Name: _____

Student ID: _____

Quiz 3

This quiz is graded out of 10 marks. No books, calculators, notes or cell phones are allowed. You must show all your work, the correct answer is worth 1 mark the remaining marks are given for the work. If you need more space for your answer use the back of the page.

Question 1. Consider the following matrices

$$A = \begin{bmatrix} 1 & -2 \\ 3 & 1 \end{bmatrix}, \ B = \begin{bmatrix} 0 & 2 \\ -1 & 0 \\ 1 & 1 \end{bmatrix}, \ C = \begin{bmatrix} 1 & -1 & 2 \\ 0 & 2 & 3 \\ -5 & 0 & 1 \end{bmatrix}, \ D = \begin{bmatrix} 1 & -2 \end{bmatrix}, \ E = \begin{bmatrix} 1 & 0 & -2 \end{bmatrix}$$

a. *(2 marks)* Compute, if possible. Justify.

BA

b. *(2 marks)* Compute, if possible. Justify.

$(BC)^t$

c. *(2 marks)* Compute, if possible. Justify.

$\mathrm{tr}(CC^t)$

d. *(2 marks)* Compute, if possible. Justify.

$E^tD - 3B$

e. *(2 marks)* Compute, if possible. Justify.

$\mathrm{tr}(D^tD + AA)$