

Name _____ Date _____

Start Your Day the Right Way

Graphically Representing Data

Vocabulary

Choose the term that best completes each statement.

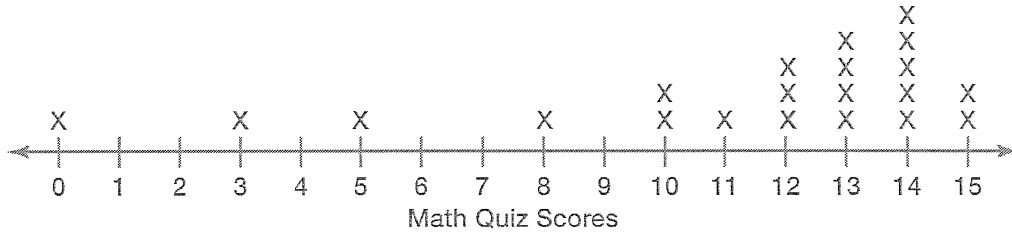
dot plot	five number summary	data distribution
symmetric	discrete data	skewed left
histogram	skewed right	frequency
box-and-whisker plot	bin	continuous

1. A(n) _____ is a graphical way to display quantitative data using vertical bars.
2. A data distribution is _____ if the peak of the data is to the left side of the graph with only a few data points to the right side of the graph.
3. _____ are data that have only a finite number of values or data that can be "counted."
4. A(n) _____ displays the data distribution based on a five number summary.
5. The overall shape of a graph which shows the way in which data are spread out or clustered together is called the _____.
6. _____ are data which can take any numerical value within a range.
7. A data distribution is _____ if the peak of the data is to the right side of the graph with only a few data points to the left side of the graph.
8. A(n) _____ is a graph that shows how discrete data are distributed using a number line.
9. For a set of data, the _____ consists of the minimum value, the first quartile, the median, the third quartile, and the maximum value.
10. A data distribution is _____ if the peak of the data is in the middle of the graph. The left and right sides of the graph are nearly mirror images of each other.
11. The number of data values included in a given bin of a data set is called _____.
12. The bar width in a histogram that represents an interval of data is often referred to as a _____.

Problem Set

Construct the graphical display for each given data set. Describe the distribution of the data.

- Construct a dot plot to display the scores on a recent math quiz. The data are 12, 14, 8, 13, 12, 14, 5, 13, 14, 3, 15, 15, 10, 13, 12, 0, 14, 11, 14, 13, and 10.



The data are skewed left.

- Construct a dot plot to display the number of canned goods donated by each student during a charity event. The data are 15, 18, 18, 22, 13, 15, 19, 17, 18, 17, 16, 10, 17, 20, 19, 25, 17, 18, 19, and 16.

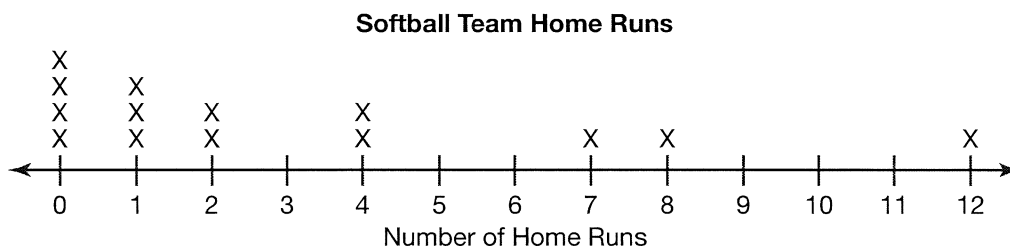
- Construct a dot plot to display the number of items purchased by a number of randomly chosen customers at a toy store. The data are 2, 4, 3, 7, 12, 3, 1, 5, 6, 3, 4, 2, 4, 3, 7, 14, 10, 3, 5, and 9.

