

Name: \_\_\_\_\_  
Student ID: \_\_\_\_\_

## 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.** (5 marks) §2.3 #31 Use Cramer's rule to solve for  $y$  without solving for the unknowns  $x$ ,  $z$ , and  $w$ .

$$\begin{array}{ccccccccc} 4x & + & y & + & z & + & w & = & 6 \\ 3x & + & 7y & - & z & + & w & = & 1 \\ 7x & + & 3y & - & 5z & + & 8w & = & -3 \\ x & + & y & + & z & + & 2w & = & 3 \end{array}$$

**Question 2.** (5 marks) §3.1 #30 Show that there do not exist scalars  $c_1$ ,  $c_2$ , and  $c_3$  such that

$$c_1(1, 0, 1, 0) + c_2(1, 0, -2, 1) + c_3(2, 0, 1, 2) = (1, -2, 2, 3)$$