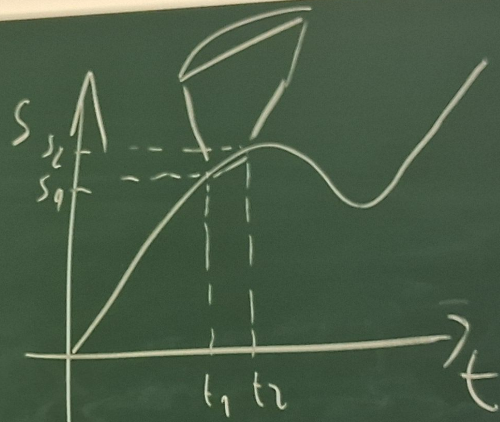
$$\{a, b\}$$

$$\{a, \{b\}\} = (a, b)$$



$$v = \frac{s_2 - s_1}{t_2 - t_1} = \frac{\Delta s}{\Delta t}$$

$$R = \{(a,1), (b,2), (c,3)\} = \{\{a,\{1\}\}, \{b,\{2\}\}, \{c,\{3\}\}\}$$

$$\underline{A}_{2\times 2} = \begin{pmatrix} 1 & 2 \\ 2 & 1 \\ 3 & 4 \end{pmatrix} \qquad \underline{A}^{T}_{3\times 2} = \begin{pmatrix} 1 & 2 & 3 \\ 2 & 1 & 4 \end{pmatrix}$$

$$\underline{B}_{2\times 3} = \begin{pmatrix} 1 & 1 \\ 2 & 2 \\ 3 & 3 \end{pmatrix}$$

$$2 \cdot \underline{A}_{2\times 3} = \begin{pmatrix} 2\cdot 1 & 2\cdot 2 \\ 2\cdot 2 & 2\cdot 1 \\ 2\cdot 3 & 2\cdot 4 \end{pmatrix} = \begin{pmatrix} 2 & 4 \\ 4 & 2 \\ 6 & 8 \end{pmatrix}$$

$$\underline{A}_{2\times 3} + \underline{B}_{2\times 3} = \begin{pmatrix} 1+1 & 2+1 \\ 2+2 & 1+2 \\ 3+3 & 4+3 \end{pmatrix} = \begin{pmatrix} 2 & 3 \\ 4 & 3 \\ 6 & 7 \end{pmatrix}$$

Példák mátrixok szorzására

$$\underline{A} = \begin{pmatrix} 1 & 2 \\ 2 & 1 \end{pmatrix} \qquad \underline{B} = \begin{pmatrix} 0 & 5 \\ 1 & 2 \end{pmatrix}$$

$$\underline{A} \cdot \underline{B} = \begin{pmatrix} 1\cdot 0+2\cdot 1 & 1\cdot 5+2\cdot 2 \\ 2\cdot 0+1\cdot 1 & 2\cdot 5+1\cdot 2 \end{pmatrix} = \underline{\begin{pmatrix} 2 & 9 \\ 1 & 12 \end{pmatrix}}$$

$$\underline{B} \cdot \underline{A} = \begin{pmatrix} 0 & 5 \\ 1 & 2 \end{pmatrix} \begin{pmatrix} 1 & 2 \\ 2 & 1 \end{pmatrix} = \begin{pmatrix} 5\cdot 2 & 5\cdot 1 \\ 1\cdot 1+2\cdot 2 & 1\cdot 2+2\cdot 1 \end{pmatrix} = \underline{\begin{pmatrix} 10 & 5 \\ 5 & 4 \end{pmatrix}}$$

$$\underline{C}_{2\times 3} = \begin{pmatrix} 1 & 4 & 3 \\ 3 & 2 & 1 \end{pmatrix}$$

$$\underline{A}_{2\times 2} \, \underline{C}_{2\times 3} = \begin{pmatrix} 1\cdot 1+2\cdot 3 & 1\cdot 2+2\cdot 2 & 1\cdot 3+2\cdot 1 \\ 2\cdot 1+1\cdot 3 & 2\cdot 2+1\cdot 2 & 2\cdot 3+1\cdot 1 \end{pmatrix} = \begin{pmatrix} 7 & 6 & 5 \\ 5 & 6 & 7 \end{pmatrix}$$

Példák mátrixok szorzására

$$\underline{A} = \begin{pmatrix} 2 & 1 \\ 1 & 2 \end{pmatrix} \qquad \underline{E}_2 = \begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix}$$

$$\underline{A} \cdot \underline{E}_2 = \begin{pmatrix} 2\cdot 1 + 1\cdot 0 & 2\cdot 0 + 1\cdot 1 \\ 1\cdot 1 + 2\cdot 0 & 1\cdot 0 + 2\cdot 1 \end{pmatrix} = \begin{pmatrix} 2 & 1 \\ 1 & 2 \end{pmatrix} = \underline{A}$$