

Precalculus Quiz #1 (Retake): Spring 2022

Name:

March 2, 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.

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

- 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:

4. Solve the **nonsquare** system below in terms of a ,
where a is any real number:

$$x = \underline{\hspace{2cm}}$$

$$y = \underline{\hspace{2cm}}$$

$$\begin{cases} 2x & + 3z = 3 \\ 4x - 3y + 7z = 5 \end{cases}$$

$$z = \underline{\hspace{2cm}}$$

5. Use **Gaussian elimination** to solve this system of equations. Be sure to...(i) convert to augmented matrix form and (ii) use both back-substitution and Gauss-Jordan elimination to solve for x, y and z .

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

Use this space to continue work on (5).