p> <p>A. Histogram</p> <p>B. Dot plot</p> <p>C. Bar graph</p> <p>D. Box-and-whisker plot</p>										
<p>2. The frequency chart shows the results of a survey Jesse conducted.</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="padding: 5px;">Eye color</th> <th style="padding: 5px;">Frequency</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Blue</td> <td style="padding: 5px;">23</td> </tr> <tr> <td style="padding: 5px;">Brown</td> <td style="padding: 5px;">41</td> </tr> <tr> <td style="padding: 5px;">Green</td> <td style="padding: 5px;">8</td> </tr> <tr> <td style="padding: 5px;">Other</td> <td style="padding: 5px;">19</td> </tr> </tbody> </table> <p>How many people did Jesse survey?</p> <p>A. 91</p> <p>B. 72</p> <p>C. 19</p> <p>D. 4</p>	Eye color	Frequency	Blue	23	Brown	41	Green	8	Other	19	<p>4. Is the given question an example of a statistical question?</p> <p style="text-align: center;"><i>What is your favorite color?</i></p> <p>A. No, because it does not anticipate or account for variability in the answers.</p> <p>B. No, because it anticipates and accounts for variability in the answers.</p> <p>C. Yes, because it does not anticipate or account for variability in the answers.</p> <p>D. Yes, because it anticipates and accounts for variability in the answers.</p>
Eye color	Frequency										
Blue	23										
Brown	41										
Green	8										
Other	19										

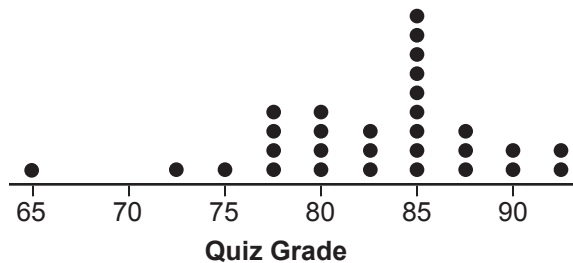
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5. The graph shows the quiz scores for Mr. Becker's math class.

Mr. Becker's Math Class Quiz Grades



What type of graph is shown?

- A. Box-and-whisker plot
- B. Histogram
- C. Dot plot
- D. None of the above

7. The number of copies of a new mystery novel sold at the local bookstore each day for a week is listed below.

1, 8, 10, 15, 16, 17, 48

Which measure of center would best describe the average daily sales of the new mystery novel?

- A. Median, because there is an outlier.
- B. Median, because there is *not* an outlier.
- C. Mean, because there is an outlier.
- D. Mean, because there is *not* an outlier.

6. Mrs. Garrett asks each of her students to record the number of hours they spend reading in one week. After she collects this data, she would like to summarize it with a single number. Which of the following would do that?

- A. Mean absolute deviation
- B. Measures of center
- C. Interquartile range
- D. Measures of variability

8. Blane's scores on his last seven golf games are listed. What is Blane's mean golf score?

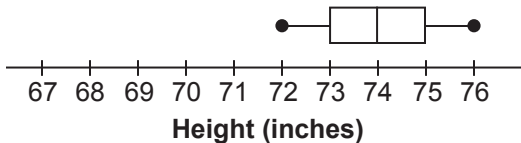
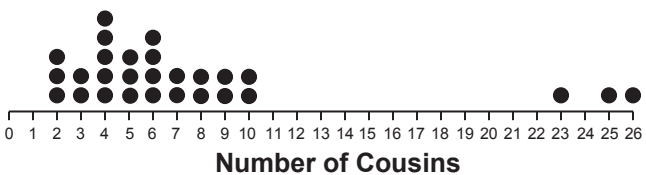
109, 99, 95, 97, 101, 101, 98

- A. 99
- B. 100
- C. 101
- D. 700

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<p>9. Aiden would like to collect some data about the students in his school. He plans to make a survey that includes several questions. Help Aiden by identifying which of these questions is a good example of a statistical question.</p> <p>A. How tall are you?</p> <p>B. How many cousins do you have?</p> <p>C. How many pets do you have?</p> <p>D. All of the above</p>	<p>11. The foot lengths, in centimeters, of the boys in Mrs. Fielding’s class are listed.</p> <p>22, 23, 23, 23, 23, 24, 24, 25, 25, 26, 26</p> <p>What is the approximate mean absolute deviation of this data set?</p> <p>A. 24</p> <p>B. 4</p> <p>C. 1.09</p> <p>D. None of the above</p>
<p>10. The box-and-whisker plot shows the distribution of heights of the members of the basketball team.</p> <p>Heights of Players on Basketball Team</p>  <p>Which measure of center and variability would best describe the distribution of the data?</p> <p>A. Mean and interquartile range</p> <p>B. Mean and mean absolute deviation</p> <p>C. Median and interquartile range</p> <p>D. Median and mean absolute deviation</p>	<p>12. Kirby surveyed his friends about the number of cousins they have. The results are shown in the dot plot. Which statement about the data is <i>not</i> true?</p> <p>Kirby’s Friends’ Cousin Count</p>  <p>A. The mean number of cousins that Kirby’s friends have is 6.</p> <p>B. Most of Kirby’s friends have between 2 and 10 cousins.</p> <p>C. A few of Kirby’s friends have more than 20 cousins.</p> <p>D. Kirby surveyed 28 of his friends.</p>

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- 13.** The number of points the basketball team scored in each of their first five games is listed.

