

# Linear Algebra

## [KOMS120301] - 2023/2024

### **12.4 - Transformasi Linier secara Intuitif**

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Setelah pembelajaran ini, Anda diharapkan dapat:

- Untuk memiliki intuisi tentang konsep transformasi linier.

# Transformasi vektor (1)

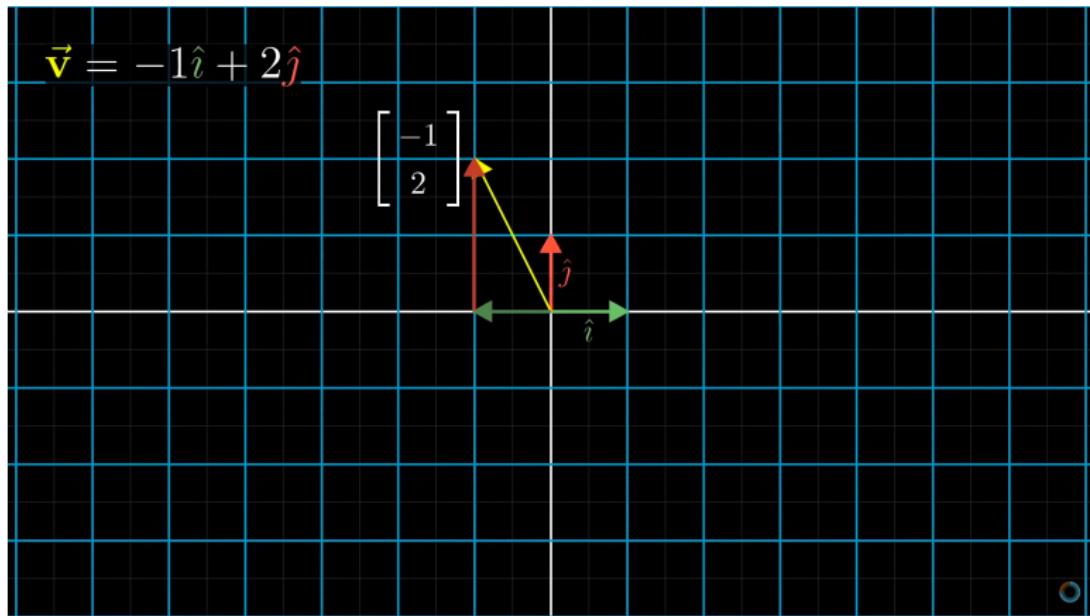


Figure: sumber: Youtube of 3Blue1Brown