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4. Construct a box-and-whisker plot to display the number of pets owned by a number of randomly chosen students. The data are 2, 0, 5, 1, 2, 1, 0, 8, 4, 3, 9, 1, 2, 3, and 1.
5. Construct a box-and-whisker plot to display the scores on a recent science test. The data are 90, 95, 100, 70, 85, 65, 90, 80, 65, 70, 75, 80, 85, 80, 60, 80, 75, and 85.
6. Construct a box-and-whisker plot to display the number of miles from school that a number of randomly chosen students live. The data are 5, 10, 15, 12, 1, 14, 9, 15, 3, 10, 12, 15, 8, 14, 13, and 2.

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Analyze the given dot plot which displays the number of home runs by each of the girls on the softball team this season. Use the dot plot to answer each question.



9. Describe the distribution of the data in the dot plot and explain what it means in terms of the problem situation.

The data are skewed right, because a majority of the data values are on the left of the plot and only a few of the data values are on the right of the plot. This means that a majority of the players on the softball team hit a small number of home runs, while only a few players on the team hit a large number of home runs.

10. How many players are on the softball team?

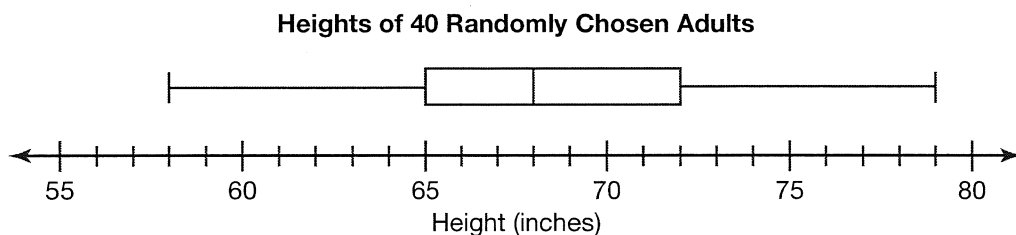
11. How many players hit more than 2 home runs?

12. How many players hit at least 1 home run?

13. How many players hit more than 1 and fewer than 9 home runs?

14. How many players scored more than 12 home runs?

Analyze the given box-and-whisker plot which displays the heights of 40 randomly chosen adults. Use the box-and-whisker plot to answer each question.



15. What is the height range of the middle 50 percent of the surveyed adults?
The middle 50 percent of the surveyed adults are at least 65 inches and at most 72 inches tall.

16. How many of the surveyed adults are exactly 68 inches tall?

17. What percent of the surveyed adults are 68 inches tall or shorter?

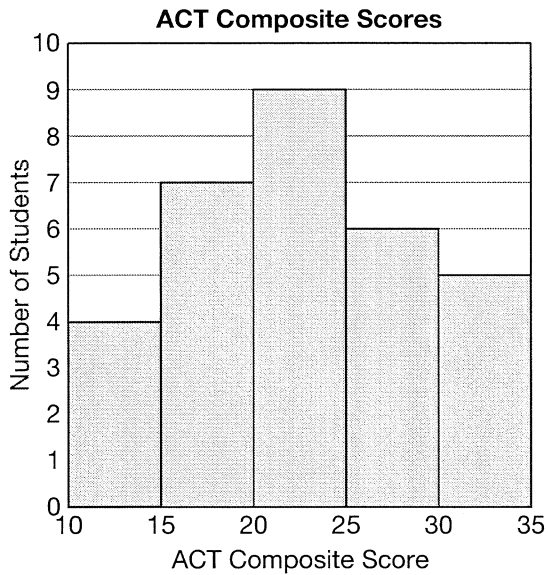
18. What is the height of the tallest adult surveyed?

19. How many of the surveyed adults are at least 58 inches tall?

20. Describe the distribution of the data in the box-and-whisker plot and explain what it means in terms of the problem situation.

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Analyze the given histogram which displays the ACT composite score of several randomly chosen students. Use the histogram to answer each question.



21. How many students are represented by the histogram?

There are a total of 31 students represented by the histogram.

22. Describe the distribution of the data in the histogram and explain what it means in terms of the problem situation.

23. How many of the students had an ACT composite score of exactly 25?
24. How many of the students had an ACT composite score of at least 20?
25. How many of the students had an ACT composite score less than 30?
26. How many more students had an ACT composite score between 15 and 20 than had a composite score between 30 and 35?