

Read and solve.

1.

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 $[40 \ 49 \ 43]$

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

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

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

2.

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

$$0.5[A] = ?$$

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

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

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

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

3.
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, $B - A$?

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

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

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

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

4.
7.

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

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

$$[\text{G}] + [\text{H}] = ?$$

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

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

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

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