# MAU11S02 Group A1 Quiz 01 9am 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 $P = (2, 7, 1)$, $Q = (8, 2, 8)$, $R = (1, 8, 2)$

Question 2. Calculate the adjoint matrix, and hence invert

$$\begin{bmatrix} 1 & 9 \\ 4 & 1 \end{bmatrix}$$

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

$$7x + 6y = 2; \quad 2x + 6y = 5$$

Question 4. Determine whether the four points $P = (2, -2, -3)$, $Q = (6, -5, -9)$, $R = (-22, 19, 35)$, and $S = (-22, 19, 37)$ are coplanar; show all work.

Question 5. Calculate the triple product $P \cdot (Q \times R)$,where $P = (2, 7, 1)$, $Q = (8, 2, 8)$, $R = (1, 8, 2)$