

## 2016-2017 Matrix Operations Quiz Corrections

1. Find the dimensions of the matrix.

$$\begin{bmatrix} 1 & 2 & 3 & 4 & 5 \\ 6 & 7 & -8 & 2 & 3 \\ 9 & -1 & -3 & 0 & 5 \\ 4 & 6 & 5 & 4 & 1 \end{bmatrix}$$

2. Add.  $\begin{bmatrix} 4 & -2 & -6 \\ -9 & -8 & 3 \end{bmatrix} + \begin{bmatrix} 2 & 0 & 0 \\ 8 & 3 & -9 \end{bmatrix}$

3. Evaluate  $3B + 4C$ , if possible.

$$B = \begin{bmatrix} 2 & 7 \\ 8 & -6 \end{bmatrix} \qquad C = \begin{bmatrix} 0 & 1 \\ 4 & -2 \end{bmatrix}$$

4.  $\begin{bmatrix} -9 & 2 & 0 \\ -5 & 9 & 9 \end{bmatrix} - \begin{bmatrix} -1 & 3 & -8 \\ 1 & 4 & 7 \end{bmatrix}$

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

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

7. Tell whether the product of  $P_{5 \times 4}$  and  $Q_{4 \times 6}$  is defined. If so, give the dimensions of  $PQ$ .

8. Find the product  $AB$ , if possible.

$$A = \begin{bmatrix} 4 & 8 \\ 2 & 4 \\ -4 & 0 \end{bmatrix} \quad B = \begin{bmatrix} 6 & 0 & -4 \\ 4 & 6 & 4 \end{bmatrix}$$

9. Find the values of the variable.  $\begin{bmatrix} -5 & 0 \\ 8 & -12 \end{bmatrix} = \begin{bmatrix} -5 & 0 \\ 8 & -2y - 2 \end{bmatrix}$

10.  $\begin{bmatrix} -3 & -7 \\ 1 & -1 \end{bmatrix} - X = \begin{bmatrix} 1 & 4 \\ -8 & 5 \end{bmatrix}$