

Topic 4.1 and 4.2  
An Introduction to Matrices  
Homework

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Perform the indicated operation.**

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

$$2. \frac{1}{5} [-20 \quad 35 \quad 12]$$

$$3. -8 \begin{bmatrix} -6 \\ -4 \\ 0.5 \end{bmatrix}$$

**Solve for the variables.**

$$4. \begin{bmatrix} 6x \\ 7y \\ -2z \end{bmatrix} = \begin{bmatrix} 12 \\ 14 \\ 16 \end{bmatrix}$$

$$5. \begin{bmatrix} x+y \\ 2x-y \end{bmatrix} = \begin{bmatrix} 4 \\ 11 \end{bmatrix}$$

$$6. x \begin{bmatrix} 3 & 8 \\ y & -11 \end{bmatrix} = \begin{bmatrix} 18 & z \\ -24 & -66 \end{bmatrix}$$

$$7. \begin{bmatrix} 3x & 13 & 7 \\ 4y & -9 & 6 \end{bmatrix} = \begin{bmatrix} -24 & 52 & 28 \\ 48 & -36 & 24 \end{bmatrix}$$

$$8. \begin{bmatrix} x^2 & 4 \\ 9 & 16 \end{bmatrix} = \begin{bmatrix} 18 & 2 \\ 3 & y \end{bmatrix}$$

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**Perform the indicated operations.**

$$9. \begin{bmatrix} 12 & 11 \\ 10 & 13 \end{bmatrix} + \begin{bmatrix} -11 & 7 \\ -6 & 4 \end{bmatrix}$$

$$10. \begin{bmatrix} -6 & 3 \\ 8 & -12 \end{bmatrix} - \begin{bmatrix} -7 & -4 \\ 13 & 8 \end{bmatrix}$$

$$11. 3 \begin{bmatrix} 2 \\ 1 \\ 3 \end{bmatrix} - 7 \begin{bmatrix} 5 \\ 2 \\ 8 \end{bmatrix}$$

$$12. 2 \left( \begin{bmatrix} -19 \\ 7 \\ -2 \end{bmatrix} + \begin{bmatrix} -2 \\ -3 \\ 4 \end{bmatrix} \right)$$

$$13. \begin{bmatrix} 2 & 1 \\ 11 & 14 \end{bmatrix} - \begin{bmatrix} 7 & 11 \\ 11 & 34 \end{bmatrix} + \begin{bmatrix} -14 & -17 \\ -35 & -16 \end{bmatrix}$$