	LGS GROU	JP OF COLLEGES  Sheet #
Name:	Ansa Imran	LAHORE GRAMMAR SCHOOL  Class: 1st year Roll No. 240401  Test No Pate 1
Subject:_		Date:
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	00000	<b>3</b> 3 3 3 <b>3</b> 0 0 0 0 0
	0	Assignment)
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		WOULT TO ITE
	8 <b>(</b> )	no 28
	01	
	: Sh	ort Questions
	Samo may r	
	Semi group	A non-emity cet & is
	semi group. A sem	A non-empty set S is ni group is a set S together operation-(that is a function that specifies associative
	with a binary	operation- (that is a function
	: 8x5 -> SY	that specifies associative
	property.	
	1 / 3	
	111	(ii) multiplication s
	table 8t	multipucation &
	1.0111	2   3   4
	X   0   1	200
	11011	2, 3 4
	202	4 1 3
	3 0 3	1 4 2
	13 1 1 4	3 2

(iii)
$A = \begin{bmatrix} i & 0 \end{bmatrix}, Show that A^{4} = I_{2}$
$A^2 = \begin{bmatrix} i & 0 &   i & 0 \end{bmatrix}$
<u> </u>
$= \int_{0}^{\infty} j^{2} + 0 \qquad \Delta + \Delta$
$i-i$ $0+i^2$
=   -1
Now:
$A^2 \cdot A^2 = \begin{bmatrix} -1 & 0 & 1 \end{bmatrix} - 1 & 0 & 1 \end{bmatrix}$
$-\frac{1}{10000000000000000000000000000000000$
= 1+0 0+0 T
L 0+0 0+1.J
= [
$A^{4} = I_{2}$
8 Question no 38
8 Atlempt Long Question 8
D " A COURT SUCTION
Prove that all 2×2 mm-singular

matrices:

Student Name:
Solutions
가는 사람들이 없는 사람들이 되었다. 그는 사람들은 사람들이 되었다면 하는 사람들이 되었다면 하는 것이 되었다. 그는 사람들이 되었다면 하는 것으로 가장하는 것이 되었다면 하는 것이 없다면
$\frac{\langle G = \{ \{ a \ b \}   \{ \{ a \ b \} \} \neq 0; a, b, e, d \in \mathbb{R} \}}{\langle \{ \{ \{ \{ \{ \{ \{ \{ \{ \{ \{ \{ \{ \{ \{ \{ \{ \{ \{$
$\frac{10}{16} = \{ [a \ b] \ [a \ b] \ \neq 0; a; b; e; d \in \mathbb{R} \}$
1- closure 8
Y A,B &G
(AB) 6 C
$(AB)EG$ $2x2 \rightarrow x$
$\frac{2X2}{1}\frac{3x}{1}$
so G is closed w.r.t "x"
So G is closed w.r.t 'x' 2- Associative 8
$\forall A,B,C \in G$
A(BC) = (AB)C
Always hold in matrices.  3 - Identity &
3 - Themtitue
$T = \begin{bmatrix} 1 & 0 \end{bmatrix}$
IA = AI = A
& identity property is hold.  4- Inverse
4- Inverse
lot
A2x2 EG 7 A'EG
Such that
$AA^{-1} = I = A^{-1}A$
Co inverce is hold.
So, inverse is hold.  5- Commutative property:  \(\forall A, B \in G\)
Y A, BEG
AB + BA (In General)
Hence G is a non Abelian Group.