BRAC University
Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: FAHIM FAISAL NIHAL

ID: 17101309

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} -6x + 0y + 8z + 3w &= 14 \\ -1x + -7y + -1z + -3w &= -42 \\ 2x + 1y + 5z + 2w &= 19 \\ 2x + 0y + 0z + 6w &= 26 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 0x_1 + 0x_2 + 1x_3 + -6x_4 + -26x_5 &= -41 \\ -3x_1 + 18x_2 + 4x_3 + 12x_4 + 67x_5 &= 130 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ 8x_1 + -48x_2 + -11x_3 + -29x_4 + -165x_5 &= -325 \end{aligned}$$

(12)

Best wishes

BRAC University
Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: MD. TANVER HAMZA AKASH

ID: 18101386

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} -4x + 5y + 5z + -3w &= -10 \\ -8x + 8y + 1z + -8w &= -17 \\ -6x + 1y + 0z + 1w &= -3 \\ -6x + -7y + -4z + -2w &= -13 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} -1x_1 + 6x_2 + 1x_3 + -1x_4 + -4x_5 &= 1 \\ 0x_1 + 0x_2 + -1x_3 + -3x_4 + -19x_5 &= -31 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ -1x_1 + 6x_2 + 0x_3 + 2x_4 + 7x_5 &= 18 \end{aligned}$$

(12)

Best wishes

BRAC University

Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: SHUVOJIT BASAK DIP

ID: 18201103

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} -7x + 2y + -1z + -7w &= -27 \\ -1x + 6y + 2z + -1w &= 24 \\ -3x + 5y + -6z + 4w &= -20 \\ 8x + 9y + -5z + -5w &= 21 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 5x_1 + -30x_2 + 15x_3 + 2x_4 + 85x_5 &= 111 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ -5x_1 + 30x_2 + -13x_3 + 0x_4 + -67x_5 &= -81 \\ -3x_1 + 18x_2 + -6x_3 + 2x_4 + -23x_5 &= -20 \end{aligned}$$

(12)

Best wishes

BRAC University
Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: MD. NURUL ISLAM

ID: 19101474

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} 4x + -7y + 9z + 4w &= 2 \\ 9x + 2y + -5z + -4w &= -1 \\ 1x + 9y + -7z + -3w &= 17 \\ 2x + -1y + -4z + -1w &= -12 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 25x_1 + -150x_2 + 7x_3 + 54x_4 + 373x_5 &= 431 \\ -7x_1 + 42x_2 + -2x_3 + -14x_4 + -99x_5 &= -112 \\ 3x_1 + -18x_2 + 1x_3 + 4x_4 + 33x_5 &= 33 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \end{aligned}$$

(12)

Best wishes

BRAC University
Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: MD. MOMINUL ARIFIN NIRAB

ID: 21201036

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} 5x + -6y + 1z + -4w &= -25 \\ -5x + 8y + 3z + 1w &= 27 \\ 1x + 8y + -6z + -8w &= 42 \\ 0x + 7y + -6z + 9w &= 66 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 5x_1 + -30x_2 + -1x_3 + -11x_4 + -44x_5 &= -105 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ 4x_1 + -24x_2 + 3x_3 + -7x_4 + -11x_5 &= -43 \\ -2x_1 + 12x_2 + -3x_3 + 2x_4 + -8x_5 &= -1 \end{aligned}$$

(12)

Best wishes

BRAC University

Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: RADIA ANAM RIDHI

ID: 21201499

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} 6x + 8y + -1z + -1w &= 53 \\ 0x + -8y + -2z + 1w &= -53 \\ 3x + -5y + 8z + -7w &= -4 \\ -5x + -8y + -7z + 8w &= -75 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 4x_1 + -24x_2 + 4x_3 + 11x_4 + 83x_5 &= 108 \\ -15x_1 + 90x_2 + -15x_3 + -41x_4 + -310x_5 &= -403 \\ -5x_1 + 30x_2 + -6x_3 + -19x_4 + -134x_5 &= -184 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \end{aligned}$$

(12)

