

Name
Matrices Review

If

$$A = \begin{bmatrix} 2 & 3 \\ -2 & -4 \end{bmatrix}, B = \begin{bmatrix} 5 & 7 \\ 7 & 10 \end{bmatrix},$$

$$C = \begin{bmatrix} -2 & 3 & 4 \\ -1 & 2 & 0 \\ -5 & 6 & 1 \end{bmatrix}, D = \begin{bmatrix} 2 & 3 \\ 4 & 1 \\ -3 & 7 \end{bmatrix}, E = \begin{bmatrix} 3 & -4 & 5 \\ 6 & 7 & 1 \end{bmatrix}, F = \begin{bmatrix} 1 & 2 & 5 \\ 0 & -3 & 10 \\ 2 & -6 & 1 \end{bmatrix}$$

Find the following

1) $2A+B$ $\begin{bmatrix} 9 & 13 \\ 3 & 2 \end{bmatrix}$

2) $C-3F$ $\begin{bmatrix} -5 & -3 & -11 \\ -1 & 11 & -30 \\ -11 & 24 & -2 \end{bmatrix}$

3) $4C+F$ $\begin{bmatrix} -7 & 14 & 21 \\ -4 & 5 & 10 \\ -18 & 18 & 5 \end{bmatrix}$

4) Solve for x if $A+x=B$

$$\begin{bmatrix} 3 & 4 \\ 9 & 14 \end{bmatrix}$$

5) Solve for x if $x-C=F$

$$\begin{bmatrix} -1 & 5 & 9 \\ -1 & -1 & 10 \\ -3 & 0 & 2 \end{bmatrix}$$

6) AB

$$\begin{bmatrix} 31 & 44 \\ -38 & -54 \end{bmatrix}$$

7) CD

$$\begin{bmatrix} -4 & 25 \\ 6 & -7 \\ 11 & -2 \end{bmatrix}$$

8) AE

$$\begin{bmatrix} 24 & 13 & 13 \\ -30 & -20 & -14 \end{bmatrix}$$

9) A^{-1}

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

10) B^{-1} $\begin{bmatrix} 10 & -7 \\ -7 & 5 \end{bmatrix}$

11) $\text{Det}(C)$

15

12) $\text{Det}(F)$

127

13) Solve for x if $Ax=B$

$\begin{bmatrix} 20.5 & 29 \\ -12 & -17 \end{bmatrix}$

14) Solve for x if $Bx=A$

$\begin{bmatrix} 34 & 58 \\ -24 & -41 \end{bmatrix}$

Solve the following systems

15) $3x+y=-4$
 $-2x+4y=7$

$(-1.643, .929)$

16) $6x=11$
 $-3x+4y=2$

$(1.833, 3.125)$

17) $4x-y+2z=10$ Given the inverse
 $5x+2y-3z=0$
 $x-3y+z=6$

$\left(\frac{38}{27}, -\frac{26}{27}, \frac{46}{27}\right)$

$$\frac{1}{54} \begin{pmatrix} 7 & 5 & 1 \\ 8 & -2 & -22 \\ 17 & -11 & -13 \end{pmatrix}$$

18) $x-2y+3z=18$ Given the inverse
 $9x+2y-z=-2$
 $-6x-y+2z=4$

$(1, -4, 3)$

$$\frac{1}{36} \begin{pmatrix} 3 & 1 & -4 \\ -12 & 20 & 28 \\ 3 & 13 & 20 \end{pmatrix}$$