일련번호: 출처:

1. Matrix가 풀이 동일X

4. $\left[\begin{array}{ccc|c} 1 & 2 & -3 & 1 \\ -6 & 0 & 0 & 0 \\ 1 & -2 & 1 & 1 \end{array}\right]$

4.2→ $x_1 = 0$

→ $\left[\begin{array}{cc|c} 2 & -3 & 1 \\ -2 & 1 & 1 \end{array}\right]$

↳ $2x_2 - 3x_3 = 1$

$-2x_2 + x_3 = 1$

$4x_2 + 2x_3 = 0$

↳ $2x_2 + x_3 = 0$

$x_3 = -2x_2$

k. $\left[\begin{array}{ccc|c} 3 & 2 & -2 & 0 \\ -5 & -2 & 1 & 1 \\ -2 & -4 & 3 & 1 \end{array}\right]$

↓

$\left[\begin{array}{cc|c} 2 & -2 & 0 \\ -2 & 1 & 1 \\ -4 & 3 & 1 \end{array}\right]$

3.1→ $2x_2 - 2x_3 = 0$

$x_2 = x_3$

A의 절편과 B의 절편이 다르므로 존재안함

정답

2. GJ ialuation 적용

2 $\left[\begin{array}{ccc|c} 4 & 3 & 2 & 2 \\ 2 & 3 & 2 & 3 \\ 2 & 2 & 1 & 1 \end{array}\right]$

$x_1 \rightarrow (R_1 - R_2)/2 \rightarrow x_1 \rightarrow 2x_1 = 1 \rightarrow x_1 = \frac{1}{2}$

$x_2 \rightarrow R_2 - 2R_3 \rightarrow x_1, x_2 \rightarrow y_1 = 0$

$x_3 \rightarrow \left(\frac{3}{2}R_3 - \frac{2}{3}R_2\right) * (-1) \rightarrow x_1, x_3$

$\rightarrow 2 = 2$

∴ $\left[\begin{array}{ccc|c} 1 & 0 & 0 & \frac{1}{2} \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 2 \end{array}\right]$

정답

일차 월일 (확인)

일련번호: 출처:

3.

$$\left[\begin{array}{cccc|c} 2 & 2 & 3 & 0 & 1 \\ 0 & -2 & 0 & -2 & -2 \\ 3 & 0 & 1 & 2 & 2 \\ 0 & 0 & 2 & 6 & -2 \end{array}\right]$$

X_1: $R_1+R_2+R_3 \rightarrow X_1, X_3$ ~~R_4~~ : 3.A

X_3: $\hookrightarrow (R_2+R_3)\frac{2}{5} - R_1 \cdot \frac{3}{2} \rightarrow X_3, X_4$: 3.B

3.A → $5X_1 + 4X_3 = 1$

3.B → $\frac{4}{-3}X_2 + \frac{2}{3}X_3 + 2X_1$ ∩ R_1

0 → $(2+\frac{4}{3})X_2 + (3+\frac{2}{-3})X_3 = 1$

정답

일련번호: 출처:

~~$(1+\frac{2}{3})X_2$~~

$10X_2 + 7X_3 = 3$

$$\left[\begin{array}{cccc|c} 5 & 0 & 4 & 0 & 1 \\ 0 & -2 & 0 & -2 & -2 \\ 0 & 10 & 7 & 0 & 3 \\ 0 & 0 & 2 & 6 & -2 \end{array}\right]$$

R_2 ∩ R_3 ∩ R_4

$$\left[\begin{array}{ccc} -2 & 0 & -2 \\ 10 & 7 & 0 \\ 0 & 2 & 6 \end{array}\right] \left[\begin{array}{c} -2 \\ 3 \\ -2 \end{array}\right]$$

↓ X_3, X_4

$$\left[\begin{array}{cc} 7 & 10 \\ 2 & 6 \end{array}\right] \left[\begin{array}{c} -7 \\ -2 \end{array}\right]$$

$$\left[\begin{array}{cccc|c} 1 & 0 & 0 & 0 & 1 \\ 0 & 1 & 0 & 0 & 2 \\ 0 & 0 & 1 & 0 & -1 \\ 0 & 0 & 0 & 1 & 0 \end{array}\right]$$

↑

$R_1 \rightarrow 5X_1 + 4X_3 = 1$

$\rightarrow X_1 = +1$

↑

$R_2 \rightarrow X_2 + X_3 = 1$

$\rightarrow X_2 = 2$

↑

$-31X_4 = 0$

$X_3 = 1$

$X_4 = 0$

정답

수학의 달인이되자

일련번호:

