Question	Scheme	Marks	AOs
1(a)	$\mathbf{M}^{-1}=\frac{1}{69}\begin{pmatrix}1 & 13 & 5\\ -11 & -5 & 14\\ -26 & 7 & 8\end{pmatrix}$	B1 B1	1.1b 1.1b
		(2)	
(b)	$\frac{1}{69}\begin{pmatrix}1 & 13 & 5\\ -11 & -5 & 14\\ -26 & 7 & 8\end{pmatrix}\begin{pmatrix}-4\\ 9\\ 5\end{pmatrix}=\ldots$	M1	1.1b
	$x=2, y=1, z=3$ or $(2,1,3)$ or $2\mathbf{i}+\mathbf{j}+3\mathbf{k}$ or $\begin{pmatrix}2\\ 1\\ 3\end{pmatrix}$	A1	1.1b
		(2)	
(c)	The **point** where three **planes** meet	B1ft	2.2a
		(1)	
			(5 marks)

Notes

(a)

B1: Evidence that the determinant is ± 69 (may be implied by their matrix e.g. where entries are not in exact form: $\pm\begin{pmatrix}0.014 & 0.188 & 0.072\\ -0.159 & -0.072 & 0.203\\ -0.377 & 0.101 & 0.116\end{pmatrix}$)(Should be mostly correct)

Must be seen in part (a).

B1: Fully correct inverse with all elements in **exact** form

(b)

M1: Any complete method to find the values of x, y and z (Must be using **their inverse** if using the method in the main scheme)

A1: Correct coordinates

A solution not using the inverse requires a complete method to find values for x, y and z for the method mark.

Correct coordinates only scores both marks.

(c)

B1: Describes the correct geometrical configuration.

Must include the two ideas of **planes** and **meet in a point** with no contradictory statements.

This is dependent on having obtained a unique point in part (b)