RATLIFF8102

$$A = \begin{bmatrix} 1 & 2 & -3 \\ 2 & -3 & 4 \\ -1 & 3 & 2 \end{bmatrix} \qquad \text{REF}(A) = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$$

The columns of A are linearly independent

- (a) True, and I can explain why
- (b) True, but I am unsure why
- (c) False, and I can explain why
- (d) False, but I am unsure why
- (e) Hmm, I think I need more information



The vectors
$$\vec{\mathbf{v_1}} = \begin{bmatrix} 2\\0\\3 \end{bmatrix}$$
, $\vec{\mathbf{v_2}} = \begin{bmatrix} 0\\-1\\6 \end{bmatrix}$, $\vec{\mathbf{v_3}} = \begin{bmatrix} -2\\-4\\21 \end{bmatrix}$ lie in the same plane in \mathbb{R}^3

- (a) True, and I can explain why
- (b) True, but I am unsure why
- (c) False, and I can explain why
- (d) False, but I am unsure why
- (e) Hmm, I think I need more information



If A is a 4 \times 5 matrix the columns of A are linearly independent

- (a) True, and I can explain why
- (b) True, but I am unsure why
- (c) False, and I can explain why
- (d) False, but I am unsure why
- (e) Hmm, I think I need more information



If A is a 5 \times 4 matrix the columns of A are linearly independent

- (a) True, and I can explain why
- (b) True, but I am unsure why
- (c) False, and I can explain why
- (d) False, but I am unsure why
- (e) Hmm, I think I need more information