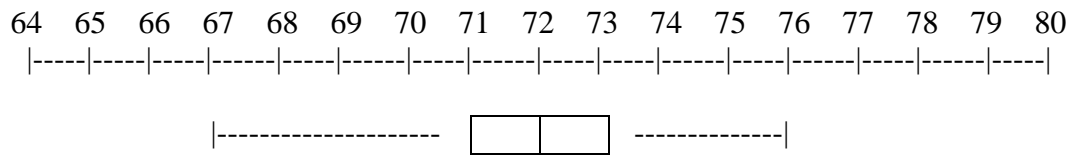


Read and solve.

1. Carol went on a 5-day bicycle trip. She rode 23 miles the first day, 22 miles the second, 21 miles the third, 17 miles the fourth, and 17 miles the fifth day. What was the mean number of miles per day that Carol rode on her 5-day bicycle trip?

- A. 6 mi.
- B. 20 mi.
- C. 21 mi.
- D. 23 mi.

2. Alberto made the box-and-whisker plot of the heights (in inches) of the members of his basketball team.



3. What is the range of heights of the team members?

- F. 16 in.
- G. 9 in.
- H. 4 in.
- J. 2 in.

4. In which data set is the median value equal to the mean value?

- A. {2, 4, 7, 9, 11}
- B. {7, 9, 10, 11, 16}
- C. {6, 12, 18, 24, 27}
- D. {33, 40, 46, 52, 59}

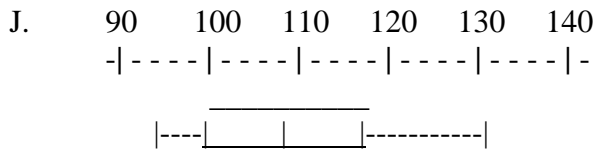
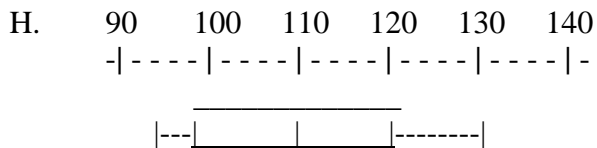
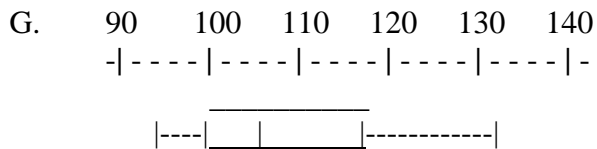
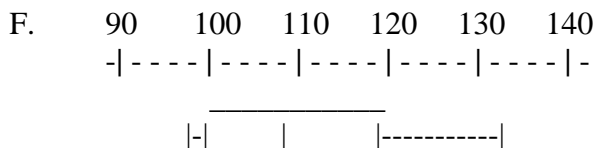
SOL Mini-Challenge—continued

5. Researchers testing a new high blood pressure medication measured the initial blood pressure of 15 patients before administering the drug.

Diastolic Blood Pressure

Stem	Leaf
9	4, 5, 8
10	0, 2, 3, 4, 8
11	1, 6, 7, 7
12	2, 7
13	1

Which box-and-whisker plot best represents the data displayed in the stem-and-leaf plot?



SOL Mini-Challenge—continued

5.

The matrices show the membership by grades in the Science Club (S) and the Art Club (A) at Beacon Hill, Rockwood, and Whitney middle schools.

Beacon Hill		Rockwood		Whitney	
S	A	S	A	S	A
Gr 6	$\begin{bmatrix} 4 & 5 \end{bmatrix}$	Gr 6	$\begin{bmatrix} 8 & 4 \end{bmatrix}$	Gr 6	$\begin{bmatrix} 8 & 6 \end{bmatrix}$
Gr 7	$\begin{bmatrix} 9 & 3 \end{bmatrix}$	Gr 7	$\begin{bmatrix} 10 & 5 \end{bmatrix}$	Gr 7	$\begin{bmatrix} 9 & 2 \end{bmatrix}$
Gr 8	$\begin{bmatrix} 12 & 7 \end{bmatrix}$	Gr 8	$\begin{bmatrix} 14 & 8 \end{bmatrix}$	Gr 8	$\begin{bmatrix} 14 & 4 \end{bmatrix}$

Which shows the total number of students in each club at each grade level at the three schools?

A $[40 \quad 49 \quad 43]$

B $\begin{bmatrix} 20 & 15 \\ 28 & 10 \\ 40 & 19 \end{bmatrix}$

C $\begin{bmatrix} 25 & 15 \\ 32 & 17 \\ 31 & 12 \end{bmatrix}$

D $\begin{bmatrix} 9 & 12 & 19 \\ 12 & 15 & 22 \\ 14 & 11 & 18 \end{bmatrix}$

SOL Mini-Challenge—continued

6.