## Transformasi vektor (2)

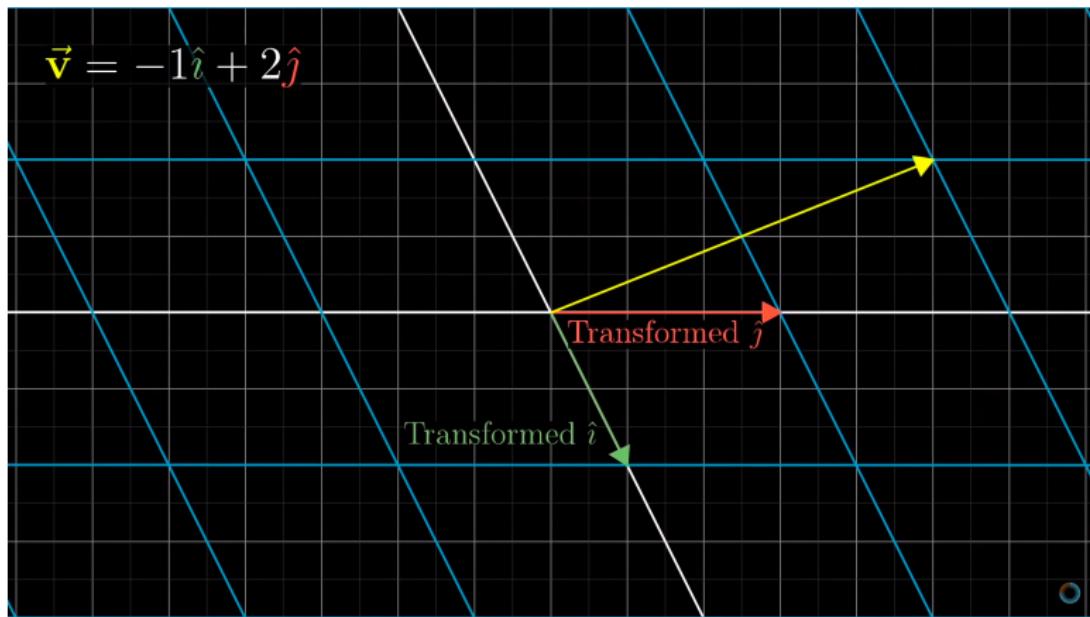


Figure: sumber: Youtube of 3Blue1Brown

# Transformasi vektor (3)

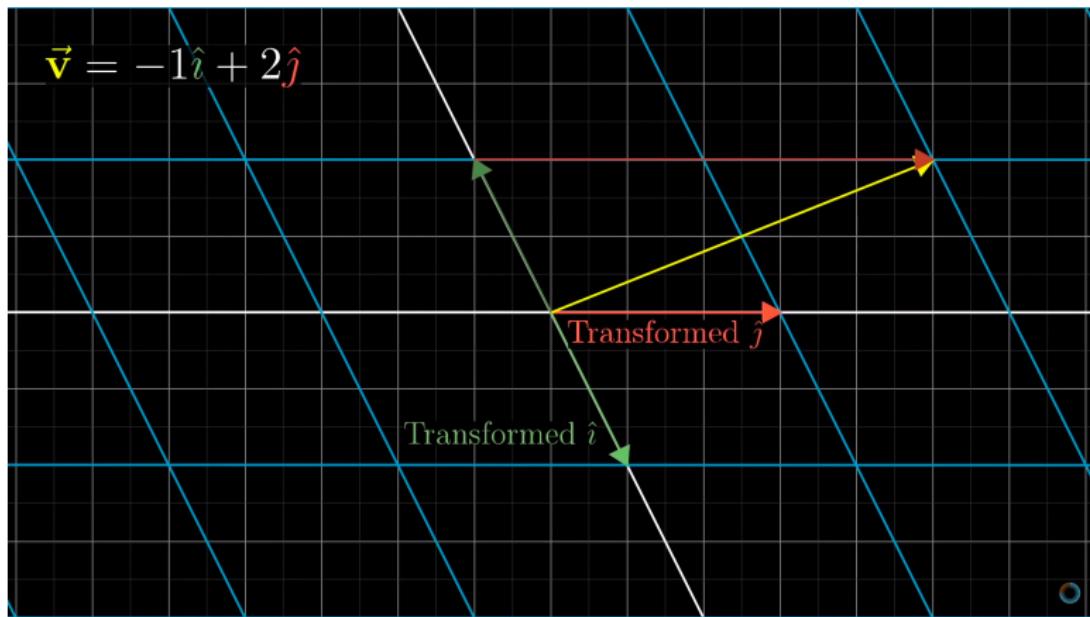


Figure: sumber: Youtube of 3Blue1Brown

## Transformasi vektor (4)

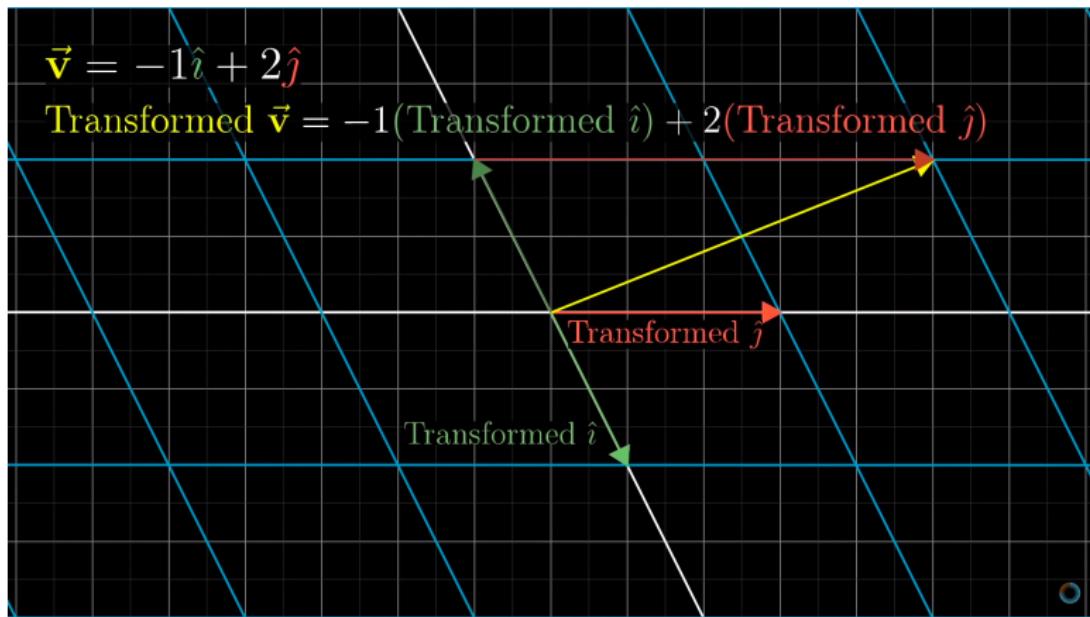


Figure: sumber: Youtube of 3Blue1Brown

## Transformasi vektor (5)

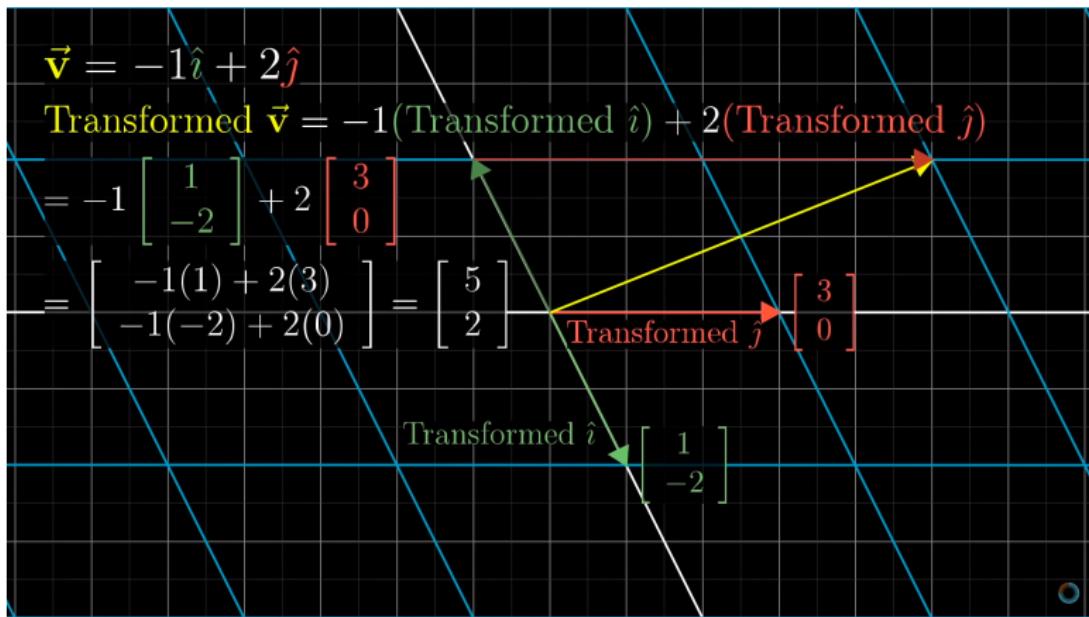


