Linjär Algebra
Matrisoperationer 2x2

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1. Calculate $A + B$.

$$A = \begin{bmatrix} 2 & -1 \\ 4 & -1 \end{bmatrix}, \quad B = \begin{bmatrix} 3 & 0 \\ -2 & 5 \end{bmatrix}$$

2. Calculate $C + D$.

$$C = \begin{bmatrix} 5 & -3 \\ 1 & 3 \end{bmatrix}, \quad D = \begin{bmatrix} 8 & 2 \\ -4 & 0 \end{bmatrix}$$

3. Calculate $E - F$.

$$E = \begin{bmatrix} 7 & -2 \\ -1 & 6 \end{bmatrix}, \quad F = \begin{bmatrix} 4 & 1 \\ 3 & -4 \end{bmatrix}$$

4. Calculate $G - H$.

$$G = \begin{bmatrix} 5 & -1 \\ 1 & -4 \end{bmatrix}, \quad H = \begin{bmatrix} 1 & 1 \\ 1 & -2 \end{bmatrix}$$

5. Evaluate $X + Y - Z$.

$$X = \begin{bmatrix} 5 & -2 \\ 3 & 0 \end{bmatrix}, \quad Y = \begin{bmatrix} -1 & 4 \\ 1 & 2 \end{bmatrix}, \quad Z = \begin{bmatrix} 2 & -3 \\ 0 & -3 \end{bmatrix}$$

6. Compute $3P$.

$$P = \begin{bmatrix} 3 & -2 \\ 1 & 4 \end{bmatrix}$$

7. Find $-2Q$.

$$Q = \begin{bmatrix} -5 & 2 \\ 0 & 3 \end{bmatrix}$$

8. Determine EF.

$$E = \begin{bmatrix} 2 & 1 \\ 0 & 3 \end{bmatrix}, \quad F = \begin{bmatrix} 4 & -1 \\ 2 & 0 \end{bmatrix}$$

9. Calculate both GH and HG.

$$G = \begin{bmatrix} 1 & -2 \\ 3 & 0 \end{bmatrix}, \quad H = \begin{bmatrix} 5 & -1 \\ 4 & 2 \end{bmatrix}$$

10. Find IJK.

$$I = \begin{bmatrix} 2 & -1 \\ 3 & 0 \end{bmatrix}, \quad J = \begin{bmatrix} 4 & -1 \\ 2 & 3 \end{bmatrix}, \quad K = \begin{bmatrix} 5 & 1 \\ 2 & -2 \end{bmatrix}$$

11. Compute Av.

$$A = \begin{bmatrix} 3 & 1 \\ 2 & 4 \end{bmatrix}, \quad \mathbf{v} = \begin{bmatrix} 2 \\ -1 \end{bmatrix}$$

12. Determine Bu.

$$B = \begin{bmatrix} -1 & 3 \\ 0 & 2 \end{bmatrix}, \quad \mathbf{u} = \begin{bmatrix} 4 \\ 1 \end{bmatrix}$$

13. Determine Ct.

$$C = \begin{bmatrix} -1 & 0 \\ 0 & -1 \end{bmatrix}, \quad \mathbf{u} = \begin{bmatrix} 4 \\ 1 \end{bmatrix}$$

14. Determine Ds.

$$T = \begin{bmatrix} -1 & 3 \\ 0 & 2 \end{bmatrix}, \quad \mathbf{u} = \begin{bmatrix} 4 \\ 1 \end{bmatrix}$$

13. Calculate $(M + N)P - Q$.

$$M = \begin{bmatrix} 2 & -1 \\ 3 & 4 \end{bmatrix}, \quad N = \begin{bmatrix} -2 & 3 \\ 1 & 0 \end{bmatrix}, \quad P = \begin{bmatrix} 1 & -3 \\ 2 & -2 \end{bmatrix}, \quad Q = \begin{bmatrix} 0 & -2 \\ 4 & -1 \end{bmatrix}$$