

Chapter 9 / Example 43

Intersecting planes

Find the point of intersection between the planes

$$\pi_1 : x + 2y - z = 4, \pi_2 : 2x - 3y + z = -3 \text{ and } \pi_3 : 3x + y - 4z = 1.$$

Press **MENU** **A** **EQN** to enter equation mode.

Press **F1** Simultaneous.

There are 3 unknowns so press **F2** 3.

Simultaneous
No Data In Memory

Number Of Unknowns?
2 3 4 5 6

Solve the equations

$$\begin{cases} x + 2y - z = 4 \\ 2x - 3y + z = -3 \\ 3x + y - 4z = 1 \end{cases}$$

Enter to coefficients into the matrix.

$a_n X + b_n Y + c_n Z = d_n$

	a	b	c	d
1	1	2	-1	4
2	2	-3	1	-3
3	3	1	-4	1

1

SOLVE **DELETE** **CLEAR** **EDIT**

Press **F1** SOLVE.

The calculator shows the solution which is the point (1, 2, 1).

$a_n X + b_n Y + c_n Z = d_n$

X	1
Y	2
Z	1

1

REPEAT