Matrix *A* shows the cost per pound of apples and oranges at three different markets during the first week of September.

$$\begin{array}{l} \text{apples} \\ \text{oranges} \end{array} \begin{array}{ccc} \text{GoGo} & \text{Alto} & \text{A\&B} \\ \begin{bmatrix} 1.09 & 1.11 & 0.89 \\ 1.15 & 1.11 & 0.79 \end{bmatrix} & = & A \end{array}$$

Matrix *B* shows the prices one week later at the same three markets.

$$\begin{array}{l} \text{apples} \\ \text{oranges} \end{array} \begin{array}{ccc} \text{GoGo} & \text{Alto} & \text{A\&B} \\ \begin{bmatrix} 1.09 & 1.14 & 0.49 \\ 1.19 & 1.14 & 0.89 \end{bmatrix} & = & B \end{array}$$

Which matrix correctly shows the difference in prices, $B - A$?

F $\begin{bmatrix} 0 & 0.03 & -0.40 \\ 0.04 & 0.03 & 0.10 \end{bmatrix}$

G $\begin{bmatrix} 0.06 & 0 & -0.10 \\ 0.10 & 0 & 0.40 \end{bmatrix}$

H $\begin{bmatrix} 0 & 0.03 & 0.40 \\ 0.04 & 0.03 & 0.10 \end{bmatrix}$

J $\begin{bmatrix} 2.18 & 2.25 & 1.38 \\ 2.34 & 2.25 & 1.68 \end{bmatrix}$

7.

$$[G] = \begin{bmatrix} 4 & 3 \\ 2 & -1 \\ -2 & 1 \end{bmatrix}$$

$$[H] = \begin{bmatrix} 8 & 2 \\ 3 & -3 \\ 5 & 7 \end{bmatrix}$$

$$[G] + [H] = ?$$

A $\begin{bmatrix} 12 & 5 \\ 5 & -4 \\ 3 & 8 \end{bmatrix}$

B $\begin{bmatrix} 12 & 5 \\ 5 & 4 \\ -3 & 8 \end{bmatrix}$

C $\begin{bmatrix} 7 & 10 \\ 1 & 0 \\ -1 & 2 \end{bmatrix}$

D $\begin{bmatrix} -4 & 1 \\ -1 & 2 \\ -7 & -6 \end{bmatrix}$

SOL Mini-Challenge—continued
8.

$$[A] = \begin{bmatrix} 2 & 4 \\ -1 & 1 \\ -6 & -1 \end{bmatrix}$$

$$0.5[A] = ?$$

$$\mathbf{F} \begin{bmatrix} 2 & 4 \\ 0.5 & 1 \\ -3 & -1 \end{bmatrix}$$

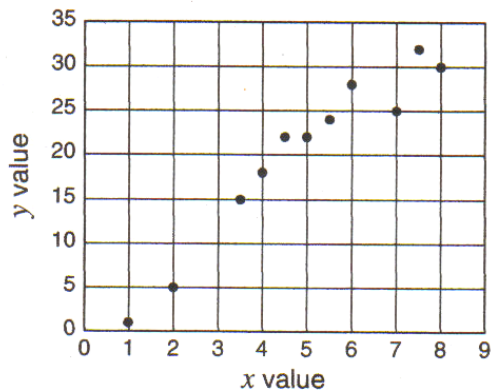
$$\mathbf{G} \begin{bmatrix} 1 & 2 \\ -0.5 & 0.5 \\ -3 & -0.5 \end{bmatrix}$$

$$\mathbf{H} \begin{bmatrix} 1 & 2 \\ -1 & 0.5 \\ -6 & -0.5 \end{bmatrix}$$

$$\mathbf{J} \begin{bmatrix} 3 \\ 0 \\ -3.5 \end{bmatrix}$$

SOL Mini-Challenge continued

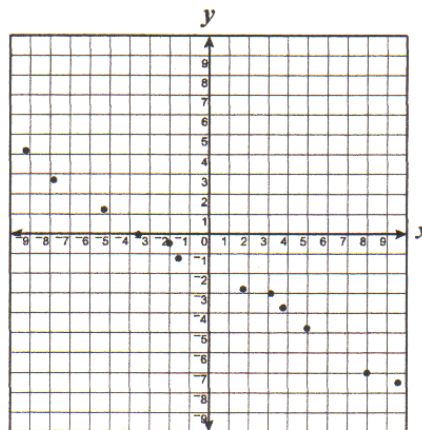
9.



Based on the scatter plot, which x value would best match $y = 12$?

- A 3
- B 4
- C 48
- D 56

10.



Which equation best represents the data shown on the scatterplot?

- F $y = -\frac{3}{5}x - 2$
- G $y = \frac{x}{2} + 2$
- H $y = -\frac{3}{5}x$
- J $y = \frac{3}{5}x + \frac{10}{3}$