Assignment 2

The last day for submitting the assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-06-20, 23:59 IST.

1) The linear system \( x + 2y = 0 \) and \( x - y = 0 \) represents

- two lines in \( \mathbb{R}^2 \) intersecting at a point.

- the same line in \( \mathbb{R}^2 \).

- two parallel lines in \( \mathbb{R}^2 \), NO intersection.

No, the preview is incorrect.
Correct Answer:
No, the preview is incorrect.
Correct Answer:
Answer Field:
No, the preview is incorrect.
Correct Answer:
Answer Field:

2) The linear system \( x + 2y = 0 \) and \( x - y = 0 \) represents

- two lines in \( \mathbb{R}^2 \) intersecting at a point.

- the same line in \( \mathbb{R}^2 \).

- two parallel lines in \( \mathbb{R}^2 \), NO intersection.

No, the preview is incorrect.
Correct Answer:
No, the preview is incorrect.
Correct Answer:
Answer Field:
No, the preview is incorrect.
Correct Answer:
Answer Field:

3) The linear system \( x + y = 0 \) and \( x - y = 0 \) respectively represent three lines in \( \mathbb{R}^2 \) ?

- with both having NO point of intersection.

- with both having a single point of intersection.

- with both having a single point of intersection and no point of intersection.

No, the preview is incorrect.
Correct Answer:
No, the preview is incorrect.
Correct Answer:
Answer Field:
No, the preview is incorrect.
Correct Answer:
Answer Field:

4) Consider the two statements given below:

- \( A \) is a square invertible matrix. Then the system \( Ax = b \) and \( \exists L \in \mathbb{R} \) are non-equivalent.

- Suppose \( A = 3 \) and \( c = 4 \). Then \( A = c \).

Which among the following is a CORRECT Option?

- Statement (i) is TRUE whereas Statement (ii) is FALSE

- Both Statement (i) and Statement (ii) are TRUE

- Both Statement (i) and Statement (ii) are FALSE

Statement (i) is TRUE whereas Statement (ii) is FALSE.
Correct Answer:
Statement (i) is TRUE whereas Statement (ii) is FALSE.
Correct Answer:
Answer Field:
Statement (i) is TRUE whereas Statement (ii) is FALSE.
Correct Answer:
Answer Field:

5) Let \( M = \begin{bmatrix} 1 & 3 & 1 \\ 2 & 4 & 1 \\ 1 & 2 & 3 \end{bmatrix} \). Suppose the application of the Gauss Elimination Method to \( M \) gives \( L = U \) where \( L \) is lower triangular, \( U \) is upper triangular.

with \( L_{11} = 1 \) and \( U_{11} = 4 \) then the value of \( L_{11} \) equals

No, the preview is incorrect.
Correct Answer:
No, the preview is incorrect.
Correct Answer:
Answer Field:
No, the preview is incorrect.
Correct Answer:
Answer Field:

6) Let \( L = \begin{bmatrix} 1 & 0 & 0 \\ 2 & 1 & 0 \\ 3 & 1 & 1 \end{bmatrix} \) and \( B = \begin{bmatrix} 2 \\ 3 \\ 4 \end{bmatrix} \). \( x \) is the solution of the system \( Lx = b \) and \( x \) is the solution of

\( (L - 2I)x = 9 \).

Find the value of \( 9 \times x \)

No, the preview is incorrect.
Correct Answer:
No, the preview is incorrect.
Correct Answer:
Answer Field:
No, the preview is incorrect.
Correct Answer:
Answer Field:

7) The parabola \( y = ax^2 + bx + c \) passes through the points \( (x, y) = (1, 4), (2, 6) \) and \( (3, 16) \) for certain values of \( a, b, \) and \( c \). Then the value of \( 2a + 3b + 4c \) equals.

No, the preview is incorrect.
Correct Answer:
No, the preview is incorrect.
Correct Answer:
Answer Field:
No, the preview is incorrect.
Correct Answer:
Answer Field:

8) The graph of \( y = ax^2 + bx + c \) crosses through \( (1, 2), (-1, 2), (2, 3) \) and \( (0, 1) \) for certain values of \( a, b, \) and \( c \). Then the value of \( 2a + 3b + 4c \) equals.

No, the preview is incorrect.
Correct Answer:
No, the preview is incorrect.
Correct Answer:
Answer Field:
No, the preview is incorrect.
Correct Answer:
Answer Field:

9) Let \( u = (1, 1, 2) \) and \( v = (-1, 2, 3) \). Then the condition on \( x, y, z \) such that the system \( au + v = (x, y, z) \) in the variables \( x, y, z \) is consistent equals

\( 7x + 5y = 0 \)
\( 7x - 5y = 0 \)
\( 5z = 0 \)

No, the preview is incorrect.
Correct Answer:
No, the preview is incorrect.
Correct Answer:
Answer Field:
No, the preview is incorrect.
Correct Answer:
Answer Field:

10) Consider the linear system \( x + y + z = 5 \), \( x + 2y + z = 4 \), \( 2x + 2y + 3z = 9 \) in the variables \( x, y \) and \( z \).

Then the above system has a unique solution for \( x = y = z = 1 \).

No, the preview is incorrect.
Correct Answer:
No, the preview is incorrect.
Correct Answer:
Answer Field:
No, the preview is incorrect.
Correct Answer:
Answer Field: