If 
$$(x, y, z) = (1, -1, -1)$$
 is a solution of the following linear system

$$x + y - z = \alpha$$
$$x + \beta y + z = \beta$$

 $x + y + \alpha z = \bar{o}$ 

then:

$$\alpha = -1$$
,  $\beta = 0$ ,  $\bar{\delta} = 1$ 

$$\alpha = 1, \beta = \frac{1}{2}, \delta = -1$$

$$\alpha = -1$$
,  $\beta = \frac{1}{2}$ ,  $\delta = 1$ 

$$\alpha = 1$$
,  $\beta = 0$ ,  $\delta = -1$ 

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Let 
$$\mathbf{A}^{-1} = \begin{bmatrix} 3 & -2 & -1 \\ -4 & 1 & -1 \\ 2 & 0 & 1 \end{bmatrix}$$
, where  $\mathbf{A}$  denote the matrix of coefficients of the following linear system: 
$$x_1 + 2x_2 + 3x_3 = 0$$
 
$$-2x_1 + 5x_2 + 7x_3 = 0$$
 
$$-2x_1 - 4x_2 - 5x_3 = 1$$
.

Then its solution set is equal to:

$$\{(3, -4, 2)\}$$

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$$(x, y, z) = (1, -1, -1)$$
 is a solution of the following linear system

$$x + y - z = \alpha$$

$$x + \beta y + z = \beta$$
$$x + y + \alpha z = \bar{o}$$

then:

$$\alpha = -1$$
,  $\beta = 0$ ,  $\delta = 1$ 

$$\alpha = 1, \beta = \frac{1}{2}, \overline{o} = -1$$

$$\alpha = -1$$
,  $\beta = \frac{1}{2}$ ,  $\bar{o} = 1$ 

$$\alpha = 1, \beta = 0, \delta = -1$$

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## Question 6

Let 
$$\begin{bmatrix} 2 & 3 & \lambda^2 & 0 \\ 1 & 2 & 1 & 0 \\ 1 & 3 & 7 & 0 \end{bmatrix}$$
 be the augmented matrix of a homogeneous linear system.

Then the set of values of  $\lambda$  for which the system has a no nontrivial solution is equal to:

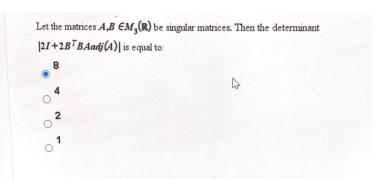


 $\mathbb{R} \setminus \{-2, 2\}$ 

- R\{2}
- \_ {}

Moving to the next question prevents changes to this answer.

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stion 3

The matrix 
$$\begin{bmatrix} 1 & 1 & 1 \\ 1 & m & 2 \\ 1 & 10 & m \end{bmatrix}$$
 is non-invertible if and only if:

- \_ m ∉{-2,4}
- $m \in \mathbb{R} \setminus \{-4,2\}$
- $m \in \{-2,4\}$
- $m \in \{2, -4\}$

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$$\begin{bmatrix}
1 & 0 \\
0 & 0
\end{bmatrix}$$

$$\begin{bmatrix} 0 & 1 \\ 1 & 0 \end{bmatrix}^T$$

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

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The reduced row echelon form of the matrix  $\begin{bmatrix} 0 & 2 & -1 \\ -1 & 1 & 0 \\ 0 & -1 & 1 \end{bmatrix}$  is:

$$\bigcirc \begin{bmatrix} 0 & 0 & 1 \\ 0 & 1 & 0 \\ 1 & 0 & 0 \end{bmatrix}$$

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

$$\begin{bmatrix}
1 & 0 & 0 \\
0 & 1 & 1 \\
0 & 0 & 0
\end{bmatrix}$$

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