

A.4

1.

Which of the following operations would result in the matrix $\begin{bmatrix} -4 & 2 \\ 6 & 1 \end{bmatrix}$?

F $2 \begin{bmatrix} -2 & 1 \\ 3 & 0 \end{bmatrix}$

G $\frac{1}{2} \begin{bmatrix} -2 & 1 \\ 3 & 0 \end{bmatrix}$

H $\begin{bmatrix} 5 & 5 \\ 4 & 3 \end{bmatrix} - \begin{bmatrix} -1 & -3 \\ -2 & -2 \end{bmatrix}$

J $\begin{bmatrix} 3 & -1 \\ -2 & 2 \end{bmatrix} + \begin{bmatrix} -7 & 3 \\ 8 & -1 \end{bmatrix}$

2.

$$[B] = \begin{bmatrix} 2 & 0 & 5 \\ -3 & 1 & -2 \\ 4 & -1 & -2 \end{bmatrix}$$

$$4[B] = ?$$

A $\begin{bmatrix} 6 & 0 & 9 \\ 1 & 5 & 2 \\ 8 & 3 & 2 \end{bmatrix}$

B $\begin{bmatrix} 8 & 0 & 20 \\ 1 & 4 & -8 \\ 16 & -4 & -8 \end{bmatrix}$

C $\begin{bmatrix} 8 & 0 & 20 \\ -12 & 4 & -8 \\ 16 & -4 & -8 \end{bmatrix}$

D $\begin{bmatrix} 6 & 0 & 9 \\ 1 & 5 & 2 \\ 8 & 3 & 2 \end{bmatrix}$

3.

$$\begin{bmatrix} 2 & -4 \\ 3 & 2 \end{bmatrix} + \begin{bmatrix} 6 & 1 \\ 4 & 2 \end{bmatrix} \text{ is equal to}$$

which matrix?

A $\begin{bmatrix} 8 & -3 \\ 7 & 4 \end{bmatrix}$

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

C $\begin{bmatrix} 8 & 4 \\ 0 & 4 \end{bmatrix}$

D $\begin{bmatrix} -4 & -6 \\ 26 & 7 \end{bmatrix}$

4.

$$-2 \begin{bmatrix} -2 & 4 \\ -3 & -6 \end{bmatrix} \text{ is equal to which matrix?}$$

F $\begin{bmatrix} -4 & 2 \\ -5 & 12 \end{bmatrix}$

G $\begin{bmatrix} -4 & 2 \\ -6 & 8 \end{bmatrix}$

H $\begin{bmatrix} 4 & -8 \\ 6 & 12 \end{bmatrix}$

J $\begin{bmatrix} 0 & 2 \\ 1 & 4 \end{bmatrix}$

5.

$$[Q] = \begin{bmatrix} 2 & 1 \\ -1 & 1 \\ 3 & 4 \end{bmatrix} \quad [R] = \begin{bmatrix} -7 & 3 \\ -4 & 1 \\ 3 & -2 \end{bmatrix}$$

$$[Q] - [R] = ?$$

F $\begin{bmatrix} -2 & 9 \\ 0 & 3 \\ 6 & 9 \end{bmatrix}$

G $\begin{bmatrix} 9 & -2 \\ 3 & 0 \\ 0 & 6 \end{bmatrix}$

H $\begin{bmatrix} -5 & 2 \\ -5 & 0 \\ -9 & -6 \end{bmatrix}$

J $\begin{bmatrix} 7 \\ 3 \\ -11 \end{bmatrix}$

6.

$$\begin{bmatrix} 3 & 7 \\ 4 & 6 \end{bmatrix} - \begin{bmatrix} -8 & 2 \\ 6 & -2 \end{bmatrix}$$

is equal to which matrix?

A $\begin{bmatrix} 0 & 5 \\ -2 & 4 \end{bmatrix}$

B $\begin{bmatrix} 11 & 5 \\ -2 & 8 \end{bmatrix}$

C $\begin{bmatrix} -9 & 12 \\ 24 & -12 \end{bmatrix}$

D $\begin{bmatrix} 6 & -5 \\ 2 & 4 \end{bmatrix}$

7.

$$D = \begin{bmatrix} 0 & 2 \\ 1 & -3 \\ 5 & 4 \end{bmatrix}$$

$$-2D = ?$$

$$A \begin{bmatrix} 0 & -4 \\ -2 & 6 \\ -10 & -8 \end{bmatrix}$$

$$B \begin{bmatrix} -2 & 0 \\ -1 & -5 \\ 3 & 2 \end{bmatrix}$$

$$C \begin{bmatrix} -2 & -4 \\ -2 & 6 \\ -10 & -8 \end{bmatrix}$$

$$D \begin{bmatrix} 0 & 2 \\ -2 & 6 \\ -10 & 8 \end{bmatrix}$$

8.

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

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

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

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

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

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

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

9.

This matrix shows the prices for some items at three hamburger shops.

	Shop 1	Shop 2	Shop 3
Burger	\$2.60	\$1.60	\$2.10
Fries	\$0.80	\$0.60	\$0.70
Shake	\$1.00	\$0.90	\$1.10

Each of the three shops honor their competitors' coupons. Which matrix shows what the prices would be with a 10%-off coupon?

$$A \begin{bmatrix} \$2.34 & \$1.44 & \$1.90 \\ \$0.72 & \$0.54 & \$0.63 \\ \$0.90 & \$0.81 & \$1.00 \end{bmatrix}$$

$$B \begin{bmatrix} \$2.36 & \$1.44 & \$1.89 \\ \$0.72 & \$0.54 & \$0.63 \\ \$0.90 & \$0.81 & \$1.00 \end{bmatrix}$$

$$C \begin{bmatrix} \$2.36 & \$1.44 & \$1.90 \\ \$0.72 & \$0.54 & \$0.63 \\ \$0.90 & \$0.81 & \$0.99 \end{bmatrix}$$

$$D \begin{bmatrix} \$2.34 & \$1.44 & \$1.89 \\ \$0.72 & \$0.54 & \$0.63 \\ \$0.90 & \$0.81 & \$0.99 \end{bmatrix}$$

10.

The number of car sales for May 2000 at Auto One are:

	Compacts	Sport UV	Luxury
Bob	14	8	6
Carol	7	13	1
Blanca	12	10	8

If the sales people get a \$200 commission on any car they sell, which matrix shows the amount in commissions each earns?

	Compacts	Sport UV	Luxury
Bob	2,800	1,600	1,200
Carol	1,400	2,600	200
Blanca	2,400	2,000	1,600

	Compacts	Sport UV	Luxury
Bob	214	208	206
Carol	207	213	211
Blanca	212	210	208

	Compacts	Sport UV	Luxury
Bob	186	192	194
Carol	193	187	199
Blanca	188	190	192

	Compacts	Sport UV	Luxury
Bob	1,600	1,000	800
Carol	900	1,500	300
Blanca	1,400	1,200	1,000

11.

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

	GoGo	Alto	A&B
apples	1.09	1.11	0.89
oranges	1.15	1.11	0.79

$$= A$$

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

	GoGo	Alto	A&B
apples	1.09	1.14	0.49
oranges	1.19	1.14	0.89

$$= B$$

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

F	0	0.03	-0.40
	0.04	0.03	0.10

G	0.06	0	-0.10
	0.10	0	0.40

H	0	0.03	0.40
	0.04	0.03	0.10

J	2.18	2.25	1.38
	2.34	2.25	1.68