MAU11S02 Group A2 Quiz 05 3pm 27/2/19 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 10 marks, so the maximum quiz mark is 30. **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.

```
W_3    4     3    12            4     3    12
       0     0     1            3    -4     0
cross product
W_1    3    -4     0     W_2    48    36   -25
```

$$S = \begin{bmatrix} \frac{3}{5} & \frac{48}{65} & \frac{4}{13} \\ -\frac{4}{5} & \frac{36}{65} & \frac{3}{13} \\ 0 & -\frac{5}{13} & \frac{12}{13} \end{bmatrix}.$$

Answer 2.

$$\begin{bmatrix} \frac{31}{13} \\ \frac{7}{13} \\ \frac{2}{13} \end{bmatrix}$$

Answer 3.

$$\begin{bmatrix} -1 \\ \frac{19}{13} \\ \frac{22}{13} \end{bmatrix}$$

Answer 4.

$$(5,-2,1)\cdot(4,3,12)/|(4,3,12)|^2(4,3,12) =$$
$$\frac{26}{169}(4,3,12) = \frac{2}{13}(4,3,12)$$

Answer 5.

$$(5,-2,1)-\frac{2}{13}(4,3,12)=\left(\frac{57}{13},-\frac{32}{13},-\frac{11}{13}\right)$$