Algebra 2 **Name**_____
Ch 2 Practice Test

Let $A=\begin{bmatrix}2 & -3\\ 3 & -3\end{bmatrix}$ $B=\begin{bmatrix}3 & 0\\ -6 & 2\end{bmatrix}$ $C=\begin{bmatrix}2 & 1 & -3\\ 0 & 4 & 1\end{bmatrix}$ $D=\begin{bmatrix}2 & 0\\ -3 & 1\\ 5 & -2\end{bmatrix}$ $E=\begin{bmatrix}-1 & -1 & 2\\ 2 & 2 & -3\end{bmatrix}$

Perform the indicated operation, if possible.

1) -2A

2) C + E

3) B + D

4) BA

5) E – ½ C

6) B^{-1}

7) C^{-1}

8) DET (A)

9) DET (B)

10) Solve for x and y: $2\begin{bmatrix}x & 3\\ 9 & y-2\end{bmatrix}=\begin{bmatrix}14 & 6\\ 18 & 5\end{bmatrix}$

11) Find $\begin{vmatrix} 10 & 7 \\ -3 & -2 \end{vmatrix}$

12) Find $\begin{vmatrix} -4 & 2 & 1 \\ 3 & 1 & 0 \\ 0 & 2 & -1 \end{vmatrix}$

Solve the following systems using Matrices.

a. Set up the Matrix equation.
b. Solve.

13) $4x - 2y = -6$
$3x + y = -7$

14) $7x + 3y = -1$
$2x = y + 9$

15) $5x + 2y = 1$
$x + 2y = 5$

16) $x + y + z = 7$
$2x - 3y - z = -1$
$3x + 2y - 2z = -4$

17) $x - y + 4z = 0$
$3x - 2y + z = -5$
$2x - y + 3z = 1$

18) $2a + 4b + c = 4$
$a + 3b + 2c = 12$
$3a + b + c = -2$

Answers:

1. $\begin{bmatrix} -4 & 6 \\ -6 & 6 \end{bmatrix}$ 2. $\begin{bmatrix} 1 & 0 & -1 \\ 2 & 6 & -2 \end{bmatrix}$ 3. Not Possible 4. $\begin{bmatrix} 6 & -9 \\ -6 & 12 \end{bmatrix}$

5. $\begin{bmatrix} 2 & -3/2 & 7/2 \\ 2 & 0 & -7/2 \end{bmatrix}$ 6. $\begin{bmatrix} 1/3 & 0 \\ 1 & 1/2 \end{bmatrix}$ 7. Not Possible 8. 3 9. 6

10. x = 7, y = 9/2 11. 1 12. 16 13. (-2, -1) 14. (2, -5)

15. (-1, 3) 16. (2, 0, 5) 17. (2, 6, 1) 18. (-3, 1, 6)