Figure: sumber: Youtube of 3Blue1Brown

# Aturan transformasi (1)

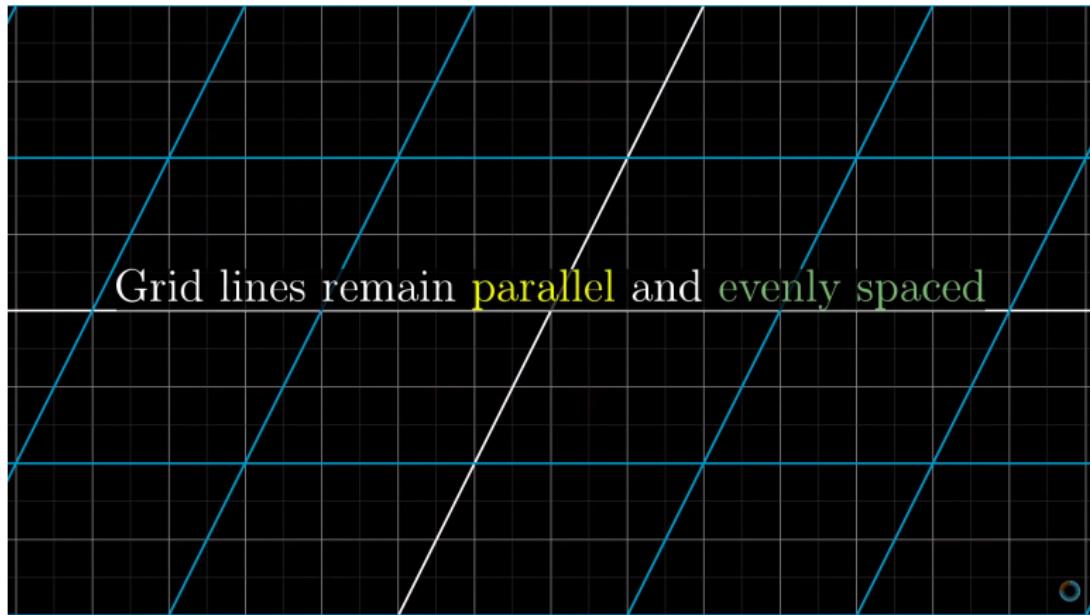


Figure: sumber: Youtube of 3Blue1Brown

## Aturan transformasi (2)

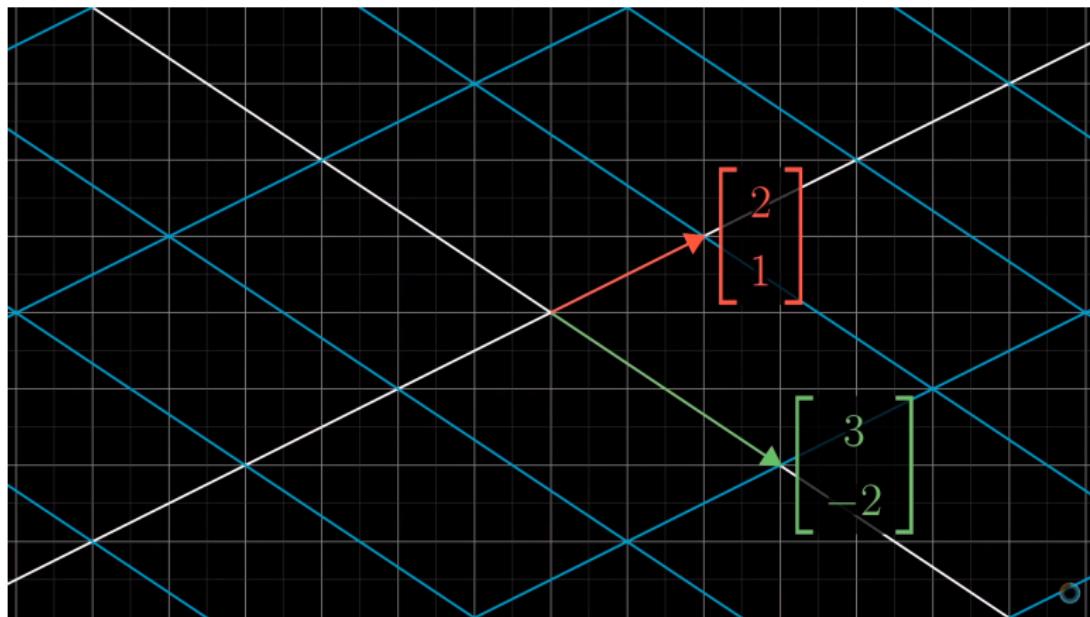


Figure: sumber: Youtube of 3Blue1Brown

## Aturan transformasi (3)

“2x2 Matrix”

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

Where  $\hat{i}$  lands   Where  $\hat{j}$  lands



Figure: sumber: Youtube of 3Blue1Brown

## Aturan transformasi (4)

“2x2 Matrix”

$$\begin{bmatrix} a & b \\ c & d \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = x \underbrace{\begin{bmatrix} a \\ c \end{bmatrix}}_{\text{Where all the intuition is}} + y \underbrace{\begin{bmatrix} b \\ d \end{bmatrix}}_{\text{is}} = \begin{bmatrix} ax+by \\ cx+dy \end{bmatrix}$$

