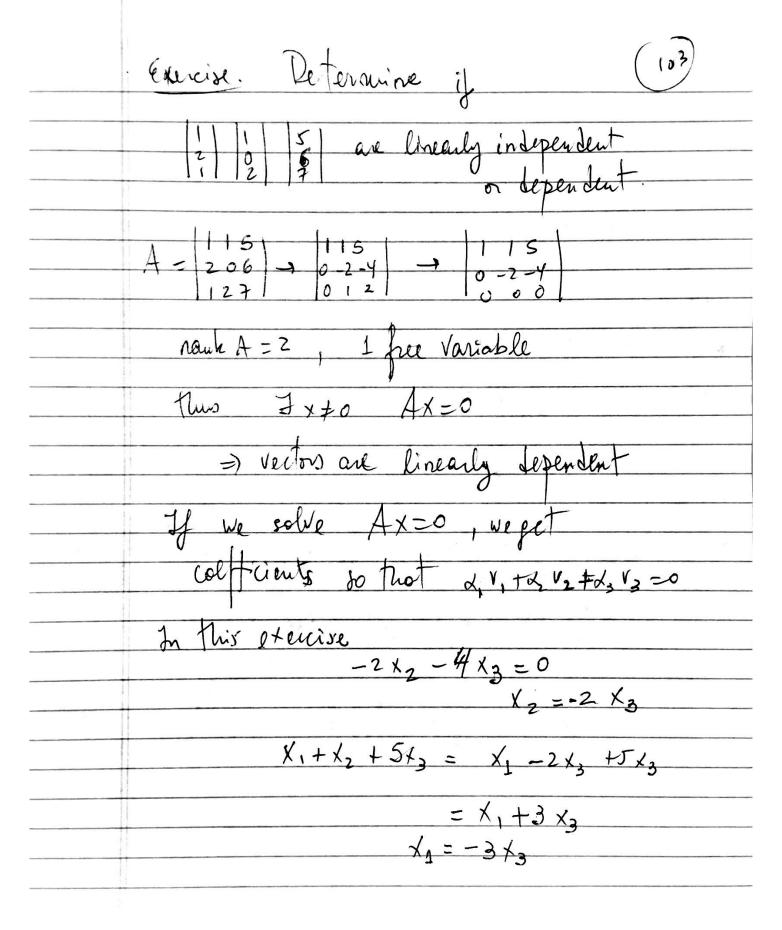
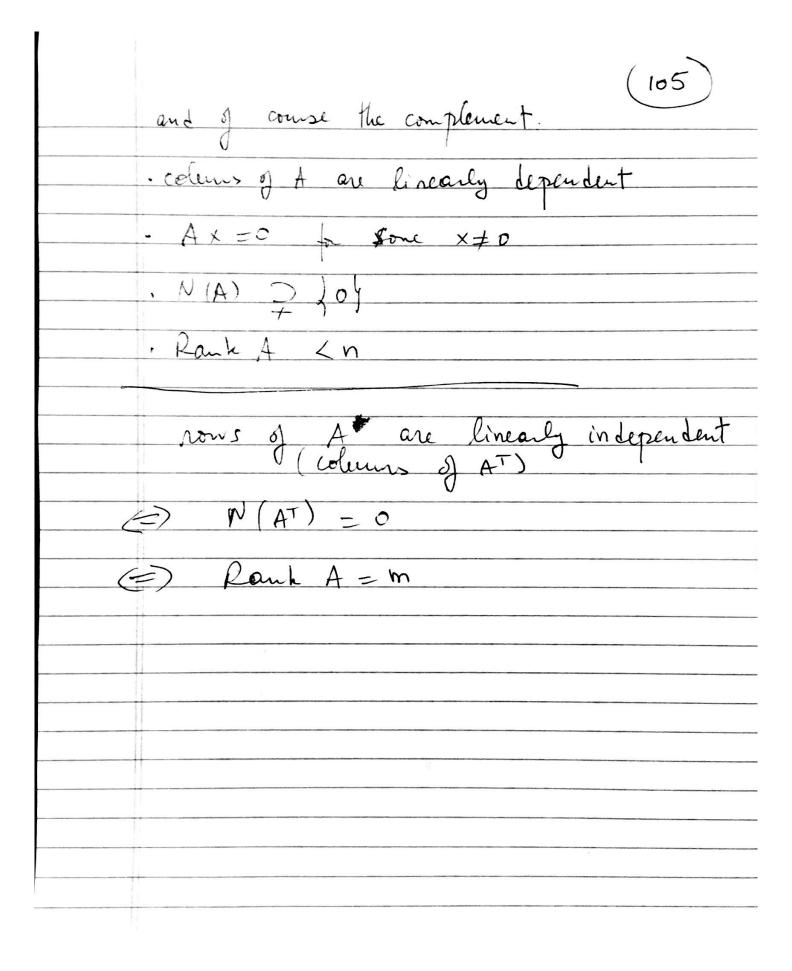


Equivalently
$\iint \alpha_1 v_1 + d_2 v_2 + \dots + d_r v_r = 0$
$\Rightarrow ) \alpha_1 = \alpha_2 = \cdots = \alpha_r = 0$
1, 1, 1, 2. Vol linearly independent
if their linear combination =0 =) coeffs are zero.
Equivalently
$A = [v_1 v_2 - v_n]  A \times = 0$
Examples 3 0 0





(106)	
Anxn (square)	
Ann (square) the following are equivalent	
- colerus of A are linearly in dependent	· .
3	
- A is non singular	
- N(A)=101 [Ax=0 = x=0]	
- roms of A are linearly independent	
$-N(AT) = \{0\}  \left[A^{T} \times = 0 \rightarrow X = 0\right]$	
- rank A = n	
- Range (A) = R(A) = Rn	
•	
$-R(AT) = IR^{n}$	
	-