

## **Homework #332**

Theo Park

MA687- *Prof. Carl Gauss*

Due on: 32 April 1954

**Problem 1****(2 Points)**

Hi students my name is Carl and use Gaussian elimination to find solution for

$$\left[ \begin{array}{ccc|c} 1 & 1 & 1 & 3 \\ 2 & 3 & 7 & 0 \\ 1 & 3 & -2 & 17 \end{array} \right]$$

I have no clue why they named it after me when I literally just copied and pasted from some random Asian math book

**Solution**

Hello so this is my solution

$$\left[ \begin{array}{ccc|c} 1 & 1 & 1 & 3 \\ 2 & 3 & 7 & 0 \\ 1 & 3 & -2 & 17 \end{array} \right] \xrightarrow[R_3 - R_1]{R_2 - 2R_1} \left[ \begin{array}{ccc|c} 1 & 1 & 1 & 3 \\ 0 & 1 & 5 & -7 \\ 0 & 2 & -3 & 14 \end{array} \right] \xrightarrow{R_3 - 2R_2} \left[ \begin{array}{ccc|c} 1 & 1 & 1 & 3 \\ 0 & 1 & 5 & -7 \\ 0 & 0 & -13 & 26 \end{array} \right] \xrightarrow[\div -13]{R_3} \left[ \begin{array}{ccc|c} 1 & 1 & 1 & 3 \\ 0 & 1 & 5 & -7 \\ 0 & 0 & 1 & -2 \end{array} \right]$$

$$\begin{cases} x + y + z = 3 \\ y + 5z = -6 \\ z = -2 \end{cases} \quad \therefore \begin{cases} x = 1 \\ y = 4 \\ z = -2 \end{cases}$$

**Problem 2****(98 Points)**

That was easy right? Because I am a good professor who assigns only 2 question per homework, here's the final questions.

1. Find the inverse of
2. something
3. something
4. something
5. something
6. something
7. something
8. something
9. something

**Solution**

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