

Precalculus Quiz #1 (Retake): Spring 2022

Name:

March 3, 2022

1. A system of equations with an infinite number of solutions is...
 - A. inconsistent.
 - B. consistent.
 - C. asymmetric.
 - D. impossible.
2. A **coefficient matrix** will always contain...
 - A. exactly three columns.
 - B. more columns than variables.
 - C. one row for every equation.
 - D. one column for every equation.
3. The system of equations below has an infinite number of solutions:
$$\begin{cases} 3x + 2y + z = 8 \\ -6x \quad \quad + 2z = 4 \end{cases}$$
Which of the following is **not** a possible solution?
 - A. $x = 1, y = 0, z = 5$
 - B. $x = 0, y = 3, z = 2$
 - C. $x = 1, y = 1, z = 4$
 - D. $x = -1, y = 6, z = -1$

4.

$$\begin{bmatrix} 1 & -3 \\ 0 & 0 \\ 5 & -3 \end{bmatrix} + \begin{bmatrix} 2 & 3 & 14 \\ 0 & 0 & 0 \end{bmatrix} =$$

- A. $\begin{bmatrix} -1 & 3 & 11 \\ 1 & 0 & 5 \end{bmatrix}$
- B. $\begin{bmatrix} 3 & 3 & 19 \\ -3 & 0 & -3 \end{bmatrix}$
- C. $\begin{bmatrix} 7 & 3 & 15 \\ -3 & 0 & -3 \end{bmatrix}$
- D. Matrix addition is undefined here.

Show your work or explain your answer here:

5. For the system of equations to the right,
- $$\begin{cases} x + 3y + 2z = 2 \\ 2x + 7y + 7z = -1 \\ 2x + 5y + 2z = 7 \end{cases}$$
- i. Convert to **augmented matrix** form
 - ii. Use **Gaussian Elimination** to transform to row-echelon form
 - iii. Solve for x, y and z . For full credit use **Gauss-Jordan elimination**. For partial credit use back-substitution.

Use this space to continue work on (5).