Best wishes

BRAC University
Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: INKIAD BIN ERSHAD RAFEY

ID: 21201516

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} -4x + -3y + 2z + 7w &= -9 \\ 7x + -9y + 3z + 3w &= -49 \\ 0x + 7y + 4z + 3w &= 39 \\ 0x + 2y + -3z + 4w &= 7 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ -5x_1 + 30x_2 + -1x_3 + 0x_4 + -19x_5 &= 3 \\ 7x_1 + -42x_2 + 2x_3 + 0x_4 + 29x_5 &= 0 \\ -1x_1 + 6x_2 + 0x_3 + 3x_4 + 12x_5 &= 26 \end{aligned}$$

(12)

Best wishes

BRAC University

Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: ZAJAUL EHSAN SAJID

ID: 21201628

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} 7x + 8y + -8z + -1w &= 45 \\ 9x + 5y + -5z + 8w &= 103 \\ 9x + 4y + -3z + 1w &= 60 \\ -8x + -8y + -4z + -5w &= -98 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} -17x_1 + 102x_2 + 5x_3 + -4x_4 + -51x_5 &= 37 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ -9x_1 + 54x_2 + 2x_3 + -3x_4 + -34x_5 &= 8 \\ 10x_1 + -60x_2 + -2x_3 + 5x_4 + 47x_5 &= 6 \end{aligned}$$

(12)

Best wishes

BRAC University

Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: G.M.A ALIMUL HAYAT SHAIKOT.

ID: 21201657

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} 0x + -6y + 6z + -9w &= -21 \\ 9x + 1y + 9z + 6w &= 122 \\ 0x + 3y + 2z + 5w &= 42 \\ -7x + 6y + -6z + 7w &= -20 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 46x_1 + -276x_2 + -20x_3 + -11x_4 + 3x_5 &= -320 \\ -15x_1 + 90x_2 + 7x_3 + 4x_4 + 3x_5 &= 111 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ 37x_1 + -222x_2 + -16x_3 + -7x_4 + 12x_5 &= -242 \end{aligned}$$

(12)

Best wishes

BRAC University
Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: ASIF HOSSAIN SAAD

ID: 21221037

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} -6x + 9y + -4z + -6w &= -59 \\ 2x + -1y + 1z + 0w &= 8 \\ -5x + -6y + 1z + -9w &= -30 \\ -1x + 2y + 2z + -7w &= -21 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ 1x_1 + -6x_2 + -11x_3 + -1x_4 + -46x_5 &= -87 \\ 1x_1 + -6x_2 + -14x_3 + 1x_4 + -48x_5 &= -92 \\ -1x_1 + 6x_2 + 22x_3 + -5x_4 + 60x_5 &= 116 \end{aligned}$$

(12)

Best wishes

BRAC University

Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: SHAHED ABDULLAH

ID: 21301128

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} 8x + -8y + -4z + 9w &= 25 \\ 7x + -4y + 6z + 8w &= 73 \\ -6x + -8y + 0z + 4w &= 6 \\ -8x + -4y + -9z + 1w &= -52 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} -1x_1 + 6x_2 + 0x_3 + 2x_4 + 7x_5 &= 18 \\ -1x_1 + 6x_2 + 0x_3 + -1x_4 + -8x_5 &= -6 \\ 0x_1 + 0x_2 + 1x_3 + -4x_4 + -16x_5 &= -25 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \end{aligned}$$

(12)

Best wishes

BRAC University

Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: S.M SAJIDUR RAHMAN

ID: 21301130

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} -8x + 9y + -4z + -8w &= -39 \\ 4x + 4y + -1z + 7w &= 7 \\ 2x + -7y + -3z + 2w &= -19 \\ -1x + -6y + 6z + -4w &= 30 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 3x_1 + -18x_2 + 3x_3 + 10x_4 + 71x_5 &= 95 \\ -4x_1 + 24x_2 + -5x_3 + -3x_4 + -47x_5 &= -51 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ -2x_1 + 12x_2 + -3x_3 + -3x_4 + -33x_5 &= -41 \end{aligned}$$

