

$$\#1-7 \text{ Let } A = \begin{bmatrix} -1 & -2 & 4 \\ 2 & 3 & 1 \end{bmatrix} \quad B = \begin{bmatrix} 5 & 2 & -3 \\ -1 & 7 & 4 \end{bmatrix} \quad C = \begin{bmatrix} -2 & 4 \\ 3 & 2 \\ 5 & -1 \end{bmatrix} \quad D = \begin{bmatrix} 4 & 2 \\ 3 & -1 \end{bmatrix}$$

1. Find $A - B$.
2. Find $B + 2A$
3. Find $2C - 3B$
4. Which of the products are defined? AB AC BC BA CA CB
5. If it is defined, find AC .
6. Find the element in the second row and first column of CA , if it is defined.
7. Find D^2

#8-12 Solve the following systems of equations using any method:

8. $10x - 2y = -13$
 $-2x + 3y = 13$

11. $x + 6y + 3z = 4$
 $2x + y + 2z = 3$
 $3x - 2y + z = 0$

9. $x - 2y = -1$
 $-3x + 6y = 5$

12. $2x + 2y + z = 6$
 $4x - 3y + z = -8$
 $-2x - 6z = 5$

10. $-7x + 4y = 11$
 $14x - 8y = -22$

13. Solve the following system of equations using GRAPHING:

$$5x + 2y = 10$$

$$-3x + 2y = -6$$

14. A company produces Italian sausages and bratwursts at plants in Green Bay and Sheboygan, WI. The Green Bay plant can produce 800 Italian sausages per hour and 800 bratwursts per hour. The Sheboygan plant can produce 500 Italian sausages per hour and 1000 bratwursts per hour. How many hours should each plant operate to fill an order of exactly 62,250 Italian sausages and 76,500 bratwursts?

Hint: Let X = # of hours the Green Bay plant operates and Y = # of hours the Sheboygan plant operates.