MAU11S02 Group A2 Quiz 01 3pm 30/1/19

Rules and procedures.
1. Answers must be handed up at the end of the tutorial, no other time. **2.** Attempt 3 questions. Only *your first three answers* will be marked. **3.** Each question carries 20 marks, so the maximum quiz mark is 60. **4.** Marked quizzes will be returned, and answers published, the following week. **5.** If a particular method of solution is stipulated, you get no marks if you don't use it. **6.** The (9) quizzes will contribute 20% to your overall mark. **7.** You are allowed to collaborate and compare answers during the tutorial.

Question 1. Find the equation of the plane through $P = (3, 1, 4)$, $Q = (1, 5, 9)$, $R = (2, 6, 5)$

Question 2. Calculate the adjoint matrix, and hence invert

$$\begin{bmatrix} 3 & 4 \\ 5 & 9 \end{bmatrix}$$

Question 3. Solve by Cramer's Rule (no other method)

$$8x + 9y = 4; \quad 9x + 2y = 4$$

Question 4. Determine whether the four points $P = (1, 2, 3)$, $Q = (4, 5, 6)$, $R = (7, 8, 9)$, and $S = (3, 2, 1)$ are coplanar; show all work.

Question 5. Calculate the triple product $P \cdot (Q \times R)$,where $P = (3, 1, 4)$, $Q = (1, 5, 9)$, $R = (2, 6, 5)$