(12)

Best wishes

BRAC University

Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: FARHAN MABUD

ID: 21301172

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} -3x + 8y + -7z + -6w &= -20 \\ -3x + 4y + 3z + 4w &= 66 \\ -7x + -1y + 9z + -6w &= 10 \\ -5x + 3y + -5z + 8w &= 46 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} -3x_1 + 18x_2 + 2x_3 + -1x_4 + -6x_5 &= 12 \\ -6x_1 + 36x_2 + 4x_3 + 0x_4 + -2x_5 &= 40 \\ 1x_1 + -6x_2 + -1x_3 + 0x_4 + -1x_5 &= -9 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \end{aligned}$$

(12)

Best wishes

BRAC University
Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: MD. TASNIM KABIR

ID: 21301647

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} -1x + -9y + -2z + 1w &= -27 \\ 3x + 3y + 5z + 2w &= 24 \\ 0x + 1y + 8z + -6w &= -15 \\ -6x + 3y + 4z + 4w &= 3 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 2x_1 + -12x_2 + -3x_3 + -1x_4 + -11x_5 &= -33 \\ -8x_1 + 48x_2 + 14x_3 + 2x_4 + 42x_5 &= 130 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ 1x_1 + -6x_2 + -2x_3 + 0x_4 + -5x_5 &= -16 \end{aligned}$$

(12)

Best wishes

BRAC University
Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: RAMISA FARIHA

ID: 21321030

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} 0x + 8y + -8z + -8w &= -88 \\ -2x + 4y + 2z + 5w &= 32 \\ -8x + 7y + -6z + 8w &= 9 \\ -4x + 7y + -8z + -7w &= -85 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ 4x_1 + -24x_2 + 5x_3 + -21x_4 + -73x_5 &= -141 \\ -3x_1 + 18x_2 + -4x_3 + 18x_4 + 65x_5 &= 122 \\ -8x_1 + 48x_2 + -9x_3 + 39x_4 + 135x_5 &= 265 \end{aligned}$$

(12)

Best wishes

BRAC University
Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: SHAHRIAR HOSSAIN

ID: 21341010

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} 1x + -1y + -4z + -8w &= -11 \\ -1x + -9y + -5z + 2w &= -2 \\ 6x + -7y + -3z + 9w &= 26 \\ 5x + -4y + 4z + 4w &= 10 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 18x_1 + -108x_2 + 67x_3 + 24x_4 + 442x_5 &= 625 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ 3x_1 + -18x_2 + 12x_3 + 5x_4 + 82x_5 &= 118 \\ -14x_1 + 84x_2 + -53x_3 + -20x_4 + -354x_5 &= -503 \end{aligned}$$

(12)

Best wishes

BRAC University
Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: MAHMUD HASAN FOYSAL

ID: 22101039

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} -7x + 8y + 3z + -2w &= -17 \\ -1x + 0y + 9z + 2w &= 25 \\ 0x + 1y + 3z + -5w &= -15 \\ -2x + -3y + 6z + -1w &= 9 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ 1x_1 + -6x_2 + -1x_3 + -1x_4 + -6x_5 &= -17 \\ -3x_1 + 18x_2 + 4x_3 + 5x_4 + 32x_5 &= 74 \\ -3x_1 + 18x_2 + 3x_3 + 4x_4 + 23x_5 &= 59 \end{aligned}$$

(12)

Best wishes

BRAC University
Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: AKAEYD HOSSAIN

ID: 22101089

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} 9x + -6y + -4z + 0w &= 34 \\ -5x + -3y + -1z + -7w &= -45 \\ 1x + -8y + -5z + 4w &= -16 \\ 7x + -6y + 2z + -5w &= 29 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} -1x_1 + 6x_2 + -9x_3 + 4x_4 + -19x_5 &= -29 \\ 0x_1 + 0x_2 + -9x_3 + 4x_4 + -16x_5 &= -31 \\ 1x_1 + -6x_2 + -4x_3 + 2x_4 + -3x_5 &= -14 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \end{aligned}$$

