2-6 Mean - Practice and Problem Solving

Find the mean of the data represented in each model.

7.

Weekly Allowance

Enrique $2 $2 $2 $
Sophie $2 $2 $2 $2 $2 $
Jake $2 $2
Kendra $2 $2 $
Brittany $2 $2 $2 $2

$2 = $2
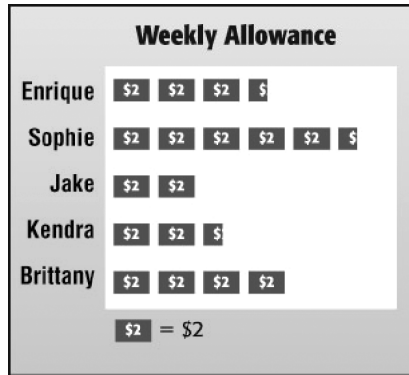
$$\text{mean} = \frac{\$7 + \$11 + \$4 + \$5 + \$8}{5}$$

$$= \frac{\$35}{5} \text{ or } \$7$$

9.

Pablo's Chapter Test Scores
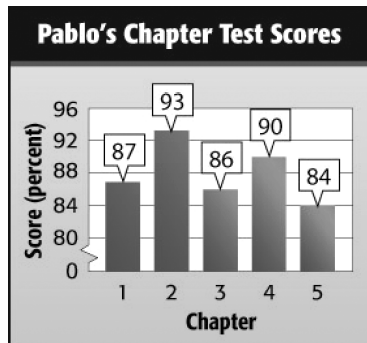
$$\text{mean} = \frac{87 + 93 + 86 + 90 + 84}{5}$$

$$= \frac{440}{5} \text{ or } 88 \text{ percent}$$

NATURE Use the table that shows the approximate heights of some of the tallest U.S. trees.

Tallest Trees in U.S.	
Tree	Height (ft)
Western Red Cedar	160
Coast Redwood	320
Monterey Cypress	100
California Laurel	110
Sitka Spruce	200
Port-Orford-Cedar	220
Source: *The World Almanac*	

11. Identify the outlier(s).

Compared to the rest of the data, 320 feet is much higher. So it is the outlier.

13. How does the outlier affect the mean of the data?

Sample answer: An outlier such as this that is higher than the other values causes the mean of the data to be higher than most of the values in the table. So, the mean is less representative of the data.

MONEY Use the following information.
Jamila earned $15, $20, $10, $12, $20, $16, $80, $18, and $25 baby-sitting.

15. Identify the outlier(s).

$80

Find the mean for each set of data. Explain the method you used.

17. Number of songs on MP3 player: 145, 87, 150, 122, 96

$$\text{mean} = \frac{145 + 87 + 150 + 122 + 96}{5}$$
$$= \frac{600}{5} \text{ or } 120 \text{ songs}$$

19. Age of camp counselors (in years): 13, 17, 14, 16, 16, 14, 16, 14

$$\text{mean} = \frac{13 + 17 + 14 + 16 + 16 + 14 + 16 + 14}{8}$$
$$= \frac{120}{8} \text{ or } 15 \text{ years old}$$

21. **WEATHER** The graphic at the right shows the 5-day forecast as shown on the local news. What is the difference between the mean high and mean low temperature for this 5-day period. Justify your answer.

$$\text{mean high} = \frac{63 + 60 + 55 + 57 + 65}{5}$$

$$= \frac{300}{5} \text{ or } 60°F$$

$$\text{mean low} = \frac{45 + 38 + 40 + 39 + 42}{5}$$

$$= \frac{204}{5} \text{ or } 40.8°F$$

The difference in the mean high and mean low temperature is 60°F − 40.8°F or 19.2°F.

23. **SELECT A TOOL** The number of people dining at a certain restaurant for several days was 319, 127, 244, 398, 427, and 261. Which of the following tools might you use to find the mean of the data? Justify your selection. Then use the tool to solve the problem.

| draw a model | calculator | real objects |

Calculator; Since the data are large, I would use a calculator to find the mean; 296 people.

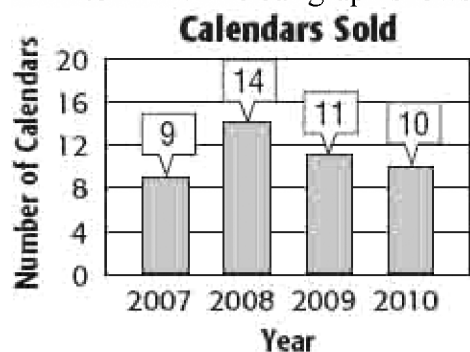25. **OPEN ENDED** Create a set of data that has five values and a mean of 34.

Sample answer: Pages read: 27, 38, 26, 39, 40

$$\text{mean} = \frac{27 + 38 + 26 + 39 + 40}{5}$$

$$= \frac{170}{5} \text{ or } 34$$

27. Student Council sells school calendars each year as a fund-raiser. David was on Student Council from 2007 to 2010. The bar graph shows the number of calendars he sold each year.

Calendars Sold

What is the mean number of calendars David sold each year?
A   9
B   10
C   11
D   14

C; mean $= \dfrac{9+14+11+10}{4}$

$= \dfrac{44}{4}$ or 11

29. BASEBALL The table shows the number of players on each team in a baseball league. Make a line plot of the data.

Players Per Team					
16	15	16	15	18	19
12	15	16	14	18	14

Step 1 Draw a number line. The data includes numbers from 12 to 19. So a scale from 10 to 20 is reasonable.
Step 2 Put an × above the number that represents the number of players for each team. Add a title.

Number of Players
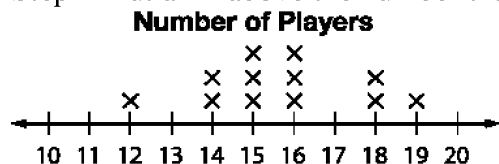
31. CARPETING How many square feet of carpeting are needed to cover a room that is 11 feet by 16 feet?

$A = l \times w$

$A = 11 \times 16$

$A = 176$

So, 176 square feet of carpet are needed.

PREREQUISITE SKILL Subtract.

33. $102 - 39$

$102 - 39 = 63$

35. 1,206 − 809

1,206 − 809 = 397