Name_____ Hour _____

Honors Practice Matrices Test – Show your work!

Solve each matrix equation.

1. $B + \begin{bmatrix} 4 & 7 \\ 0 & 3 \\ 1 & 6 \end{bmatrix} = \begin{bmatrix} 4 & 2 \\ 9 & -2 \\ 2 & -1 \end{bmatrix}$

1. B = $\begin{bmatrix} & \\ & \\ & \end{bmatrix}$

2. $C - \begin{bmatrix} 0 & -3 \\ 2 & -6 \end{bmatrix} = \begin{bmatrix} -4 & 5 \\ -2 & 6 \end{bmatrix}$

2. B = $\begin{bmatrix} & \\ & \\ & \end{bmatrix}$

Find the value of each variable.

3. $\begin{bmatrix} 10 & -3 & -2 \\ 1 & 11 & -1 \end{bmatrix} = \begin{bmatrix} 3x+1 & -3 & 2-y \\ 1 & 3x+2 & -1 \end{bmatrix}$

3. x = _____ y =_____

4. $\begin{bmatrix} 2 & 3 \\ 1 & -1 \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} -2 \\ 4 \end{bmatrix}$

4. x = _____ y =_____

For questions 5 – 14, use the following matrices to perform each operation.

A = $\begin{bmatrix} 4 & 5 \\ 4 & -5 \end{bmatrix}$ **B =** $\begin{bmatrix} -4 & 2 \\ 10 & 5 \end{bmatrix}$ **C=** $\begin{bmatrix} 2 & -2 & 6 \\ -4 & 3 & 8 \end{bmatrix}$ **D=** $\begin{bmatrix} 5 & 3 & 1 \\ 2 & 7 & 4 \end{bmatrix}$

5. Find 2A

$\begin{bmatrix} & \\ & \end{bmatrix}$

6. Find A + B

$\begin{bmatrix} & \\ & \end{bmatrix}$

7. Find D – C

$\begin{bmatrix} & & \\ & & \end{bmatrix}$

8. Find AC

9. Find 3BD

10. Find (A+B)D

8. $\begin{bmatrix} & \\ & \end{bmatrix}$

9. $\begin{bmatrix} & \\ & \end{bmatrix}$

10. $\begin{bmatrix} & \\ & \end{bmatrix}$

11. Find detA

12. Find A^{-1}

11. detA = _____

12. $A^{-1} = \begin{bmatrix} & \\ & \end{bmatrix}$

13. Find detB

14. Find B^{-1}

13. detB = _____

14. $B^{-1} = \begin{bmatrix} & \\ & \end{bmatrix}$

Solve each system of equations using matrices.

15. $2x - 5y = 5$

$x - y = 4$

15. _____

16. $2x - y = 7$

$-4x + 2y = -14$

16. _____

17. $2x + 5y = 7$

$3x - y = 5$

17. _____

18. $x + 2y - z = 7$

$2x - 3y - 4z = -3$

$x + y + z = 0$

18. _____

19. Find det $\begin{bmatrix} 1 & 0 & 0 \\ -1 & 2 & 3 \\ 4 & -1 & 2 \end{bmatrix}$

19. _____

20. $\begin{bmatrix} -2 & 1 & -1 \\ 2 & 0 & 4 \\ 0 & 2 & 5 \end{bmatrix}^{-1}$

20. $\begin{bmatrix} & & \\ & & \\ & & \end{bmatrix}$