(12)

Best wishes

BRAC University
Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: SYED TAHSEEN AHMED

ID: 22101203

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} 4x + -5y + -1z + 5w &= -3 \\ 2x + 7y + -9z + 7w &= 41 \\ -5x + 8y + -5z + -9w &= 8 \\ -6x + -3y + -3z + -3w &= -33 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 7x_1 + -42x_2 + -3x_3 + 4x_4 + 29x_5 &= -3 \\ -5x_1 + 30x_2 + 4x_3 + 0x_4 + 1x_5 &= 38 \\ -3x_1 + 18x_2 + 2x_3 + -3x_4 + -16x_5 &= -4 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \end{aligned}$$

(12)

Best wishes

BRAC University
Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: AYESHA SIDDIKA

ID: 22101344

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} -5x + -5y + -6z + -5w &= -32 \\ 6x + 2y + 3z + 8w &= 24 \\ -6x + -9y + -6z + -2w &= -43 \\ -7x + -2y + -1z + 4w &= -36 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 0x_1 + 0x_2 + 4x_3 + -7x_4 + -19x_5 &= -28 \\ 1x_1 + -6x_2 + -27x_3 + 51x_4 + 150x_5 &= 217 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ 0x_1 + 0x_2 + 1x_3 + -1x_4 + -1x_5 &= -1 \end{aligned}$$

(12)

Best wishes

BRAC University
Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: SAYEEB HOSSAIN

ID: 22101498

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} 0x + 6y + 3z + 0w &= 3 \\ 7x + 9y + -3z + 5w &= 34 \\ 7x + -5y + -5z + -2w &= -10 \\ 0x + 5y + -1z + -5w &= -31 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} -3x_1 + 18x_2 + -4x_3 + 12x_4 + 35x_5 &= 74 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ 2x_1 + -12x_2 + 1x_3 + -16x_4 + -70x_5 &= -125 \\ -2x_1 + 12x_2 + -2x_3 + 10x_4 + 36x_5 &= 70 \end{aligned}$$

(12)

Best wishes

BRAC University
Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: MUFTASIM FUAD MAHEE

ID: 22201317

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} -8x + -5y + -3z + 8w &= 27 \\ -6x + 9y + 7z + -6w &= -27 \\ -9x + 9y + 8z + -9w &= -45 \\ 3x + 8y + 0z + -6w &= -19 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ -1x_1 + 6x_2 + 0x_3 + 3x_4 + 12x_5 &= 26 \\ -6x_1 + 36x_2 + 2x_3 + 3x_4 + 5x_5 &= 50 \\ -5x_1 + 30x_2 + 1x_3 + 6x_4 + 19x_5 &= 65 \end{aligned}$$

(12)

Best wishes

BRAC University
Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: FARHAN TAWSEEF

ID: 22201328

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} 3x + -2y + -9z + -8w &= -49 \\ 4x + -5y + -5z + 7w &= -62 \\ -9x + -4y + 9z + 1w &= 20 \\ 5x + 9y + 2z + -8w &= 72 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 1x_1 + -6x_2 + -2x_3 + 6x_4 + 25x_5 &= 32 \\ 0x_1 + 0x_2 + -2x_3 + 4x_4 + 12x_5 &= 18 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ 0x_1 + 0x_2 + -3x_3 + 5x_4 + 13x_5 &= 19 \end{aligned}$$

(12)

Best wishes

BRAC University
Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: SABBIR HOSSAIN PRINCE

ID: 22201330

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} 9x + 6y + 3z + 7w &= 78 \\ 7x + -7y + 5z + -2w &= -4 \\ -1x + 0y + 4z + 8w &= 4 \\ -3x + 7y + -6z + 6w &= 18 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 4x_1 + -24x_2 + 1x_3 + 6x_4 + 46x_5 &= 47 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ 2x_1 + -12x_2 + 0x_3 + 4x_4 + 26x_5 &= 28 \\ 1x_1 + -6x_2 + 0x_3 + 3x_4 + 18x_5 &= 22 \end{aligned}$$

