

LEMBAR KEGIATAN PESERTA DIDIK (LKPD)

PERKALIAN PADA MATRIKS

TUJUAN PEMBELAJARAN :

Setelah mempelajari materi kegiatan belajar ini, peserta didik dapat :

1. Menentukan perkalian dua buah matriks.
2. Menganalisis sifat – sifat perkalian matriks.

NAMA SISWA :

KELAS :



Mari Mengamati!

Diketahui matriks - matriks sebagai berikut :

$$A_{2 \times 3} = \begin{bmatrix} 1 & 2 & 0 \\ 3 & -1 & 4 \end{bmatrix} \quad B_{3 \times 3} = \begin{bmatrix} 2 & 3 & -4 \\ 1 & -2 & 0 \\ -3 & 0 & 5 \end{bmatrix} \quad C_{3 \times 2} = \begin{bmatrix} -1 & 3 \\ 4 & -2 \\ 0 & 5 \end{bmatrix} \quad D_{2 \times 2} = \begin{bmatrix} 0 & -1 \\ 2 & 0 \end{bmatrix}$$

Tentukanlah :

- a. AB
- b. $[AB]^T$
- c. AB^T
- d. BA^T
- e. AC
- f. $A^T D$

Mari Mengumpulkan Informasi!



Bagian A

$$AB = \begin{bmatrix} \dots & \dots & \dots \\ \dots & \dots & \dots \end{bmatrix} \times \begin{bmatrix} \dots & \dots & \dots \\ \dots & \dots & \dots \\ \dots & \dots & \dots \end{bmatrix}$$

$$AB = \begin{bmatrix} \dots \times \dots + \dots \times \dots + \dots \times \dots & \dots \times \dots + \dots \times \dots + \dots \times \dots & \dots \times \dots + \dots \times \dots + \dots \times \dots \\ \dots \times \dots + \dots \times \dots + \dots \times \dots & \dots \times \dots + \dots \times \dots + \dots \times \dots & \dots \times \dots + \dots \times \dots + \dots \times \dots \end{bmatrix}$$

$$AB = \begin{bmatrix} \dots & \dots & \dots \\ \dots & \dots & \dots \end{bmatrix}$$

Bagian B

Dari kegiatan pada bagian A, diperoleh bahwa :

$$AB = \begin{bmatrix} \dots\dots\dots & \dots\dots\dots & \dots\dots\dots \\ \dots\dots\dots & \dots\dots\dots & \dots\dots\dots \end{bmatrix}$$

Maka :

$$[AB]^T = \begin{bmatrix} \dots\dots\dots & \dots\dots\dots \\ \dots\dots\dots & \dots\dots\dots \\ \dots\dots\dots & \dots\dots\dots \end{bmatrix}$$

Bagian C

$$AB^T = \begin{bmatrix} \dots\dots\dots & \dots\dots\dots & \dots\dots\dots \\ \dots\dots\dots & \dots\dots\dots & \dots\dots\dots \end{bmatrix} \times \begin{bmatrix} \dots\dots\dots & \dots\dots\dots & \dots\dots\dots \\ \dots\dots\dots & \dots\dots\dots & \dots\dots\dots \\ \dots\dots\dots & \dots\dots\dots & \dots\dots\dots \end{bmatrix}$$

$$AB^T = \begin{bmatrix} \dots \times \dots + \dots \times \dots + \dots \times \dots & \dots \times \dots + \dots \times \dots + \dots \times \dots & \dots \times \dots + \dots \times \dots + \dots \times \dots \\ \dots \times \dots + \dots \times \dots + \dots \times \dots & \dots \times \dots + \dots \times \dots + \dots \times \dots & \dots \times \dots + \dots \times \dots + \dots \times \dots \end{bmatrix}$$

$$AB^T = \begin{bmatrix} \dots\dots\dots & \dots\dots\dots & \dots\dots\dots \\ \dots\dots\dots & \dots\dots\dots & \dots\dots\dots \end{bmatrix}$$

Bagian D

$$BA^T = \begin{bmatrix} \dots & \dots & \dots \\ \dots & \dots & \dots \\ \dots & \dots & \dots \end{bmatrix} \times \begin{bmatrix} \dots & \dots \\ \dots & \dots \\ \dots & \dots \end{bmatrix}$$

$$BA^T = \begin{bmatrix} \dots \times \dots + \dots \times \dots + \dots \times \dots & \dots \times \dots + \dots \times \dots + \dots \times \dots \\ \dots \times \dots + \dots \times \dots + \dots \times \dots & \dots \times \dots + \dots \times \dots + \dots \times \dots \\ \dots \times \dots + \dots \times \dots + \dots \times \dots & \dots \times \dots + \dots \times \dots + \dots \times \dots \end{bmatrix}$$

$$BA^T = \begin{bmatrix} \dots & \dots \\ \dots & \dots \\ \dots & \dots \end{bmatrix}$$

Bagian E

$$AC = \begin{bmatrix} \dots & \dots & \dots \\ \dots & \dots & \dots \\ \dots & \dots & \dots \end{bmatrix} \times \begin{bmatrix} \dots & \dots \\ \dots & \dots \\ \dots & \dots \end{bmatrix}$$

$$AC = \begin{bmatrix} \dots \times \dots + \dots \times \dots + \dots \times \dots & \dots \times \dots + \dots \times \dots + \dots \times \dots \\ \dots \times \dots + \dots \times \dots + \dots \times \dots & \dots \times \dots + \dots \times \dots + \dots \times \dots \\ \dots \times \dots + \dots \times \dots + \dots \times \dots & \dots \times \dots + \dots \times \dots + \dots \times \dots \end{bmatrix}$$

$$AC = \begin{bmatrix} \dots & \dots \\ \dots & \dots \end{bmatrix}$$

Bagian F

$$A^T D = \begin{bmatrix} \text{.....} & \text{.....} \\ \text{.....} & \text{.....} \\ \text{.....} & \text{.....} \end{bmatrix} \times \begin{bmatrix} \text{.....} & \text{.....} \\ \text{.....} & \text{.....} \end{bmatrix}$$

$$A^T D = \begin{bmatrix} \text{.....} \times \text{.....} + \text{.....} \times \text{.....} + \text{.....} \times \text{.....} & \text{.....} \times \text{.....} + \text{.....} \times \text{.....} + \text{.....} \times \text{.....} \\ \text{.....} \times \text{.....} + \text{.....} \times \text{.....} + \text{.....} \times \text{.....} & \text{.....} \times \text{.....} + \text{.....} \times \text{.....} + \text{.....} \times \text{.....} \\ \text{.....} \times \text{.....} + \text{.....} \times \text{.....} + \text{.....} \times \text{.....} & \text{.....} \times \text{.....} + \text{.....} \times \text{.....} + \text{.....} \times \text{.....} \end{bmatrix}$$

$$A^T D = \begin{bmatrix} \text{.....} & \text{.....} \\ \text{.....} & \text{.....} \\ \text{.....} & \text{.....} \end{bmatrix}$$

