MAU11S02 Group A2 Quiz 02 3pm 6/2/19

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. Calculate the determinant

$$\det(A) = \begin{vmatrix} 2 & 8 & 9 \\ 4 & 9 & 2 \\ 4 & 3 & 2 \end{vmatrix}$$

Question 2. Solve by Cramer's Rule (no other method)

$$\begin{aligned} -2x + 6y + 4z &= 28 \\ 2x - 4y - 2z &= -16 \\ 3x - 10y - 6z &= -45 \end{aligned}$$

Question 3. Calculate the adjoint and thus the inverse (no other method) of the matrix

$$A = \begin{bmatrix} 2 & 8 & 9 \\ 4 & 9 & 2 \\ 4 & 3 & 2 \end{bmatrix}$$

Question 4. Calculate the $(1,1)$ and $(1,2)$ minors of the following matrix:

$$A = \begin{bmatrix} 1 & -3 & 1 & 9 \\ 2 & -6 & 3 & 18 \\ 3 & -8 & 3 & 24 \\ 1 & -2 & 2 & 5 \end{bmatrix}$$

Question 5. Calculate the $(1,3)$ and $(1,4)$ minors of the above matrix A and hence calculate $\det(A)$.