Where all the intuition is

Figure: sumber: Youtube of 3Blue1Brown

# Contoh transformasi (1)

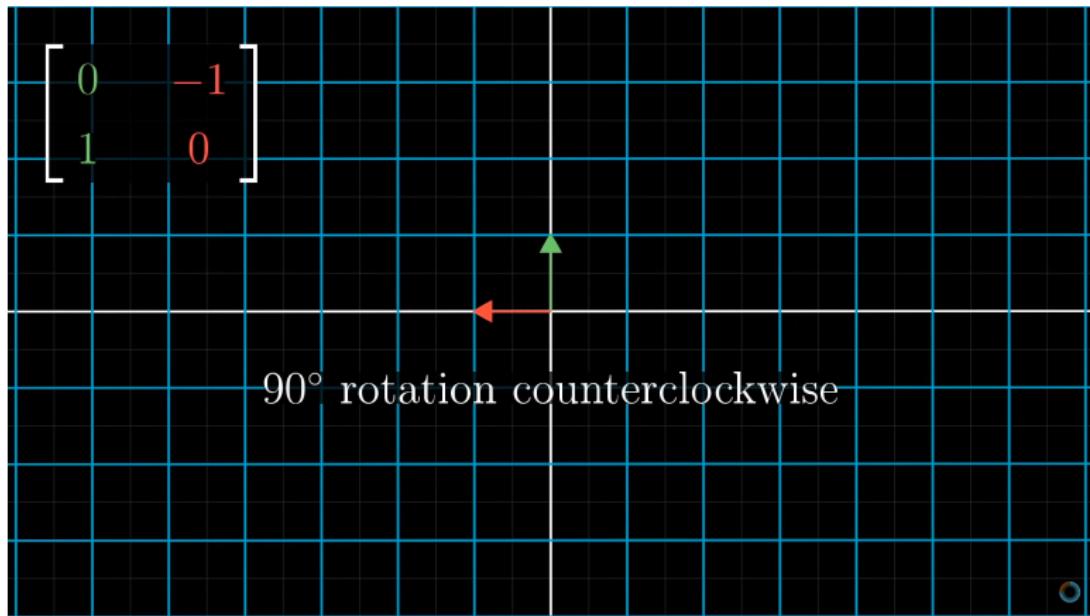


Figure: sumber: Youtube of 3Blue1Brown

## Contoh transformasi (2)

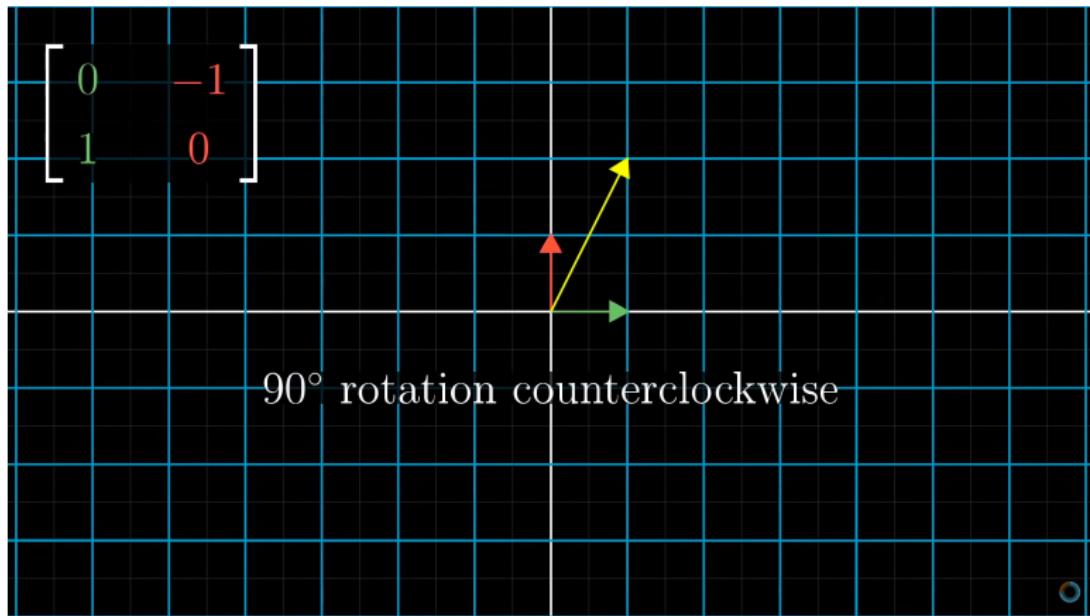