(12)

Best wishes

BRAC University
Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: BUSHRA MALIHA

ID: 22221130

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} -2x + 2y + 0z + 6w &= 36 \\ 1x + -4y + -2z + -7w &= -55 \\ 7x + 2y + 5z + -4w &= 13 \\ 2x + -6y + 0z + -5w &= -42 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ 2x_1 + -12x_2 + -3x_3 + 3x_4 + 9x_5 &= -1 \\ 1x_1 + -6x_2 + -1x_3 + 7x_4 + 34x_5 &= 47 \\ -4x_1 + 24x_2 + 5x_3 + -17x_4 + -77x_5 &= -93 \end{aligned}$$

(12)

Best wishes

BRAC University

Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: AHONA SULTANA

ID: 22221162

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} 1x + 4y + 0z + -4w &= -15 \\ -4x + 0y + 6z + -6w &= -28 \\ 8x + 3y + 0z + -2w &= 0 \\ 6x + 9y + -9z + -4w &= -10 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 3x_1 + -18x_2 + 0x_3 + 0x_4 + 9x_5 &= -6 \\ 2x_1 + -12x_2 + 1x_3 + -3x_4 + -5x_5 &= -21 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ -4x_1 + 24x_2 + -1x_3 + 1x_4 + -11x_5 &= 9 \end{aligned}$$

(12)

Best wishes

BRAC University
Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: ABRAR MASUD

ID: 22241020

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} 9x + -1y + 6z + 6w &= 73 \\ 0x + -3y + -9z + 7w &= 8 \\ 2x + -6y + 3z + -8w &= 5 \\ 5x + -9y + -7z + 1w &= 34 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 4x_1 + -24x_2 + 3x_3 + 9x_4 + 69x_5 &= 85 \\ -1x_1 + 6x_2 + -1x_3 + -5x_4 + -32x_5 &= -45 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ -3x_1 + 18x_2 + -2x_3 + -7x_4 + -52x_5 &= -64 \end{aligned}$$

(12)

Best wishes

BRAC University

Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: MAHIM MUNTASIR

ID: 22299351

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} -3x + -6y + 7z + 5w &= 12 \\ 8x + -9y + 0z + -7w &= 24 \\ -1x + 1y + -4z + -9w &= -29 \\ 5x + 5y + 1z + -4w &= 30 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 6x_1 + -36x_2 + 3x_3 + 13x_4 + 95x_5 &= 113 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ -10x_1 + 60x_2 + -6x_3 + -30x_4 + -204x_5 &= -262 \\ -1x_1 + 6x_2 + -1x_3 + -5x_4 + -32x_5 &= -45 \end{aligned}$$

(12)

Best wishes

BRAC University

Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: SHANTANU BARUA

ID: 22301108

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} 9x + 5y + -6z + -7w &= 17 \\ 4x + -1y + 5z + 2w &= 12 \\ 9x + -1y + 6z + 7w &= 41 \\ 0x + -5y + 4z + 8w &= 15 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 64x_1 + -384x_2 + 45x_3 + 54x_4 + 642x_5 &= 619 \\ -37x_1 + 222x_2 + -26x_3 + -30x_4 + -365x_5 &= -348 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ 7x_1 + -42x_2 + 5x_3 + 6x_4 + 71x_5 &= 69 \end{aligned}$$

(12)

Best wishes

BRAC University
Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: NADIFA ZAMAN

ID: 22301126

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} 6x + -6y + 3z + -1w &= 33 \\ 9x + 2y + -8z + -2w &= 51 \\ 4x + -8y + -7z + 1w &= 35 \\ -5x + -7y + -1z + 9w &= -17 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ 13x_1 + -78x_2 + -13x_3 + -11x_4 + -68x_5 &= -205 \\ 5x_1 + -30x_2 + -5x_3 + -4x_4 + -25x_5 &= -77 \\ -13x_1 + 78x_2 + 12x_3 + 13x_4 + 74x_5 &= 214 \end{aligned}$$

(12)

Best wishes

BRAC University
Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: MAHADI HASAN FAHIM

