

26. If $x = \begin{bmatrix} 3 & 4 \\ 5 & 6 \end{bmatrix}$ and $y = \begin{bmatrix} -2 & 4 \\ -1 & 0 \end{bmatrix}$, find $x - y$.

f. $\begin{bmatrix} 5 & 0 \\ 6 & 6 \end{bmatrix}$

g. $\begin{bmatrix} 1 & 8 \\ 4 & 6 \end{bmatrix}$

h. $\begin{bmatrix} -5 & 0 \\ -6 & -6 \end{bmatrix}$

i. $\begin{bmatrix} 4 & 1 \\ 2 & 8 \end{bmatrix}$

j. $\begin{bmatrix} 6 & 1 \\ 2 & 5 \end{bmatrix}$

45. Given that $a \begin{bmatrix} 2 & 6 \\ 1 & 4 \end{bmatrix} = \begin{bmatrix} x & 27 \\ y & z \end{bmatrix}$ for some real number a ,
what is $x + z$?

A. $\frac{4}{3}$

B. $\frac{27}{2}$

C. 26

D. 27

E. 48

53. The *determinant* of a matrix $\begin{bmatrix} a & b \\ c & d \end{bmatrix}$ equals $ad - cb$.

What must be the value of x for the matrix $\begin{bmatrix} x & 8 \\ x & x \end{bmatrix}$ to have a determinant of -16 ?

A. -4

B. -2

C. $-\frac{8}{5}$

D. $\frac{8}{3}$

E. 4