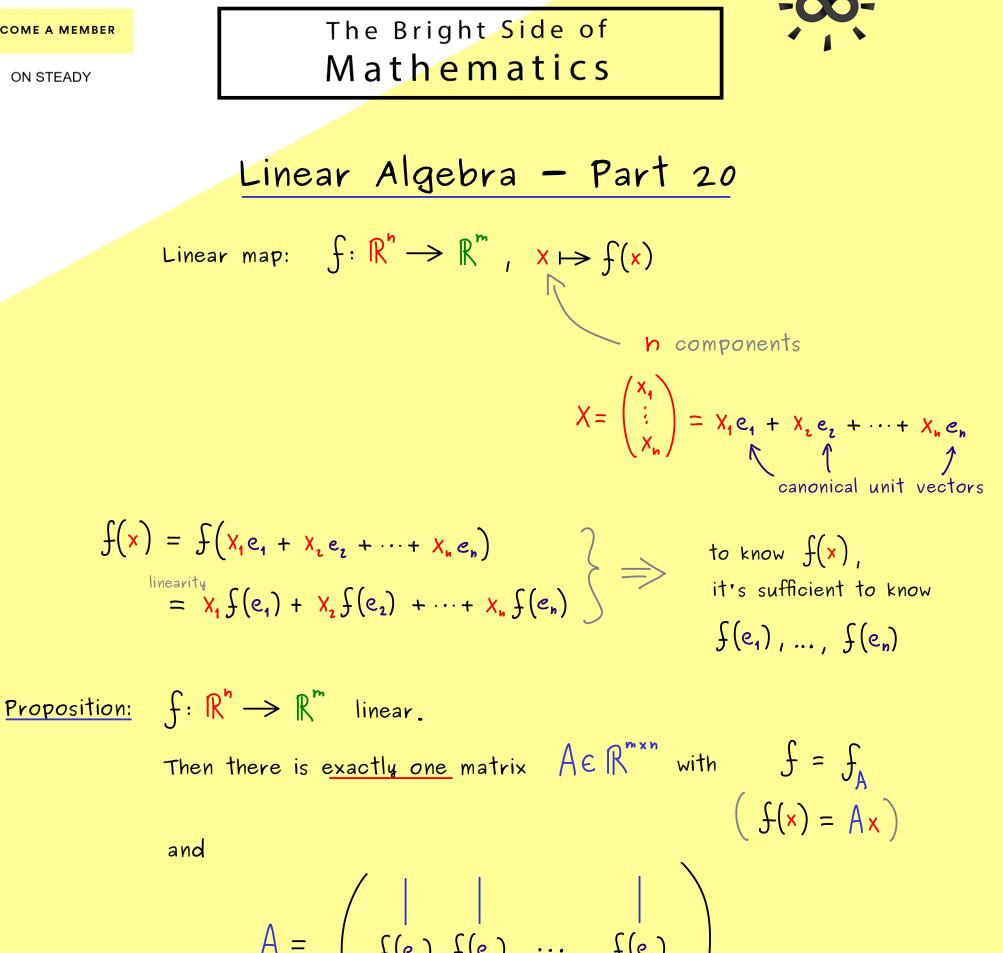
BECOME A MEMBER

ON STEADY



$$A = \begin{pmatrix} | & | & | \\ f(e_1) & f(e_2) & \cdots & f(e_n) \\ | & | & | \end{pmatrix}$$

 $f_{A}(x) = f_{A}(\begin{pmatrix} \hat{x} \\ \hat{x} \\ x_{h} \end{pmatrix}) = A\begin{pmatrix} \hat{x} \\ \hat{x} \\ x_{h} \end{pmatrix}$

Proof:

$$= \begin{pmatrix} | & | & | \\ f(e_1) & f(e_2) & \cdots & f(e_n) \\ | & | & | \end{pmatrix} \begin{pmatrix} x_1 \\ \vdots \\ x_n \end{pmatrix} = X_1 \begin{pmatrix} | \\ f(e_1) \\ | \end{pmatrix} + \cdots + X_n \begin{pmatrix} | \\ f(e_n) \\ | \end{pmatrix}$$

 $= \int (\mathbf{x})$

Assume there are $A, B \in \mathbb{R}^{m \times n}$ with $f = f_A$ and $f = f_R$ Uniqueness: \Rightarrow Ax = Bx for all X $\in \mathbb{R}^{n}$ $\implies (A - B) \times = \begin{pmatrix} 0 \\ \vdots \\ 0 \end{pmatrix} \quad \text{for all } \times \in \mathbb{R}^{n}$ $\stackrel{\text{Use } \mathbf{e}_i}{\Rightarrow} \quad \mathbf{A} - \mathbf{B} = \begin{pmatrix} \mathbf{0} & \cdots & \mathbf{0} \\ \vdots & \ddots & \vdots \\ \mathbf{0} & \cdots & \mathbf{0} \end{pmatrix} \quad \Rightarrow \quad \mathbf{A} = \mathbf{B}$