

COLLEGE ALGEBRA QUIZ

- (1) Solve the system of equations using Gaussian elimination or Gauss-Jordan elimination.

$$\begin{aligned}x + 4y &= 5 \\4x - 5y &= -8\end{aligned}$$

$$\left(\frac{-1}{3}, \frac{28}{21}\right)$$

- (2) Solve the system of equations using Gaussian elimination or Gauss-Jordan elimination.

$$\begin{aligned}2x + 3y + 4z &= 13 \\5x - y - 10z &= 30 \\4x - 3y + 6z &= -15\end{aligned}$$

$$(3, 5, -2)$$

- (3) Solve the system of equations using Gaussian elimination or Gauss-Jordan elimination.

$$\begin{aligned}3x - y + z &= 0 \\x - 2y - 3z &= 0 \\x + 3y + 7z &= 0\end{aligned}$$

$$\text{Infinitely many solutions, } \left(\frac{y}{2}, y, \frac{-y}{2}\right)$$

- (4) Solve the system of equations using Gaussian elimination or Gauss-Jordan elimination.

$$\begin{aligned}w - x + y + z &= -6 \\-3w - 2x + 4y + 2z &= 22 \\2w + 5x + 2y - z &= -10 \\3w + 4x - y + z &= -8\end{aligned}$$

$$(-7, 2, -1, 4)$$

- (5) Which of the following is a row-equivalent operation on a matrix?
- (a) Interchange any two columns.
 - (b) Interchange any two rows.
 - (c) Add two rows.
 - (d) Multiply each entry in a row by $-\frac{1}{3}$.
 - (e) All of the above.
 - (f) (b),(c),and(d) only.
- (f)