

Name:

### Quiz 5 – 2 October 2019

**Instructions.** You have 15 minutes to complete this quiz. You may not use your calculator. You may not use any other materials (e.g., notes, homework, books).

Show all your work. To receive full credit, your solutions must be completely correct, sufficiently justified, and easy to follow.

Problem	Weight	Score
1	1	
2	1	
3	1	
4	1	
5	1	
6	1	
Total		/ 60

For this quiz, let

$$A = \begin{bmatrix} 1 & -3 & 2 \\ 4 & 0 & -1 \end{bmatrix} \quad B = \begin{bmatrix} -1 & 4 & 0 \\ 3 & -2 & 1 \end{bmatrix} \quad C = \begin{bmatrix} 4 & -1 \\ -2 & 0 \\ 1 & 2 \end{bmatrix} \quad D = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix} \quad E = \begin{bmatrix} 0 & 0 \\ 0 & 0 \end{bmatrix}$$

**Problem 1.** Compute  $2A + B$ .

**Problem 2.** Compute  $AC$ .

**Problem 3.** Compute  $C^T A^T$ .

For your convenience, here are the matrices defined on page 1:

$$A = \begin{bmatrix} 1 & -3 & 2 \\ 4 & 0 & -1 \end{bmatrix} \quad B = \begin{bmatrix} -1 & 4 & 0 \\ 3 & -2 & 1 \end{bmatrix} \quad C = \begin{bmatrix} 4 & -1 \\ -2 & 0 \\ 1 & 2 \end{bmatrix} \quad D = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix} \quad E = \begin{bmatrix} 0 & 0 \\ 0 & 0 \end{bmatrix}$$

**Problem 4.** Compute  $BD$ .

**Problem 5.** Compute  $B^T$ .

**Problem 6.** Compute  $DCE$ . What size is  $DCE$ ?