

## Matrix Addition

### Solutions

1.  $[8 \ 6 \ 9]$

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

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

4.  $[3 \ -1 \ -6 \ 1]$

5. a. No, they cannot be added. Dimensions are  $2 \times 3$  and  $1 \times 2$   
b. No, they cannot be added. Dimensions are  $1 \times 2$  and  $2 \times 1$   
c. No, they cannot be added. Dimensions are  $2 \times 2$  and  $3 \times 5$

- d. Yes, they can be added. Dimensions are  $2 \times 3$  and the sum is

$$\begin{bmatrix} 5 & 7 & 4 \\ 9 & 1 & 2 \end{bmatrix}$$

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

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

8. 
$$\begin{bmatrix} 7 & 5 \\ -8 & 10 \end{bmatrix}$$

9. 
$$\begin{bmatrix} 8 & 8 & -10 \\ -1 & -2 & 1 \\ -2 & 8 & 6 \\ 3 & -3 & 5 \end{bmatrix}$$

10. 
$$\begin{bmatrix} 3 & 1 & 1 & 11 \\ 10 & 6 & 1 & 2 \\ -4 & 0 & 3 & -5 \end{bmatrix}$$