출처:

4.

$$\begin{bmatrix} 1 & -2 & -4 \\ 5 & -7 & -17 \\ 1 & -1 & -3 \end{bmatrix} \begin{matrix} 3 \\ 2 \\ -2 \end{matrix}$$

$$\rightarrow \begin{bmatrix} 1 & 0 & 2 \\ 0 & -2 & -11 \\ 0 & -1 & -1 \end{bmatrix} \begin{matrix} 7 \\ 7 \\ 5 \end{matrix}$$

$-x_1 + x_3 = 7$

$\rightarrow x_1 = -\frac{20}{3}$

x_2, x_3

$$\begin{bmatrix} -2 & -11 \\ -1 & -1 \end{bmatrix} \begin{bmatrix} 7 \\ 5 \end{bmatrix}$$

$\rightarrow -9x_3 = -3 \rightarrow x_3 = \frac{1}{3}$

$\rightarrow x_2 = \frac{16}{3}$

정답

출처:

$$\begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} -\frac{20}{3} \\ \frac{16}{3} \\ \frac{1}{3} \end{bmatrix}$$

일련번호:

일차 월일 (확인)

5.

$$\begin{bmatrix} 6 & 12 & -3 \\ 3 & 3 & -2 \\ -3 & 9 & 1 \end{bmatrix} \begin{matrix} 4 \\ 1 \\ -3 \end{matrix}$$

$$\begin{bmatrix} -3 & 30 & 0 \\ 0 & 12 & -1 \\ 0 & 30 & -1 \end{bmatrix} \begin{matrix} -5 \\ -2 \\ -2 \end{matrix}$$

$-3x_1 + 30x_2 = -5$

x_2, x_3

$$\begin{bmatrix} 12 & -1 \\ 30 & -1 \end{bmatrix} \begin{matrix} -2 \\ -2 \end{matrix}$$

$x_2 = 0$ $x_1 = \frac{5}{3}$

$x_3 = 2$

$$\begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix} \begin{matrix} \frac{5}{3} \\ 0 \\ 2 \end{matrix}$$

정답

일련번호: 출처:

6.

$$\begin{bmatrix} 1 & -2 & 0 & 3 \\ 2 & 1 & 0 & 1 \\ -5 & 8 & 0 & 4 \end{bmatrix}$$

$$\begin{bmatrix} 5 & 0 & 0 & 5 \\ -5 & 8 & 0 & 4 \end{bmatrix} \rightarrow x_1 = 1$$

$$\rightarrow x_2 = \frac{9}{8}$$

$$\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix} \begin{bmatrix} 1 \\ \frac{9}{8} \end{bmatrix}$$

정답

일련번호: 출처:

7.

$$\begin{bmatrix} 1 & 1 & 11 & 0 \\ 2 & 1 & -13 & 0 \\ 1 & -2 & 1 & 0 \end{bmatrix}$$

$$\begin{bmatrix} 1 & 0 & -2 & 2 & 0 \\ 0 & -(-1) & 0 & 0 & 0 \end{bmatrix}$$

$\rightarrow x_2 = 0$

$$\rightarrow \begin{bmatrix} 1 & 11 & 0 \\ 2 & -13 & 0 \\ 1 & 11 & 0 \end{bmatrix}$$

$2x_1 - x_2 + x_4 = 0$ 이라는 무수히 많다.

정답

일련번호: 출처:

8 특강회.

$$\left[\begin{array}{cc|c} 1 & 1 & 2 \\ 1 & a-2 & 5 \end{array}\right]$$

$(a-2)\times_2 = 5 \rightarrow a=7$

9. (a) 무한
(b) 고순회

(a)
$$\left[\begin{array}{ccc|c} 1 & 0 & 2 & 1 \\ 2 & 0 & a-5 & b-5 \end{array}\right]$$

$(a-5)-4=(b-5)-2$

정답

$a-a=b-7$

$a-b=2$

∩ $a-5=2b-10 \rightarrow a-2b=-5$

$b=7, a=9$

(b)

$a=9, b\neq 7$

정답

일련번호:

출처:

일련번호:

10. 무한해 → 동치!

