

Math 1313
Homework 5
Section 3.2

1. The choices for problem number 2 from the book are given below.
 - a. Row Reduced
 - b. Not Row Reduced

2. The choices for problem number 6 from the book are given below.
 - a. Row Reduced
 - b. Not Row Reduced

3. The choices for problem number 11 from the book are given below.
 - a. Row Reduced
 - b. Not Row Reduced

Use the following matrices for questions 4-6.

$$A = \left[\begin{array}{ccc|c} 1 & -3 & 0 & 4 \\ 0 & 0 & 1 & 2 \end{array} \right], \quad B = \left[\begin{array}{ccc|c} 1 & 0 & 0 & 3 \\ 0 & 1 & 0 & -5 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \end{array} \right], \quad C = \left[\begin{array}{cc|c} 1 & 0 & 4 \\ 0 & 1 & -7 \\ 0 & 0 & 0 \end{array} \right], \quad D = \left[\begin{array}{ccc|c} 1 & 0 & 0 & 2 \\ 0 & 1 & 0 & -8 \\ 0 & 0 & 1 & 0 \end{array} \right]$$

4. State the number of solutions for Matrix A.
 - a. No Solution
 - b. One Solution
 - c. Infinitely Many Solutions

5. State the number of solutions for Matrix C.
 - a. No Solution
 - b. One Solution
 - c. Infinitely Many Solutions

6. State the number of solutions for Matrix D.
 - a. No Solution
 - b. One Solution
 - c. Infinitely Many Solutions

7. Solve the following system of linear equations using the Gauss-Jordan elimination method for the variable x .

$$\begin{aligned}x + 4y &= -3 \\x + 3y &= 1 \\-4x - 16y &= 13\end{aligned}$$

- a. No Solution
- b. $x = -4$

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- c. $x = 13$
- d. $x = 0$
- e. Infinitely many solutions

8. Solve the following system of linear equations using the Gauss-Jordan elimination method for the variable y

$$\begin{aligned}2x + 4y - 2z &= 2 \\ -3x - 6y + 3z &= -4 \\ -5x - 10y + 5z &= -8\end{aligned}$$

- a. No Solution
- b. $y = 1$
- c. $y = \frac{1}{2}z$, where z is any real number
- d. $y = -2z$, where z is any real number
- e. $y = -2$

9. Solve the following system of linear equations using the Gauss-Jordan elimination method for the variable x .

$$\begin{aligned}x - 3y &= 3 \\ -4x + 13y &= -14 \\ -x + 4y &= -5\end{aligned}$$

- a. No Solution
- b. $x = -3$
- c. $x = -2$
- d. $x = 0$
- e. Infinitely many solutions

10. Solve the following system of linear equations using the Gauss-Jordan elimination method for the variable y .

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

- a. No Solution
- b. $y = 4$
- c. $y = 0$
- d. $y = 8$
- e. Infinitely many solutions