

Week 3 Day 3

Topics

Make sure you know your neighbors' names. Then take 2 minutes to discuss:

What's a topic you've learned this week that you think you understood well? How did you go about understanding it? Conversely, what's a topic that you think you need more practice with? What do you think you'll do to get more practice?

Next Week

Following the calendar:

- ▶ Read 4.1 for Monday
- ▶ Review on Wednesday (see “Review Request Form” on Canvas)
- ▶ Read 4.2 for Friday
- ▶ Exam on Friday covers through 2.1

Inversion

1. Which of the following matrices *isn't* invertible?

(A) $\begin{bmatrix} 1 & 3 \\ 6 & 2 \end{bmatrix}$

(B) $\begin{bmatrix} 1 & 3 \\ 2 & 6 \end{bmatrix}$

(C) $\begin{bmatrix} 1 & -3 \\ 2 & 6 \end{bmatrix}$

(D) All of the above are invertible

2. Find the inverse of the following matrix.

$$\begin{bmatrix} 1 & 0 & 0 & 0 \\ 1 & 2 & 0 & 0 \\ 1 & 2 & 3 & 0 \\ 1 & 2 & 3 & 4 \end{bmatrix}$$

3. (A) True or (B) False? If A is an invertible matrix, then $A\mathbf{x} = \mathbf{b}$ is consistent for every \mathbf{b} .

4. (A) True or (B) False? If A is a square matrix whose columns span \mathbb{R}^n , then its columns are also linearly independent.

5. (A) True or (B) False? If A is a square matrix and the columns of A are linearly independent, then the columns of A^2 are also linearly independent.