MAU11S02 Group A1 Quiz 02 9am 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

$$\det(A) = \begin{vmatrix} -1 & -2 & -5 \\ -3 & -7 & -18 \\ 3 & 9 & 26 \end{vmatrix}$$

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

$$\begin{aligned} -x - 2y - 5z &= -26 \\ -3x - 7y - 18z &= -91 \\ 3x + 9y + 26z &= 123 \end{aligned}$$

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

$$A = \begin{bmatrix} -1 & -2 & -5 \\ -3 & -7 & -18 \\ 3 & 9 & 26 \end{bmatrix}$$

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

$$A = \begin{bmatrix} -3 & -2 & -2 & -9 \\ 1 & 1 & 0 & 3 \\ 3 & 4 & -4 & 9 \\ -2 & -1 & -2 & -5 \end{bmatrix}$$

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