

## Quiz 6

This quiz is graded out of 6 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.** §2.1 #41 Prove that the equation of the line through the distinct points  $(a_1, b_1)$  and  $(a_2, b_2)$  can be written as

$$\begin{vmatrix} x & y & 1 \\ a_1 & b_1 & 1 \\ a_2 & b_2 & 1 \end{vmatrix} = 0$$

**Question 2.** §2.2 TF Determine whether the statement is true or false, and justify your answer.

If the sum of the second and fourth row vectors of a  $6 \times 6$  matrix  $A$  is equal to the last row vector, then  $\det(A) = 0$ .