

Transpose Matriks

1. Tentukan transpose matriks berikut!

$$A = \begin{pmatrix} 2 & 3 & 4 \\ 9 & 8 & 4 \end{pmatrix} \rightarrow A^t = \begin{pmatrix} 2 & 9 \\ 3 & 8 \\ 4 & 4 \end{pmatrix}$$

$$B = \begin{pmatrix} -2 \\ -1 \end{pmatrix} \rightarrow B^t = (-2 \quad -1)$$

$$C = \begin{pmatrix} 7 & 3 \\ 8 & 4 \end{pmatrix} \rightarrow C^t = \begin{pmatrix} 7 & 8 \\ 3 & 4 \end{pmatrix}$$

$$D = (16 \quad -1 \quad 2) \rightarrow D^t = \begin{pmatrix} 16 \\ -1 \\ 2 \end{pmatrix}$$

2. Diketahui $A = \begin{pmatrix} 1 & 2 \\ 2 & 4 \end{pmatrix}$ dan $B = \begin{pmatrix} 3 & 3 \\ 4 & 2 \end{pmatrix}$. Maka $A + B^t =$

$$\begin{aligned} A + B^t &= \begin{pmatrix} & \\ & \end{pmatrix} + \begin{pmatrix} & \\ & \end{pmatrix} \\ &= \begin{pmatrix} & \\ & \end{pmatrix} \end{aligned}$$

3. Diketahui $A = \begin{pmatrix} 3 & -1 \\ 2m & -3 \end{pmatrix}$, $B = \begin{pmatrix} n+1 & 3 \\ m-n & 0 \end{pmatrix}$ dan $C = \begin{pmatrix} 5 & -4 \\ 2 & -3 \end{pmatrix}$. Jika $A + B = C^t$, maka $3m + 2n = \dots$

$$A + B = C^t$$

$$\begin{pmatrix} 3 & -1 \\ 2m & -3 \end{pmatrix} + \begin{pmatrix} n+1 & 3 \\ m-n & 0 \end{pmatrix} = \begin{pmatrix} 5 & -4 \\ 2 & -3 \end{pmatrix}$$

$$\begin{pmatrix} 3+n+1 & -4 \\ 2m+m-n & -3 \end{pmatrix} = \begin{pmatrix} 5 & -4 \\ 2 & -3 \end{pmatrix}$$

$$\begin{pmatrix} 4+n & -4 \\ 3m-n & -3 \end{pmatrix} = \begin{pmatrix} 5 & -4 \\ 2 & -3 \end{pmatrix}$$

$$4 + n = 5 \rightarrow n = 1$$

$$3m - n = 2 \rightarrow m = 1$$

$$3m + 2n = 5$$