

Name: _____
Student ID: _____

Quiz 9

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. §4.1 #11 Determine whether each set equipped with the given operations is a vector space. For those that are not vector spaces identify the vector space axioms that fail.

The set of all pairs of real numbers of the form $(1, x)$ with the operations

$$(1, y) + (1, y') = (1, y + y') \text{ and } k(1, y) = (1, ky)$$