ID: 22301128

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} -9x + -9y + -4z + 0w &= -61 \\ -4x + 9y + -4z + -2w &= -27 \\ -4x + 2y + -1z + 2w &= -14 \\ 2x + 1y + 6z + -8w &= 17 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ -1x_1 + 6x_2 + 3x_3 + 3x_4 + 24x_5 &= 47 \\ -2x_1 + 12x_2 + 3x_3 + 5x_4 + 31x_5 &= 65 \\ 0x_1 + 0x_2 + 5x_3 + 0x_4 + 20x_5 &= 35 \end{aligned}$$

(12)

Best wishes

BRAC University

Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: TAMANNA ISLAM TAZIN

ID: 22301163

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} -3x + 3y + -2z + -4w &= -9 \\ 0x + -5y + -2z + 2w &= -20 \\ -2x + -5y + 1z + 8w &= -21 \\ -2x + 0y + 4z + 9w &= 3 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 36x_1 + -216x_2 + -29x_3 + -16x_4 + -88x_5 &= -403 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ 203x_1 + -1218x_2 + -164x_3 + -96x_4 + -527x_5 &= -2322 \\ -281x_1 + 1686x_2 + 227x_3 + 134x_4 + 735x_5 &= 3223 \end{aligned}$$

(12)

Best wishes

BRAC University
Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: MD. SAMEER SAKIB

ID: 22301243

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} -1x + -6y + 6z + 8w &= 6 \\ 9x + 2y + 3z + -3w &= 23 \\ -8x + 8y + 7z + -6w &= 67 \\ 6x + -9y + -4z + -2w &= -56 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} -4x_1 + 24x_2 + -2x_3 + -6x_4 + -50x_5 &= -54 \\ 7x_1 + -42x_2 + -2x_3 + 14x_4 + 83x_5 &= 84 \\ -2x_1 + 12x_2 + 1x_3 + -4x_4 + -22x_5 &= -21 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \end{aligned}$$

(12)

Best wishes

BRAC University
Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: OWARA BINTE MAMUN

ID: 22301543

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} 8x + 0y + -4z + 0w &= 4 \\ -1x + 8y + 9z + -9w &= 82 \\ 2x + 7y + 7z + -1w &= 76 \\ -1x + -7y + -8z + 6w &= -78 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 3x_1 + -18x_2 + 2x_3 + 3x_4 + 32x_5 &= 32 \\ -1x_1 + 6x_2 + 0x_3 + -1x_4 + -8x_5 &= -6 \\ 1x_1 + -6x_2 + -1x_3 + 1x_4 + 4x_5 &= -1 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \end{aligned}$$

(12)

Best wishes

BRAC University
Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: AMIRA TANJUM CHOWDHURY

ID: 22301548

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} -8x + -5y + 3z + -7w &= -47 \\ 0x + 7y + 2z + -4w &= -9 \\ -3x + -3y + -1z + 1w &= -15 \\ 6x + -7y + -1z + -8w &= 34 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} -4x_1 + 24x_2 + -4x_3 + 0x_4 + -28x_5 &= -20 \\ -5x_1 + 30x_2 + -5x_3 + 1x_4 + -30x_5 &= -17 \\ -2x_1 + 12x_2 + -3x_3 + 0x_4 + -18x_5 &= -17 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \end{aligned}$$

(12)

Best wishes

BRAC University
Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: ISMAEEL GHANI

ID: 22301558

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} -2x + -8y + -1z + -7w &= -35 \\ -1x + 8y + -4z + 4w &= 19 \\ -5x + 6y + -6z + 5w &= 6 \\ 6x + -6y + -8z + 4w &= -24 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 4x_1 + -24x_2 + -3x_3 + 9x_4 + 45x_5 &= 43 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ -31x_1 + 186x_2 + 25x_3 + -116x_4 + -573x_5 &= -691 \\ 15x_1 + -90x_2 + -12x_3 + 53x_4 + 262x_5 &= 310 \end{aligned}$$

(12)

