

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

### 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.

**Answer 1.** Determinant =  $(2, 8, 9) \cdot (12, 0, -24) = -192$ .

**Answer 2.**

$$\begin{vmatrix} -2 & 6 & 4 \\ 2 & -4 & -2 \\ 3 & -10 & -6 \end{vmatrix} = -4 \quad \begin{vmatrix} 28 & 6 & 4 \\ -16 & -4 & -2 \\ -45 & -10 & -6 \end{vmatrix} = -4 \quad \begin{vmatrix} -2 & 28 & 4 \\ 2 & -16 & -2 \\ 3 & -45 & -6 \end{vmatrix} = -12 \quad \begin{vmatrix} -2 & 6 & 28 \\ 2 & -4 & -16 \\ 3 & -10 & -45 \end{vmatrix} = -12$$
$$x = \frac{-4}{-4} = 1 \quad y = \frac{-12}{-4} = 3 \quad z = \frac{-12}{-4} = 3$$

**Answer 3.** determinant is  $-192$  adjoint

$$\begin{bmatrix} 12 & 11 & -65 \\ -0 & -32 & 32 \\ -24 & 26 & -14 \end{bmatrix}$$

inverse

$$\begin{bmatrix} -0.0625 & -0.0572917 & 0.338542 \\ 0 & 0.166667 & -0.166667 \\ 0.125 & -0.135417 & 0.0729167 \end{bmatrix}$$

**Answer 4.** (1,1) minor  $-6$ , (1,2) minor  $15$

**Answer 5.** (1,3) minor  $-2$ , (1,4) minor  $4$

$$1 \times (-6) - (-3) \times (15) + (-2) \times 1 - 4 \times 9 = -6 + 45 - 2 - 36 = 1$$