

Quiz 4

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. §1.5 #27 (4 marks) Find all values of c , if any, for which the given matrix is invertible.

$$\begin{bmatrix} c & c & c \\ 1 & c & c \\ 1 & 1 & c \end{bmatrix}$$

Question 2. §1.5 #TF (2 marks) Determine whether the statement is true or false, and justify your answer.
If A is an $n \times n$ matrix that is not invertible, then the matrix obtained by interchanging two rows of A cannot be invertible.

Question 3. §1.4 #TF (2 marks) Determine whether the statement is true or false, and justify your answer.
A square matrix containing a row or a column of zeros cannot be invertible.

Question 4. §1.4 #TF (2 marks) Determine whether the statement is true or false, and justify your answer.
The sum of two invertible matrices of the same size must be invertible.