

Investigation 5 Continued

_____ - The middle number in a set of data.

Remember, put the numbers in order from _____ to _____ and then _____ off one number until you're left with one or two numbers in the middle.

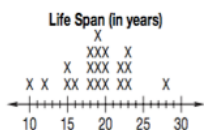
We can also find the median by listing the ages in order and counting halfway up or down.

8, 9, 9, 9, 11, 11, 11, 11, 12, 12, 12, 12, 12, 13, 13, 13, 15, 16, 17, 21, 22

↑
median

Interpret At the top of the next page, we show another line plot. Refer to this line plot to answer problems 7–11.

The Lizard Emporium pet store tracks the life span of the iguanas it sells. The data obtained for 21 iguanas are displayed in the line plot on the next page.



7. What was the most frequent life span (mode) of the iguanas that were tracked?
8. How many iguanas were tracked?
9. How many iguanas lived between 17 and 25 years?
10. What is the range of the life spans?
11. What is the median life span of the iguanas?

Work:

12. **Represent** The teacher recorded the number of papers she graded each day for 15 days. Make a line plot for the following numbers of papers graded each day.

19, 18, 17, 15, 18, 20, 14, 17,
19, 11, 18, 17, 16, 18, 16

Interpret Refer to your line plot to answer problems 13–15.

13. Which number is an outlier?
14. Which number occurs most often (mode)?
15. What is the median for this set of data?

Work:

Example 1

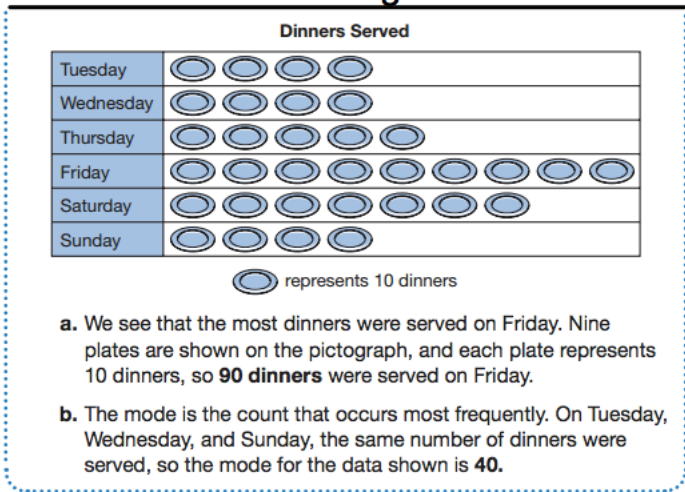
Math Language

A **graph** is a diagram that shows data in an organized way.

The **pictograph** on the next page shows the number of dinners served at a restaurant each day it was open last week. Refer to the graph to answer problems a and b.

- a. How many dinners were served on the day that the most dinners were served?
- b. What is the mode for the set of data displayed on the "Dinners Served" graph?

Investigation 5 Continued



Work:

A)

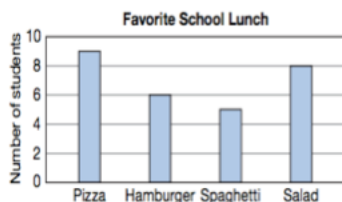
B)

Refer to the information in Example 1 to answer problems 16 and 17.

16. What is the range of the number of dinners served?
17. What is the median of the number of dinners served?

Example 2

Each student in the class was asked to name his or her favorite school lunch from a choice of four menus. The results are recorded in this **bar graph**:



According to the bar graph, how many students chose pizza as their favorite school lunch?

The bar for pizza ends halfway between the line for 8 and the line for 10. Halfway between 8 and 10 is 9. Thus, pizza was the favorite food of **9 students**.

18. What is the total number of students represented by the four bars in the graph?

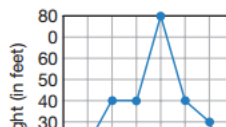
19. Is it true that the number of students who named pizza as their favorite was twice the number who named spaghetti? How do you know?

Analyze Can we find the median of the information in the bar graph? Explain.

Example 3

In the **line graph** at right, Sharon plotted the altitude of a model airplane during a 70-second flight.

For how many seconds was the plane



Example 3

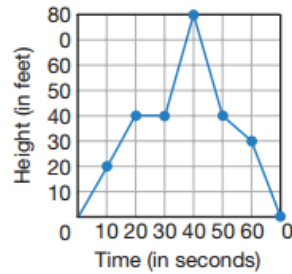
In the line graph at right, Sharon plotted the altitude of a model airplane during a 70-second flight.

For how many seconds was the plane descending before it landed?

According to the graph, the plane reached its maximum altitude 40 seconds into the flight and landed 70 seconds after takeoff.

It descended throughout the last

30 seconds of the flight.



Refer to the information in Example 3 to answer problems **20** and **21**.

- 20.** What was the maximum altitude reached by the model airplane?
- 21.** For how many seconds during the flight did the plane fly at a constant altitude?