

Quiz 7

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. §2.3 #TF (2 marks) Determine whether the statement is true or false, and justify your answer.
If E is an elementary matrix, then $E\mathbf{x} = \mathbf{0}$ has only the trivial solution.

Question 2. §2.3 #TF (2 marks) Determine whether the statement is true or false, and justify your answer.
If A is invertible, then $\text{adj}(A)$ must also be invertible.

Question 3. §3.1 #TF (2 marks) Determine whether the statement is true or false, and justify your answer.
Two equivalent vectors must have the same initial point.

Question 4. §3.1 #TF (2 marks) Determine whether the statement is true or false, and justify your answer.
If $(a, b, c) + (x, y, z) = (x, y, z)$ then (a, b, c) must be the zero vector.

Question 5. §2.3 #TF (2 marks) Determine whether the statement is true or false, and justify your answer.
If A and B are square matrices of the same size such that $\det(A) = \det(B)$, then $\det(A + B) = 2\det(A)$.