69, 66, 81, 77, 72

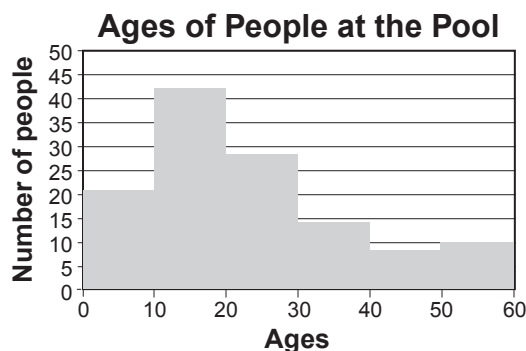
What is the median number of points scored in the first five games?

- A. 72
- B. 73
- C. 79
- D. 81

- 15.** Which one *best* describes *variation* for a numerical data set?

- A. How the data values vary with a single number
- B. A single number that summarizes all of the values
- C. Interquartile range
- D. Mean absolute deviation

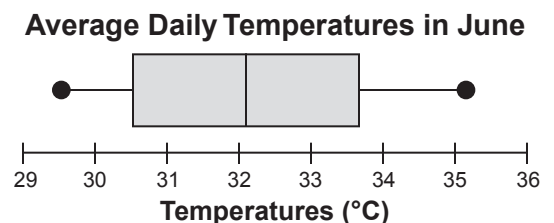
- 14.** The histogram shows the ages of people at the swimming pool.



About how many people are at the swimming pool?

- A. 44
- B. 110
- C. 123
- D. 135

- 16.** Which statement about the distribution of the data shown in the box-and-whisker plot is *not* true?



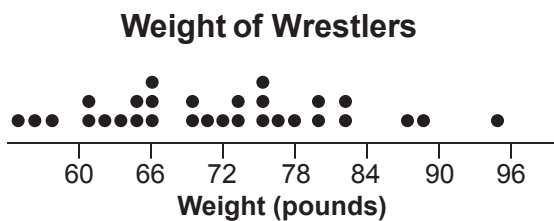
- A. The mean and the median temperatures are about the same.
- B. The distribution of temperatures is relatively symmetric.
- C. The distribution of temperatures is strongly skewed.
- D. There is little variability in the temperatures.

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17. Use the dot plot to answer the question.



What does each dot represent?

- A. The height of each wrestler in feet
- B. The height of each wrestler in inches
- C. The weight of each wrestler in kilograms
- D. The weight of each wrestler in pounds

19. Which type of display would best show the distribution of the data given in the frequency table?

Weight (pounds)	Frequency
0 – 2	8
2 – 4	5
4 – 6	7
6 – 8	10

- A. Box-and-whisker plot
- B. Histogram
- C. Dot plot
- D. Scatter plot

18. Which describes the distribution of a set of data that is collected to answer a statistical question?

- A. Center
- B. Spread
- C. Shape
- D. All of the above

20. The heights, in inches, of the students on the student council are listed.

49, 52, 52, 54, 57, 62,
66, 67, 67, 67, 68, 71

What is the interquartile range for the heights?

- A. 14
- B. 22
- C. 61
- D. 64

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Statistics and Probability: Open-Ended Response Assessment Prep

Directions: Answer the question completely. Show your work and explain your reasoning.

Problem 1: Elton surveys the students in his class about the amount of screen time they have each day. The results are shown in the frequency table.

Screen time (hours)	0 – 1	1 – 2	2 – 3	3 – 4	4 – 5
Frequency	2	7	9	6	3

1. Write an example of a good statistical question that Elton might have used to collect his data.
2. What type of display would be best for this type of data (dot plot, histogram, or box-and-whisker plot)?
3. Create a display of the data.
4. Describe the shape of the distribution and what this means in the given context.

Show your work.

Explain your reasoning.

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Statistics and Probability: Open-Ended Response Assessment Prep

Directions: Answer the question completely. Show your work and explain your reasoning.

Problem 2: The resting heart rates of 23 sixth-grade students are shown.

60, 65, 67, 69, 69, 69, 73, 73, 74, 75, 75, 75, 83, 85, 86, 87, 90, 92, 93, 94, 95, 95, 96

1. Make a dot plot of the data.
2. Describe the distribution of the data.
3. Which measures of center and variability would best describe the distribution?
4. Calculate the measure of center and variability that you chose in Question 3.

Show your work.

Explain your reasoning.

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Statistics and Probability: Open-Ended Response Assessment Prep

Directions: Answer the question completely. Show your work and explain your reasoning.

Problem 3: The lengths, in inches, of 16 babies born on the same day at one hospital are listed.

17, 17, 17, 18, 18, 19, 19, 20, 20, 22, 22, 22, 22, 22, 23

1. Draw a box-and-whisker plot for the data.
2. Describe the center, spread, and overall shape of the distribution.
3. Which measures of center and variability would best describe the distribution?

Show your work.

Explain your reasoning.