



Tutorial Request Form (TRF)

Pre-work Inquiry (Before the Tutorial)

Subject: <u>Trig.</u>			Name: <u>Jon</u>		
Standard/Essential Question: <u>Finding inverses</u>			AVID Period: <u>5°</u>		
			Date: <u>2/10/11</u>		
Pre-Work Inquiry	Resources	Collaborative Inquiry	Note-Taking	Reflection	Total
___/12	___/1	___/2	___/3	___/7	___/25
Initial/Original Question:			Source, Page # and Problem #: <u>Chap. 7-6 #22</u>		
Find the inverse of $\begin{bmatrix} 1 & -3 \\ -1 & 2 \end{bmatrix}$					/1
Key Academic Vocabulary/Definition Associated With Topic/Question:					
1. Inverse - the opposite of something					
2. Matrices - a pattern of numbers or expressions $[\]_{12}$					
What I Know About My Question:					
1. The inverse of a matrix equals $\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$					
2. The formula for finding the inverse - $Ax = I$					
Critical Thinking About Initial Question:			Identify General Process and Steps:		
Formula $Ax = I$ $A = \begin{bmatrix} 1 & -3 \\ -1 & 2 \end{bmatrix}$ $I = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$ $x = ?$ (POC)			1. Write out formula 2. Identify the parts of the formula 3. Set up corresponding matrix (Ax)		
/3			/2		
Question From Point of Confusion:					
Explain how to manipulate a matrix into its inverse form. How can I apply this to the following equation? $\begin{bmatrix} 1 & -3 \\ -1 & 2 \end{bmatrix}$					
					/2

Three-Column Note-Taking (In Class—During the Tutorial)

Take three-column notes (question/notes/steps or process) during the tutorial on notebook paper. Keep your notes in your binder to study.

Reflection (In Class—After the Tutorial)

My point of confusion is based on a focus area from my Tutorial Analysis Grade Reflection: Yes No

I was a student presenter during tutorial today: Yes No

In the space below, elaborate on the following questions as you reflect on the tutorial process: What was your/ the point of confusion? What did you learn about the point of confusion? When/how did you gain a new/ greater understanding about the point of confusion? How does this new learning connect to previous learning/ experiences, yourself and/or the world? What did you find meaningful about the tutorial session?

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My point of confusion was the manipulation of the matrices to get into Gauss-Jordan. What I learned about my point of confusion is that it is always the bottom equation that is replaced. I gained a greater understanding of my point of confusion when I realized the bottomline of the matrix is always the new equation. This learning is important because it connects to my previous learning experience because it helps me solve all the Gauss-Jordan problems. What I found meaningful about today's tutorial is I learned a technique that will help me on another problems.

POC
Question

Notes

Steps

Explain how to
manipulate a
matrix into its
inverse form. How
can we apply this
to the following
equation?

$$\begin{bmatrix} 1 & -3 \\ -1 & 2 \end{bmatrix}$$

$$\begin{bmatrix} 1 & -3 \\ -1 & 2 \end{bmatrix}$$

$$AX = I$$

Gauss Jordan

$$A = \begin{bmatrix} 1 & -3 \\ -1 & 2 \end{bmatrix}$$

$$I = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$$

$$\begin{array}{cc|cc} 1 & -3 & 1 & 0 \\ -1 & 2 & 0 & 1 \end{array}$$

$$\hline 0 \quad -1 \quad 1 \quad 1$$

$$\begin{array}{cc|cc} 1 & -3 & 1 & 0 \\ 0 & 1 & 1 & 1 \end{array} \rightarrow \begin{array}{cc|cc} 1 & -3 & 1 & 0 \\ 0 & 3 & -3 & -3 \end{array}$$

$$\hline 1 \quad 0 \quad -2 \quad -3$$

$$\begin{bmatrix} 1 & 0 \\ 0 & -1 \end{bmatrix} \begin{array}{cc} -2 & -3 \\ 1 & 1 \end{array} \rightarrow \begin{array}{cc|cc} 1 & 0 & -2 & -3 \\ 0 & 1 & -1 & -1 \end{array}$$

$$\hline 1 \quad 0 \quad -2 \quad -3 \\ 0 \quad 1 \quad -1 \quad -1$$

↓

$$\begin{array}{cc|cc} 1 & 0 & -2 & -3 \\ 0 & 1 & -1 & -1 \end{array}$$

↓

$$\begin{bmatrix} -2 & -3 \\ -1 & -1 \end{bmatrix}$$

$$\leftarrow \begin{array}{cc|cc} 1 & 0 & -2 & -3 \\ 0 & 1 & -1 & -1 \end{array}$$

1. Identify
A and I

2. Plug them into
the equation $AX = I$

3. Manipulate the
equation until we
get $\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$

4. Confirm
final equation