

$$2b_1+b_3=1$$

$$2b_2+b_4=0$$

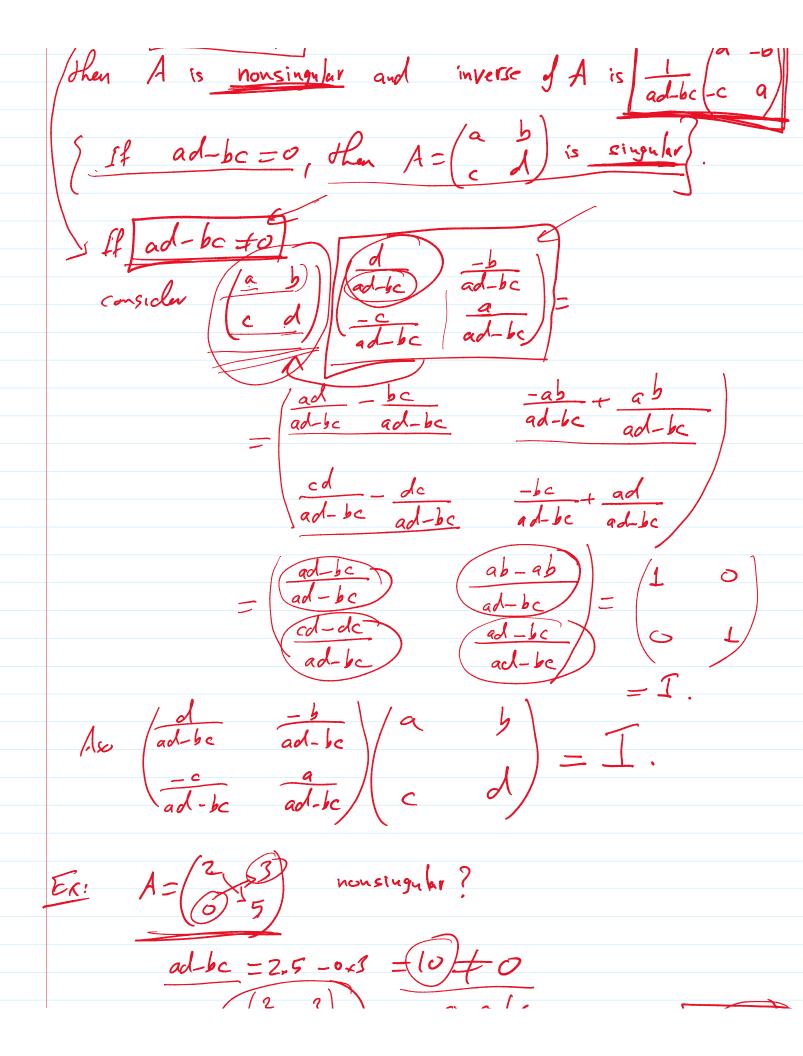
$$6b_1+3b_3=0$$

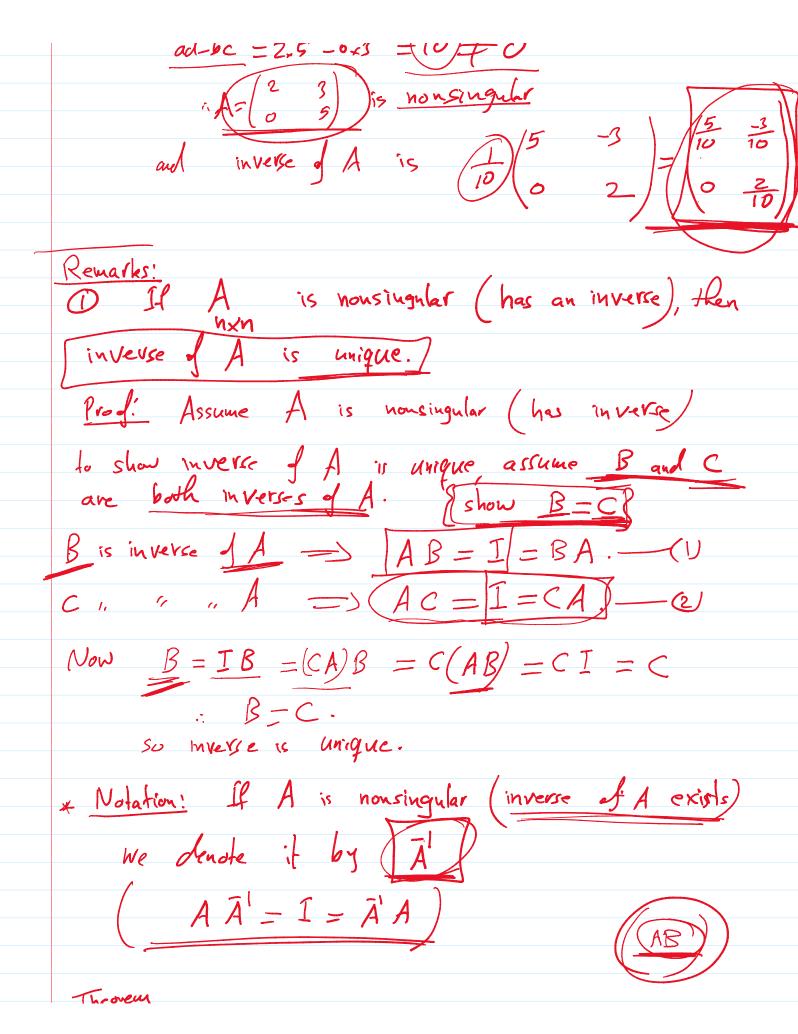
$$6b_2+5b_4=1$$
If consistent = A is singular.
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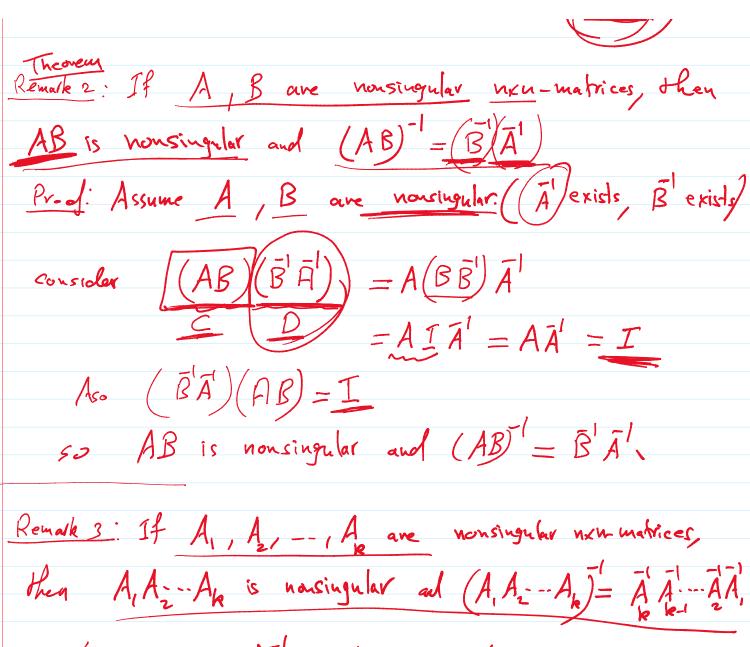
ourished = A is nonsingular

Remark:
$$A = \begin{pmatrix} a \\ b \end{pmatrix}$$
, and $ad - bc \neq 0$

Then A is nonsingular and inverse of A is $\frac{1}{ad-bc}$







Remark 3: If A_1 , A_2 , ..., A_k are nonsingular non-matrices,

then $A_1A_2...A_k$ is nonsingular and $(A_1A_2...A_k) = \overline{A_1}A_1...A_n$, $(A_1A_2...A_k) = \overline{A_1}(A_1...A_{k-1})$ $= \overline{A_1}(A_1...A_{k-1})$

Romark 4: Notation: If A is nxn-metrix, then

A. A. ... A:= AP | REZt.



True or false? 1) If A, B are nonsingular non-matrices, then A+B is nonsingular. (False). $Ex: I-(10), I-(0) \quad nonsingular.$ $I=(10) \quad nonsingu$ $A=\begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix}$ $B=\begin{pmatrix} 1 & 0 \\ 0 & -1 \end{pmatrix}$ where monsingular. $A+B=\begin{pmatrix} 0 & 0 \\ 0 & 0 \end{pmatrix}$ is singular is singular. OB=O+I $A=\begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix}$, $B=\begin{pmatrix} 0 & 1 \\ 1 & 0 \end{pmatrix}$ nonsingular Atl = (1 1) is singular

(If A, B are singular matrices is singular.) False

(If A, B are singular, then A+B is singular)

(If A = (1 0) , B = (0 0) are singular

but
$$A+B = \begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix}$$
 is nonsingular.

(i) If A is singular, B is nonsingular, then $A+B$ is singular Folso B :

(ii) If A is singular, B is nonsingular, then $A+B$ is singular B :

(iii) If A is singular, B is nonsingular, then $A+B$ is singular B :

(iii) If $A = B$ are non-unabores, then $A = B^2 = (A-B)(A+B)$.

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(iii) If $A = B$ are non-unabores, then $A = B$ and $A = B$ are non-unabores, then $A = B$ are non-unabores, t