x_1 → 을 제거하는 방법의 풀이

$$\left[\begin{array}{cc|c} 1 & a & 1 \\ 1 & b-a & 1 \end{array}\right]$$

2 b 2

$b-a=a \to b=2a$

$$\left[\begin{array}{cc|c} 0 & 2a-b & 0 \end{array}\right] \to \quad 2a-b=0.$$

$$\left[\begin{array}{cc|c} 1 & 1 & -2c+d \\ 1 & 1 & a \end{array}\right]$$

$a=-2c+d$

정답

$$\left[\begin{array}{cc|c} 1 & a & 1 \\ 1 & 1 & a \end{array}\right]$$

↳ $a-1=1-a \to$ $a=1$

$b=2$

$x_1 \to x$

$$\left[\begin{array}{cc|c} 1 & 1 & c-2 \\ 1 & 1 & 8-d \end{array}\right] \quad \to c=3 \quad \to d=9$$

정답

수학의 달인이되자

일차 | 월일 (확인)

일련번호:

출처:

11

$$\begin{bmatrix} 1 & 3 & 2 & 2 \\ 2 & 6 & 6 & 6 \end{bmatrix} \begin{matrix} 2 \\ 5 \end{matrix}$$

x_1, x_2 [1 3] 1 → ㅅ

x_3, x_4 [2 2] 1 → ㄷ

$x_1 = ㅅ \rightarrow x_2 = (1-ㅅ)/3$

$x_3 = ㄷ \rightarrow x_4 = (1-2ㄷ)/2$

정답

일련번호:

출처:

$x_1 = x_2 = x_3 = x_4$가 같은 조건을 만족하려면

x ∈ ㅅ = ㄷ가 성립해야 함

$x_1 = x$, $x_2 = (1-x)/3$

$x_3 = x$, $x_4 = (1-2x)/2$

$x = (1-x)/3 \rightarrow x = \frac{1}{4}$

$(1-\frac{1}{2})/2 = 1/4$ 따라서 $x = \frac{1}{4}$일때

일부조건에서

해당 식이 성립하므로 $x_1 = x_2 = x_3 = x_4$는 성립한다

$= \frac{1}{4}$

~~해당 성립한다~~

정답

일련번호: 출처:

12.

$$\begin{bmatrix} 1 & -3 & b_1 \\ 4 & -2 & b_2 \\ 1 & 7 & b_3 \\ 2 & 4 & b_4 \end{bmatrix}$$

$$\begin{bmatrix} 10 & 0 & 2b_2+b_4 \\ 0 & 10 & b_3-b_1 \end{bmatrix}$$

$$\begin{bmatrix} 1 & 0 & (2b_2+b_4)/10 \\ 0 & 1 & (b_3-b_1)/10 \end{bmatrix}$$

정답

일련번호: 출처:

$2b_2+b_4-3(b_3-b_1)=10b_1$

$4(2b_2+b_4)-2(b_3-b_1)=10b_2$

$2b_2+b_4+7(b_3-b_1)=10b_3$

$2(2b_2+b_4)+4(b_3-b_1)=10b_4$

$-7b_1+2b_2-3b_3+b_4=0$

$2b_1-2b_2-2b_3+4b_4=0$

$-7b_1+2b_2-3b_3+b_4 \to 0$

$\to 0$

$$\begin{bmatrix} -7 & 2 & 3 & 1 & 0 \\ 1 & -1 & -1 & 2 & 0 \end{bmatrix}$$

정답

일련번호: 출처:

$$\left[\begin{array}{cccc|c} -7 & 2 & -3 & 1 & 0 \\ 1 & -1 & -1 & 2 & 0 \end{array}\right]$$

$$\left[\begin{array}{cccc|c} & -5 & 0 & -5 & 5 \\ \cancel{-6} & \cancel{0} & \cancel{-4} & \cancel{3} & 0 \\ & & & & 0 \end{array}\right]$$

~~$b_1=b_3$, $b_2, b_4=0$~~

$b_4 = b_1 + b_3 \rightarrow b_4 = b_1$

$$\left[\begin{array}{ccc|c} -6 & 2 & -2 & 0 \\ 3 & -1 & 1 & 0 \end{array}\right]$$

$b_3 = 0$

$+3b_1 - b_2 = 0 \rightarrow b_2 = 3b_1$

정답

일련번호: 출처:

0
0 0 $b_1=5$ $b_2=35$
$b_4=5$ $b_3=0$

$x_1 = 15/10$
$x_2 = -5/10$ (5는 공통의 수)

정답