# Adding and Subtracting Matrices

Version 2

**Name**: _____     **Date**: _____     **Score**: _____

Direction: Simplify by adding and subtracting the following matrices. Write undefined if the operation cannot be performed. Show all your work in the space provided.

1) $\begin{bmatrix} 1 \\ 2 \\ 3 \end{bmatrix} + \begin{bmatrix} 4 & 5 & 6 \end{bmatrix} =$

2) $\begin{bmatrix} 5 & -1 & 6 & 0 & 1 \\ -12 & 1 & 5 & -4 & -3 \end{bmatrix} - \begin{bmatrix} -1 & -6 & 1 & 0 & 0 \\ 7 & 3 & 0 & 1 & 3 \end{bmatrix} =$

3) $\begin{bmatrix} -1 & 2 \\ 7 & -5 \end{bmatrix} - 6\begin{bmatrix} 0 & -1 \\ -3 & 5 \end{bmatrix} + 4\begin{bmatrix} 2 & 2 \\ -1 & 1 \end{bmatrix} =$

4) $-1\begin{bmatrix} 0 & 1 \\ 1 & 0 \\ 0 & 1 \\ 1 & 0 \end{bmatrix} - 2\begin{bmatrix} 1 & 0 \\ 0 & 1 \\ 1 & 0 \\ 0 & 1 \end{bmatrix} - 3\begin{bmatrix} -1 & 0 \\ 0 & -1 \\ -1 & 0 \\ 0 & -1 \end{bmatrix} =$

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1) $\begin{bmatrix} 1 \\ 2 \\ 3 \end{bmatrix} + \begin{bmatrix} 4 & 5 & 6 \end{bmatrix}$ , undefined

2) $\begin{bmatrix} 5 & -1 & 6 & 0 & 1 \\ -12 & 1 & 5 & -4 & -3 \end{bmatrix} - \begin{bmatrix} -1 & -6 & 1 & 0 & 0 \\ 7 & 3 & 0 & 1 & 3 \end{bmatrix} = \begin{bmatrix} 6 & 5 & 5 & 0 & 1 \\ -19 & -2 & 5 & -5 & -6 \end{bmatrix}$

3) $\begin{bmatrix} -1 & 2 \\ 7 & -5 \end{bmatrix} - 6\begin{bmatrix} 0 & -1 \\ -3 & 5 \end{bmatrix} + 4\begin{bmatrix} 2 & 2 \\ -1 & 1 \end{bmatrix} = \begin{bmatrix} 7 & 16 \\ 21 & -31 \end{bmatrix}$

4) $-1\begin{bmatrix} 0 & 1 \\ 1 & 0 \\ 0 & 1 \\ 1 & 0 \end{bmatrix} - 2\begin{bmatrix} 1 & 0 \\ 0 & 1 \\ 1 & 0 \\ 0 & 1 \end{bmatrix} - 3\begin{bmatrix} -1 & 0 \\ 0 & -1 \\ -1 & 0 \\ 0 & -1 \end{bmatrix} = \begin{bmatrix} 1 & -1 \\ -1 & 1 \\ 1 & -1 \\ -1 & 1 \end{bmatrix}$