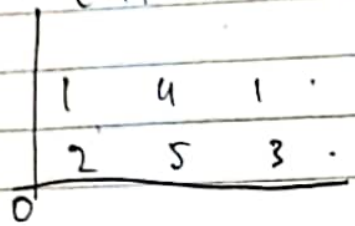
Date:

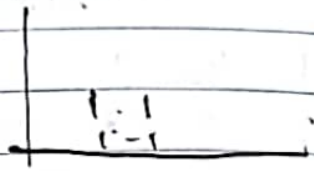
No.

Latihan Soal Konvolusi 2D

$x = (n_1, n_2)$



$h = (n_1, n_2)$



Konvolusikan Sinyal digital

$$x = \begin{vmatrix} 1 & 4 & 1 \\ 2 & 5 & 3 \end{vmatrix} \qquad h = \begin{vmatrix} 1 & 1 \\ 1 & -1 \end{vmatrix}$$

x = 2 x 3 matrix

h = 2 x 2 matrix

output will be named A

A height = x height - h height + 1

A width = x width - h width + 1

↳ A height = 2 - 2 + 1 = 1

A width = 3 - 2 + 1 = 2

output A will be 1 x 2 matrix

No.:

Date:

Perform convolution to get value of A

$A(0,0) = (1 \cdot 1) + (1 \cdot 2) + (1 \cdot 4) + (1 \cdot 5) + (1 \cdot 1) + (1 \cdot 3)$

$= 1 + 2 + 4 + 5 + 1 + 3 = 16$

$A(0,1) = (1 \cdot 1) + (1 \cdot -2) + (1 \cdot 4) + (1 \cdot -5) + (1 \cdot 1) + (1 \cdot -3)$

$= 1 - 2 + 4 - 5 + 1 - 3 = -4$

$A = \begin{vmatrix} 16 & -4 \end{vmatrix}$ //