Submission 1

The respondent's email (**deepanshu21249@iiitd.ac.in**) was recorded on submission of this form.

Suppose we have n linear equations in n variables. Which of the following is true? *

- ○ The system has at most one solution
- ○ None of the above
- ○ The system has exactly one solution
- ◉ The system has at least one solution

Correct answer

- ◉ None of the above

*

Consider the system of equations:

$$x + y - z = 1$$
$$x - y + 2z = 2$$

Choose the correct number of basic and free variables from the following options. (The first entry of the tuple is the number of basic variables and the second entry is the number of free variables.)

- ◉ (2,1)
- ○ (1,2)
- ○ (0,3)
- ○ (3,0)

How many free variables does the following system of equation have? *

$$x + 2y + 3z = 0$$
$$3x + 4y + 4z = 0$$
$$7x + 10y + 12z = 0$$

- ○ 2
- ○ 1
- ◉ 0
- ○ None of the above

The number of pivot columns in a row echelon form of a matrix is called its rank. * What is the rank of the following matrix?

$$\begin{bmatrix} 1 & 2 & 1 \\ -2 & -3 & 1 \\ 3 & 5 & 0 \end{bmatrix}$$

- ◉ 3
- ○ 1
- ○ 0
- ○ 2

Correct answer

- ◉ 2