Figure: sumber: Youtube of 3Blue1Brown

## Contoh transformasi (3)

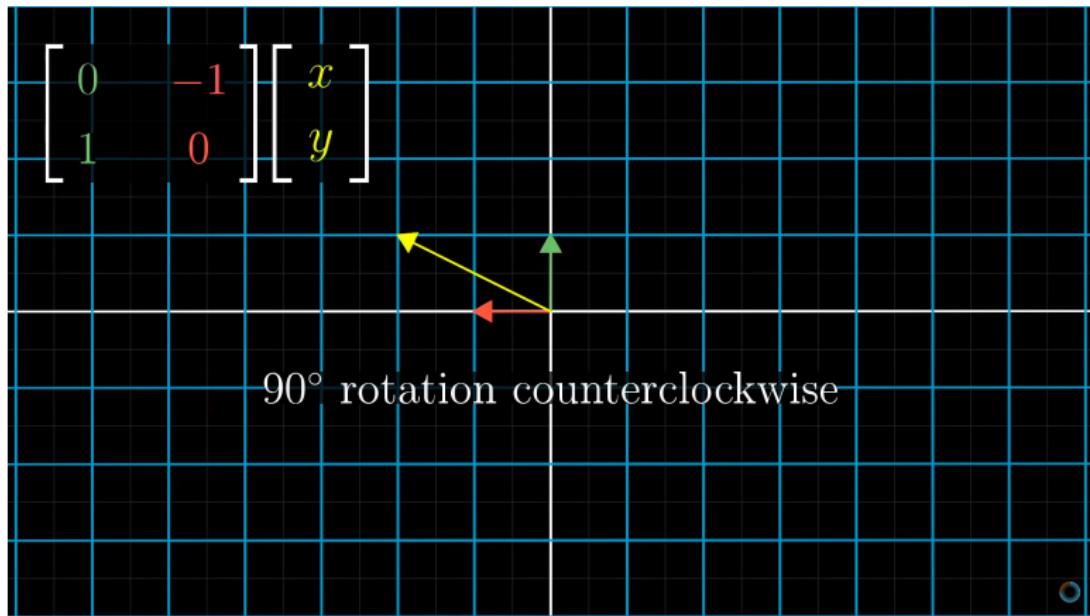


Figure: sumber: Youtube of 3Blue1Brown

## Contoh transformasi (4)

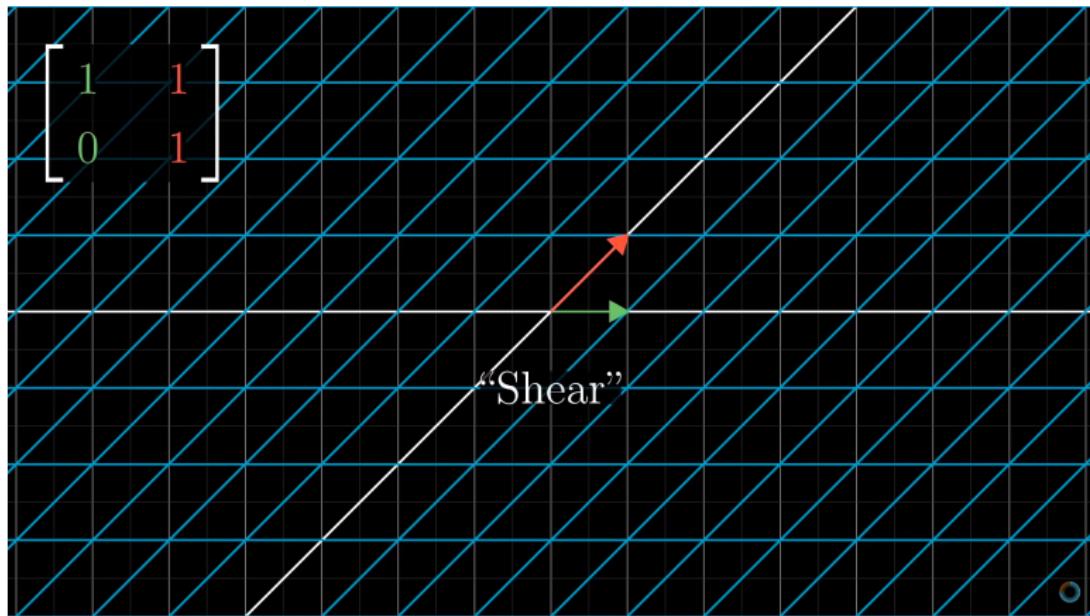