Best wishes

BRAC University
Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: RAIANA FERDOUS DISHA

ID: 22301562

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} -2x + 8y + 6z + -4w &= 0 \\ -9x + 9y + -7z + 4w &= -3 \\ -8x + 3y + 8z + 4w &= -31 \\ 9x + -9y + 7z + -4w &= 3 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} -7x_1 + 42x_2 + 5x_3 + 5x_4 + 24x_5 &= 89 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ -15x_1 + 90x_2 + 10x_3 + 10x_4 + 45x_5 &= 180 \\ 2x_1 + -12x_2 + -2x_3 + -3x_4 + -17x_5 &= -42 \end{aligned}$$

(12)

Best wishes

BRAC University
Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: MORIYAM AKTER RIANA

ID: 22301570

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} 4x + 4y + -8z + 3w &= 1 \\ 2x + -3y + 1z + -2w &= -20 \\ -5x + -4y + 4z + 3w &= 1 \\ 5x + 3y + 7z + 7w &= 67 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ 0x_1 + 0x_2 + 1x_3 + 10x_4 + 54x_5 &= 87 \\ -1x_1 + 6x_2 + 1x_3 + 1x_4 + 6x_5 &= 17 \\ 0x_1 + 0x_2 + -1x_3 + -4x_4 + -24x_5 &= -39 \end{aligned}$$

(12)

Best wishes

BRAC University
Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: SAMIRA AHMED NAAHEE

ID: 22301604

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} 4x + 4y + -4z + 7w &= 66 \\ -6x + 6y + 3z + 9w &= 30 \\ -4x + 6y + -6z + -1w &= -20 \\ -7x + -9y + 9z + 1w &= -38 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 22x_1 + -132x_2 + -21x_3 + 36x_4 + 162x_5 &= 97 \\ -7x_1 + 42x_2 + 7x_3 + -14x_4 + -63x_5 &= -49 \\ -18x_1 + 108x_2 + 18x_3 + -32x_4 + -142x_5 &= -94 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \end{aligned}$$

(12)

Best wishes

BRAC University
Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: KH.SAMIRA LAMISHA SAMONTI

ID: 22301608

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} -8x + -3y + 2z + 7w &= 6 \\ -4x + -9y + 7z + -5w &= 49 \\ 6x + -7y + 2z + 0w &= 17 \\ -7x + -8y + 2z + -5w &= 23 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 7x_1 + -42x_2 + -2x_3 + -2x_4 + 3x_5 &= -44 \\ 19x_1 + -114x_2 + -4x_3 + 0x_4 + 41x_5 &= -66 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ 12x_1 + -72x_2 + -3x_3 + -1x_4 + 19x_5 &= -53 \end{aligned}$$

(12)

Best wishes

BRAC University

Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: MAHMUDUR RAHMAN

ID: 22321003

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} -8x + 4y + -2z + -4w &= 8 \\ -3x + -6y + -3z + 9w &= -9 \\ 4x + -9y + -1z + -7w &= -34 \\ 3x + 2y + -7z + -8w &= -2 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} -5x_1 + 30x_2 + 3x_3 + 12x_4 + 57x_5 &= 127 \\ 0x_1 + 0x_2 + -2x_3 + -5x_4 + -33x_5 &= -54 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ -6x_1 + 36x_2 + -1x_3 + 4x_4 + -2x_5 &= 37 \end{aligned}$$

(12)

Best wishes

BRAC University

Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: SRABOSTY BARUA

ID: 22321048

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} -6x + -5y + -1z + 1w &= 8 \\ -3x + -9y + -1z + 9w &= 53 \\ 7x + 9y + -5z + -4w &= -51 \\ 9x + -4y + 3z + -1w &= -3 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 8x_1 + -48x_2 + 12x_3 + 80x_4 + 472x_5 &= 708 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ -2x_1 + 12x_2 + -1x_3 + -16x_4 + -90x_5 &= -131 \\ -5x_1 + 30x_2 + -5x_3 + -45x_4 + -260x_5 &= -385 \end{aligned}$$

