MAU11S02 Group A2 Quiz 01 3pm 30/1/19 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. $\vec{PQ} = (-2, 4, 5), \vec{PR} = (-1, 5, 1), \vec{PQ} \times \vec{PR} = \pm(21, 3, 6)$
$21x + 3y + 6z = 90$

Answer 2.

$$\left(\frac{1}{7}\right)\begin{bmatrix} 9 & -4 \\ -5 & 3 \end{bmatrix}$$

Answer 3.

$$\begin{vmatrix} 8 & 9 \\ 9 & 2 \end{vmatrix} = -65, \quad \begin{vmatrix} 4 & 9 \\ 4 & 2 \end{vmatrix} = -28, \quad \begin{vmatrix} 8 & 4 \\ 9 & 4 \end{vmatrix} = -4,$$

$$x = \frac{28}{65}, \quad y = \frac{4}{65}$$

Answer 4. Take the cross product $\vec{PQ} \times \vec{PR}$. Answer is the zero vector, so P, Q, R are collinear: P, Q, R, S are not coplanar

Answer 5. $(3, 1, 4) \cdot (-29, 13, -4) = -90$