

## Matrices M2: Adding, Subtracting and Scalar Multiplication

Perform the following matrix operations. If not possible, state "not possible".

1.  $\begin{bmatrix} 2 \\ 6 \\ 9 \end{bmatrix} + \begin{bmatrix} -1 \\ 2 \\ 0 \end{bmatrix}$

2.  $[3 \ 1 \ -4 \ 2] + \begin{bmatrix} 2 \\ 7 \\ -2 \\ -1 \end{bmatrix}$

3.  $\begin{bmatrix} 2 \\ -1 \end{bmatrix} + \begin{bmatrix} 0 \\ 8 \end{bmatrix}$

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

5.  $\begin{bmatrix} 1 & 2 & 0 \\ -2 & 3 & 3 \\ 3 & -6 & 2 \end{bmatrix} + \begin{bmatrix} -3 & 2 & 1 \\ 2 & -1 & 5 \\ 1 & -2 & 3 \end{bmatrix}$

6.  $2 \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$

For the given matrices:  $A = \begin{bmatrix} 1 & 5 & -2 \\ 0 & 4 & -3 \end{bmatrix}$ ,  $B = \begin{bmatrix} -2 & 3 & 1 \\ 2 & 5 & -1 \end{bmatrix}$ ,  $C = \begin{bmatrix} -3 & 0 & -2 \\ 1 & 2 & 3 \end{bmatrix}$ ,

find the following:

7.  $A + B$

8.  $3B$

9.  $2A - C$

10.  $3C + 2B$