

Quiz 12

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. §4.2 #11a (3 marks) Determine whether the given vectors span \mathbb{R}^3 . $\vec{v}_1 = (2, 2, 2)$, $\vec{v}_2 = (0, 0, 3)$, $\vec{v}_3 = (0, 1, 1)$.

Question 2. §4.3 #10 (5 marks) Prove: The space spanned by two vectors in \mathbb{R}^3 is a line through the origin, a plane through the origin, or the origin itself.

Question 3. §4.3 #TF (2 marks) Determine whether the statement is true or false, and justify your answer.
Every linearly dependent set contains the zero vector.