-Dr WaFaa's Quizes:-

1) Quiz

$y = (2, 4, 7)$

Can we represent y as linear combination of (u, v, w) in previous example

$y = C_1 u + C_2 v + C_3 w$ → sys is alway consist

$-C_1 4 + C_2 3 + C_3 2 = 2$

$-C_1 5 + C_2 2 + C_3 0 = 4$

$-C_1 6 + C_2 1 + C_3 (4) = 7$

2) Quiz

- Find an example of linear combination of three vectors :-

u $(4, 5, 6)$

v $(3, 2, 1)$

w $(2, 0, 4)$

ans:-

$C_1 u + C_2 v + C_3 w$

$1 \quad 0 \quad 2$

$= (4, 5, 6) + 2(2, 0, 4)$

$= (8, 5, 14)$

3) Quiz

Let A be 3*3 matrix, show if the expression is collect

$\det(AA^T \geq 0)$

ans:-

$\det(AB) = \det(A) \cdot \det(B)$

$\det(AA^T) = \det(A) \cdot \det(A^T)$

$\det(A) = \det(A^T)$

$\therefore (\det A)^2$ will always be greater than zero

4-

Quiz.

Can you write linear as a linear comp
C of rows, if Yes give an example

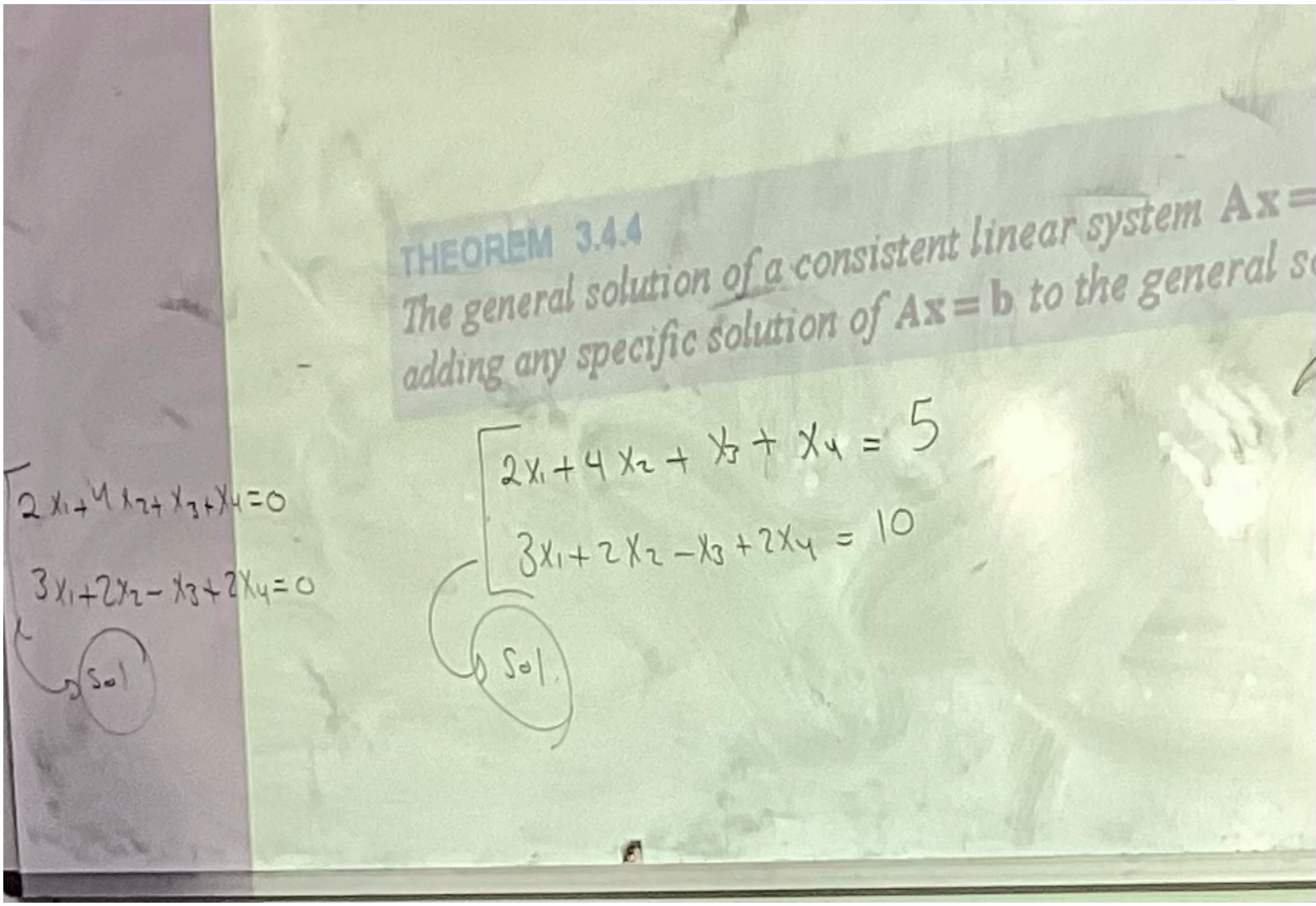
$$\begin{bmatrix} x_1 & x_2 & x_3 \end{bmatrix} \quad \begin{vmatrix} a_1 & a_2 & a_3 \\ a_4 & a_5 & a_6 \\ a_7 & a_8 & a_9 \end{vmatrix}$$

$$xA = x_1 \begin{bmatrix} a_1 & a_2 & a_3 \end{bmatrix} + x_2 \begin{bmatrix} a_4 & a_5 & a_6 \end{bmatrix}$$

$$+ x_3 \begin{bmatrix} a_7 & a_8 & a_9 \end{bmatrix}$$

1×4

5-



a- solve this system

b- prove therom 3.4.4

Chapter 1

Q1 Prove if A^0 - identity

Q2 A & B are same size Matrices, both invertable
Prove if both their sum are invertable.

Q3 $(ABC)^{-1} \Rightarrow$ solve.

Q4 if the Determinant Of A = C
what Does KA equal to?
↳ if a is a [2x2] Matrix (K^2)?

Q5 find the Linear combination
$u = (4,5,6)$
$V = (3,2,1)$
$W = (2,0,4)$