

Matrices Homework

No Calculator Section:

Add or subtract the matrices, if possible.

$$1. \begin{bmatrix} 1 & -4 & 8 \\ 5 & 0 & -2 \end{bmatrix} + \begin{bmatrix} 2 & 7 & -3 \\ -1 & 10 & 8 \end{bmatrix}$$

$$2. \begin{bmatrix} 12 & -7 & 4 & 9 \end{bmatrix} - \begin{bmatrix} 4 & -2 & -1 & 6 \end{bmatrix}$$

$$3. \begin{bmatrix} 11 & -3 \\ 6 & 2 \end{bmatrix} + \begin{bmatrix} -5 & 6 \end{bmatrix}$$

Multiply the matrix by the coefficient.

$$4. 2 \begin{bmatrix} -4 & 3 \\ 11 & -1 \\ -2 & 0 \end{bmatrix}$$

$$5. \frac{1}{2} \begin{bmatrix} 14 & -24 \\ 5 & -2 \end{bmatrix}$$

Multiply, then add. Write the problem. Show your work.

$$6. 4 \begin{bmatrix} 10 & 3 \\ -2 & 6 \end{bmatrix} + 5 \begin{bmatrix} -3 & 8 \\ 2 & -5 \end{bmatrix}$$

Multiply the matrices, if possible. Write the problem. Show your work

$$7. \begin{bmatrix} 3 & 7 \end{bmatrix} \begin{bmatrix} -2 & 8 & -1 \\ 4 & 0 & -5 \end{bmatrix}$$

$$8. \begin{bmatrix} 10 & -2 & 1 \end{bmatrix} \begin{bmatrix} 4 \\ 6 \\ 5 \end{bmatrix}$$

$$9. \begin{bmatrix} 4 & -1 & 8 \end{bmatrix} \begin{bmatrix} -6 & -5 \\ 2 & 9 \end{bmatrix}$$

Find the determinant of the matrix. Write the problem. Show your work.

$$10. \begin{vmatrix} 12 & 6 \\ 3 & 4 \end{vmatrix}$$

$$11. \begin{vmatrix} -7 & 5 \\ 4 & 3 \end{vmatrix}$$

Calculator Section

Find the determinant.

$$12. \begin{vmatrix} 9 & -2 & 1 \\ -1 & 6 & 4 \\ 3 & 2 & 1 \end{vmatrix} =$$

$$13. \begin{vmatrix} 4 & 3 & -1 & 2 \\ -1 & 5 & 0 & 3 \\ 6 & 11 & 9 & -1 \\ 7 & 3 & 2 & 4 \end{vmatrix} =$$

Solve systems.

$$14. \begin{aligned} 6x - 7y &= 47 \\ 2x + 5y &= -21 \end{aligned}$$

$$15. \begin{aligned} \frac{1}{2}x - \frac{1}{5}y &= \frac{1}{5} \\ \frac{1}{3}x + \frac{1}{10}y &= \frac{1}{18} \end{aligned}$$

$$16. \begin{aligned} 3x - 2y + 5z &= -17 \\ 2x + 4y - 3z &= 29 \\ 5x - 6y - 7z &= 7 \end{aligned}$$

$$17. \begin{aligned} 4a + b + 2c - 3d &= -16 \\ -3a + 3b - c + 4d &= 20 \\ -a + 2b + 5c + d &= -4 \\ 5a + 4b + 3c - d &= -10 \end{aligned}$$