(12)

Best wishes

BRAC University

Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: IFAZ AHMED CHOWDHURY

ID: 22321075

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} 3x + 4y + -8z + -3w &= 7 \\ -8x + 6y + 7z + -9w &= -56 \\ 1x + -8y + 7z + 3w &= -6 \\ -9x + -1y + 1z + 1w &= -16 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 6x_1 + -36x_2 + 5x_3 + 4x_4 + 58x_5 &= 55 \\ 14x_1 + -84x_2 + 8x_3 + 2x_4 + 84x_5 &= 44 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ -17x_1 + 102x_2 + -11x_3 + -5x_4 + -120x_5 &= -83 \end{aligned}$$

(12)

Best wishes

BRAC University

Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: MD. SAIMUN SAFAYET SAGAR

ID: 23101438

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} 1x + 1y + 3z + 3w &= 30 \\ -5x + 9y + -6z + -2w &= -31 \\ -5x + 1y + -7z + -6w &= -66 \\ 7x + 2y + 1z + 8w &= 67 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 8x_1 + -48x_2 + 6x_3 + 8x_4 + 88x_5 &= 90 \\ 4x_1 + -24x_2 + 3x_3 + 4x_4 + 44x_5 &= 45 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ 5x_1 + -30x_2 + 4x_3 + 5x_4 + 56x_5 &= 58 \end{aligned}$$

(12)

Best wishes

BRAC University
Department of Mathematics and Natural Sciences

MAT 216: Linear Algebra and Fourier Analysis

Quiz-01

Section: 09

Name: SOHAN AHMED

ID: 23241141

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} -3x + -5y + -6z + 8w &= -10 \\ -3x + 0y + 9z + -7w &= 15 \\ 6x + -6y + 1z + 8w &= 16 \\ 2x + -8y + 1z + 7w &= 9 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 2x_1 + -12x_2 + 5x_3 + -10x_4 + -24x_5 &= -49 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ 4x_1 + -24x_2 + 6x_3 + -9x_4 + -9x_5 &= -38 \\ -5x_1 + 30x_2 + -10x_3 + 20x_4 + 45x_5 &= 100 \end{aligned}$$

(12)

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Section: 09

Name: NAWROZ HASEEN TUMUL

ID: 24141071

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} 4x + 5y + -3z + 2w &= 45 \\ 0x + -6y + 6z + -3w &= -48 \\ -8x + 1y + -9z + -7w &= -53 \\ 1x + 1y + 1z + 9w &= 61 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} 5x_1 + -30x_2 + -2x_3 + 0x_4 + 7x_5 &= -24 \\ -2x_1 + 12x_2 + -3x_3 + 0x_4 + -18x_5 &= -17 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ 0x_1 + 0x_2 + -1x_3 + 0x_4 + -4x_5 &= -7 \end{aligned}$$

(12)

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Section: 09

Name: NILOY SAHA

ID: 24141121

Date: 06 February, 2024

Total Time: 40 minutes | Spring 2024 | Total marks: 20

Answer all the Questions

1. Convert a system of linear equations into Row Echelon Form (REF) and find a unique solution if it exists.

$$\begin{aligned} -9x + 6y + -7z + -7w &= -58 \\ -8x + 8y + -2z + -4w &= -22 \\ 9x + 2y + -7z + 3w &= 24 \\ -5x + -9y + 1z + -1w &= -60 \end{aligned}$$

(8)

2. The given system of linear equations possesses an infinite number of solutions. Determine all solutions in parametric form. Use the Reduced Row Echelon Form (RREF) to find solution.

$$\begin{aligned} -11x_1 + 66x_2 + 21x_3 + 11x_4 + 106x_5 &= 257 \\ 0x_1 + 0x_2 + 0x_3 + 1x_4 + 5x_5 &= 8 \\ -10x_1 + 60x_2 + 17x_3 + 9x_4 + 83x_5 &= 211 \\ -1x_1 + 6x_2 + 1x_3 + 0x_4 + 1x_5 &= 9 \end{aligned}$$

(12)

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