Sahning 4.3

V: et undernm af R'

Hrvin span {\vec{v}\_1 - \vec{v}\_k} = V

Sa Linder en delan al 15-7-76

Så findes en delmongde of  $\{\vec{v}_i, -\vec{v}_k\}$ son er basis for V

Metoden A = [7, -7] met

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Pivol

Ago

Carin

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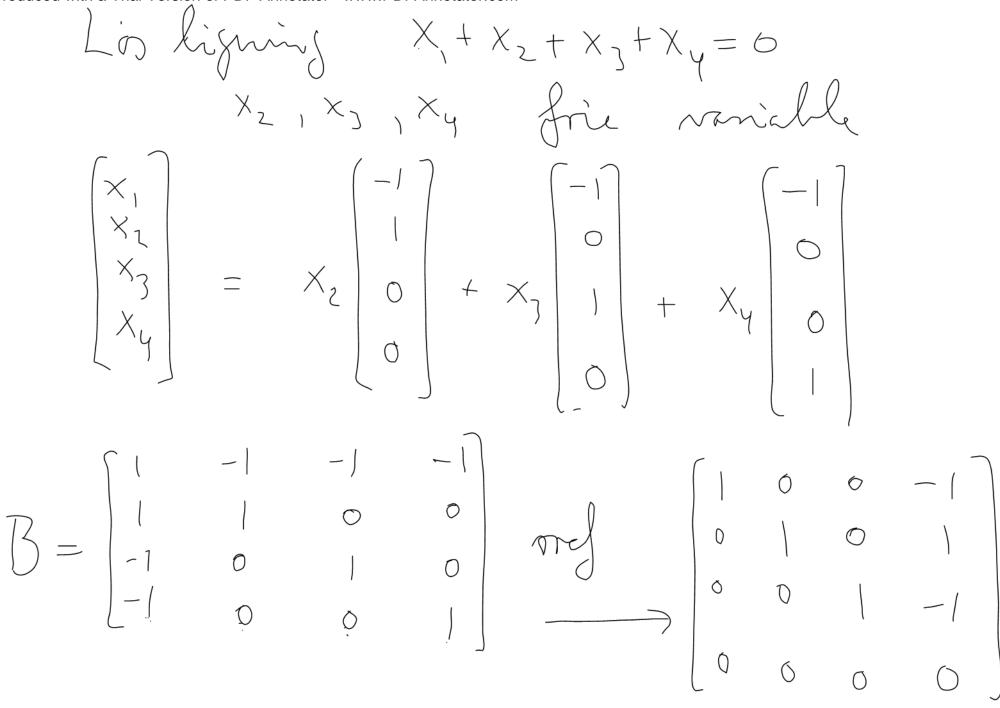
Ago

Carin

Ca Sotning 4,4 (udvidelse) V: et underrum af R" Hvis {?, --- ?} er linears nashangis mongele of vellorer i V Så er enten fi, --- y en bans for V elles de findes  $V_{k+1} \in V$ ,  $V_{k+1} \notin Span (V_1, \dots, V_k)$  Produced with a Trial Version of PDF Annofator - www.PDFAnnotator.com Gentag indtil vi far en bæris. Hvin V \(\frac{1}{3}\) sa har V en basis

(Jakhisk: Mendeligh mange)

Produced with a Trial Version of PDF Annotator - www.PDFAnnotator.com  $V = \left\{ \begin{pmatrix} x_1 \\ x_2 \\ x_3 \\ x_4 \end{pmatrix} \in \mathbb{R}^4 \mid x_1 + x_2 + x_3 + x_4 = 0 \right\}$ underum af Ry = Null [ ] |  $\frac{1}{\sqrt{1}}$ {v,} er lineort maghansig. Udvid til en basis.