Figure: sumber: Youtube of 3Blue1Brown

## Contoh transformasi (5)

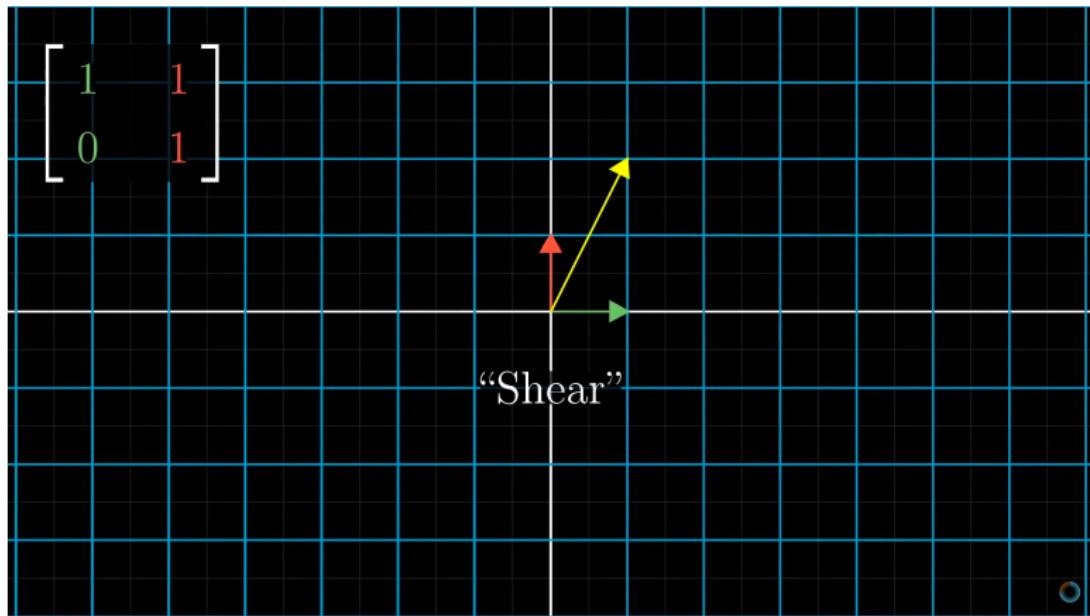


Figure: sumber: Youtube of 3Blue1Brown

## Contoh transformasi (6)

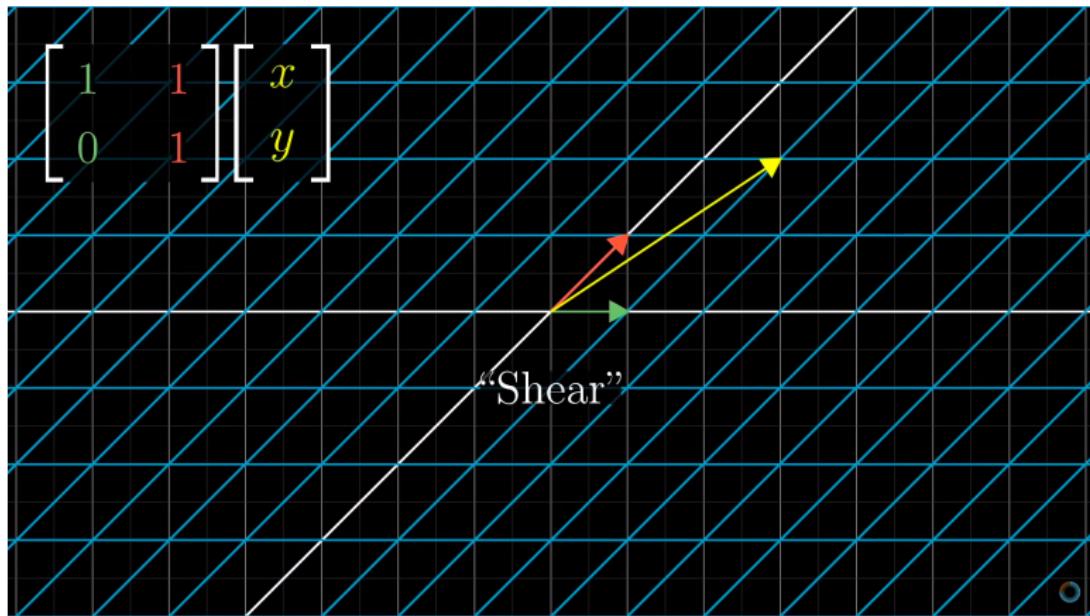


Figure: sumber: Youtube of 3Blue1Brown