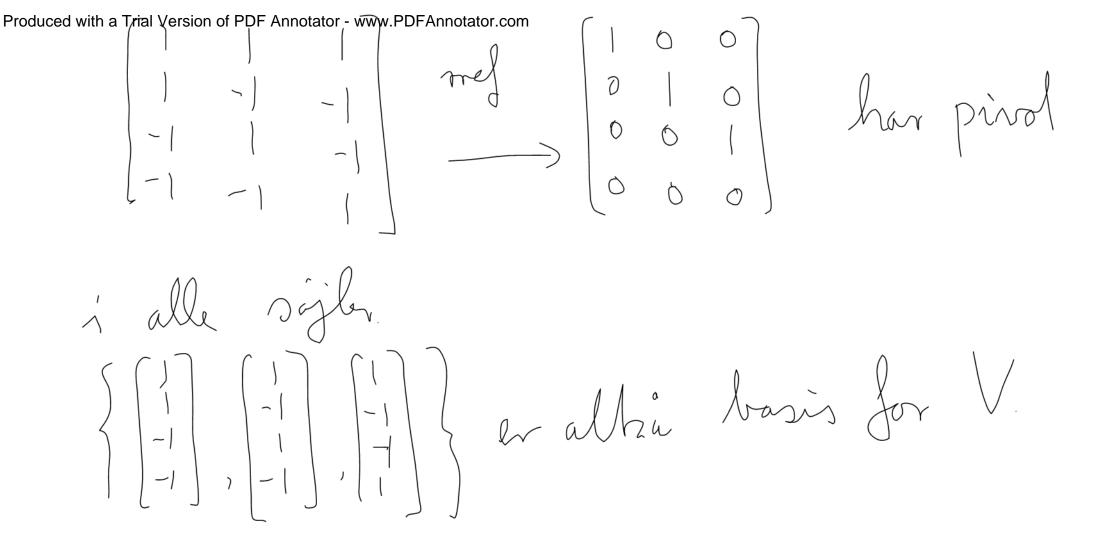
har basis Null A - Col B Saturing 4.5 + Definition of Dimension V: et underum af R, V+{0} Der findes et tal dim V, dinumion af V si enhver basis for V består af dim V vektorer

Produced with a Trial Version of PDF Annotator - www.PDFAnnotator.com  $dim \mathbb{R}'' = n$ Underson of  $\mathbb{R}^3$ :  $\dim \left\{ \vec{o} \right\} = 0 \quad , \quad \dim \mathbb{R}^3 = 3$ , Hvis V er en linie i R's gennem ö su er dim V=1 3 Hvis V er un plan i  $\mathbb{R}^3$  gernem O Produced with a Trial Version of PDF Annotator -7www.PDFAnnotator.com Dh er dum V = 2, Satring 4.7 V: et underm J  $\mathbb{R}^n$ , dim V=kHvis  $\vec{V}_1$ ,  $\vec{V}_2 \in V$ og enter  $\{\vec{v}_i, \vec{v}_j\}$  er lineart nafhænsig

elle  $Span \{ \vec{v}_1, \dots, \vec{v}_k \} = V$ 

Så er {\vert\_v, \dots, \vert\_v} en basis for \vert\_

 $V = \left\{ \begin{pmatrix} x_1 \\ x_2 \\ x_3 \\ x_4 \end{pmatrix} \in \mathbb{R}^4 \mid X_1 + X_2 + X_3 + X_4 = 0 \right\}$ dim V = 3. Vi fandt hasis med 3 vehtrer. [] [] [] dim V wektorer i V og de er linear nashongige, da



Produced with a Trial Version of PDF Annotator - www.PDFAnnotator.com Col A underum af Rm En basis for A: Søjlu i A med pivol. ding Col A = antal sigler med pivol = rank A Null A underum af R' dim Null A = antil frie variable = antal søjler uden privol

Produced with a Trial Version of PDF Annotator - www.PDFAnnotator.com > Mulli H A. rokkenn Kow H underum af R<sup>n</sup> udspondt af A's rohker  $A = \begin{vmatrix} 1 & 2 & 3 & 4 \\ 5 & 6 & 7 & 8 \\ 9 & 10 & 11 & 12 \end{vmatrix}$ Row  $A = Span \begin{cases} 1 \\ 2 \\ 3 \end{cases} \begin{pmatrix} 5 \\ 6 \\ 7 \end{pmatrix} \begin{pmatrix} 9 \\ 10 \\ 12 \end{pmatrix} = Col A$ 

Row A = Row B

Row A = (Row my(A)

