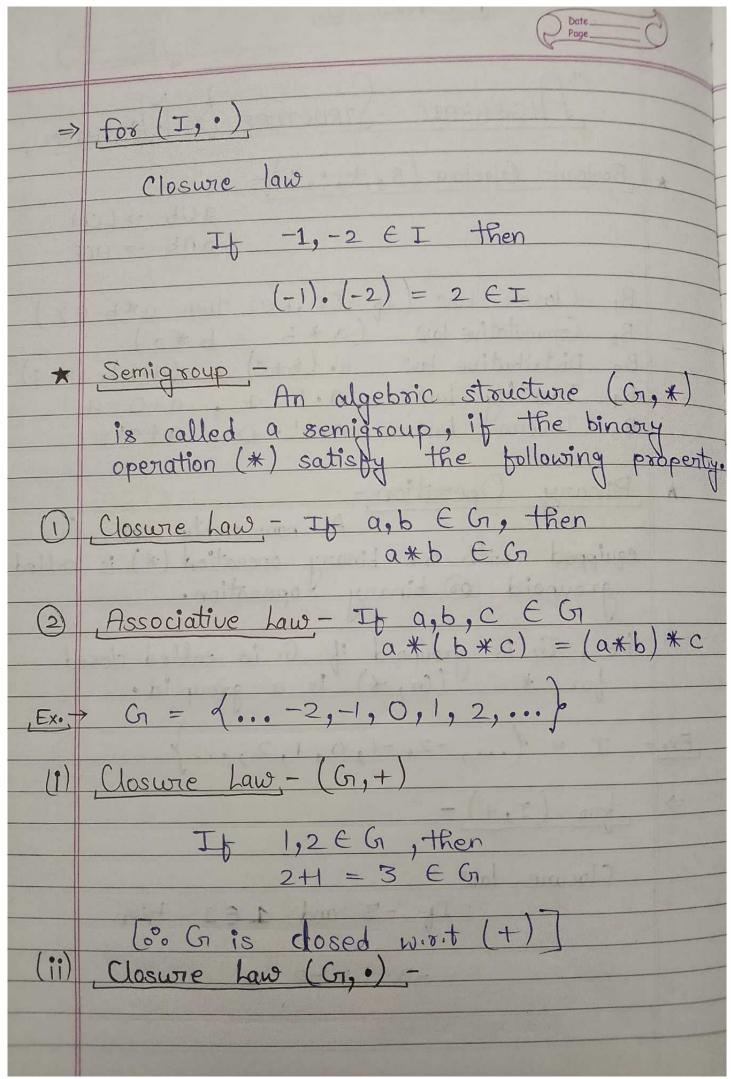
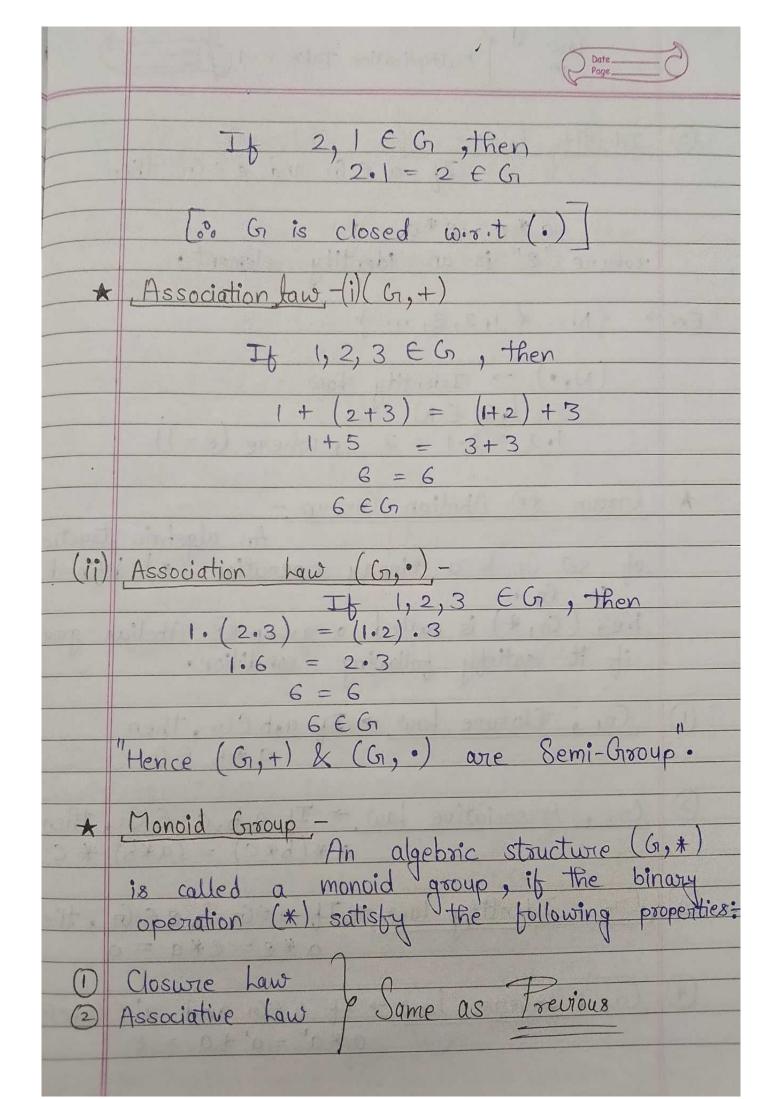
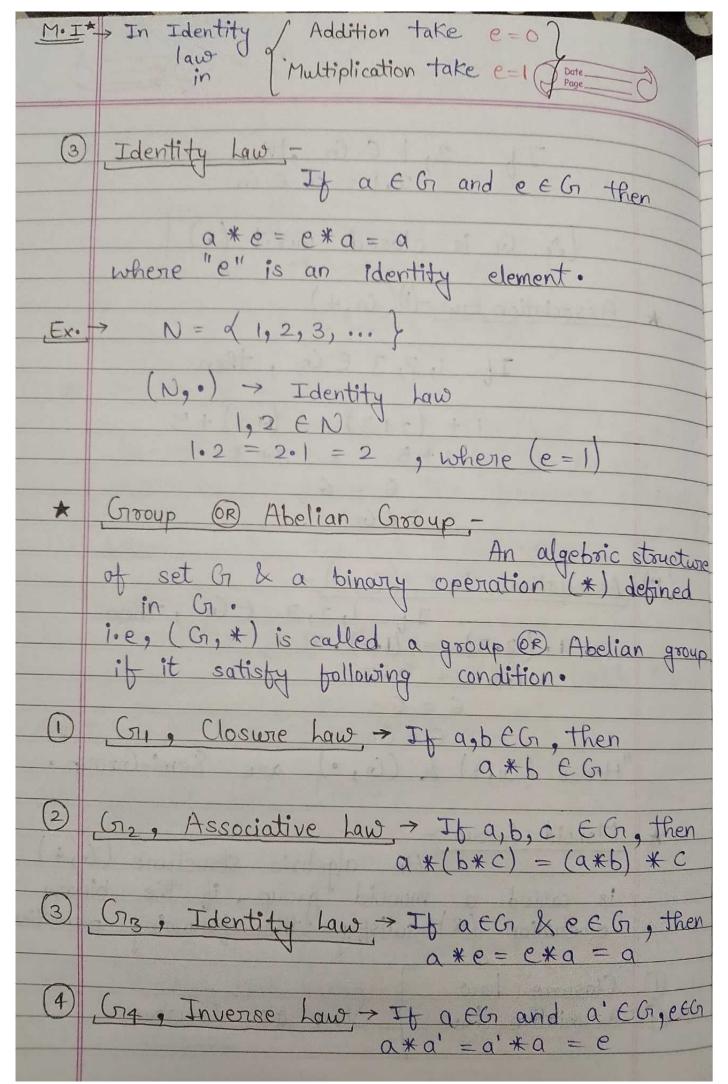
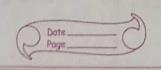


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(5) Constative haw - If a, b & Con, then a \*b # b \* a

Ex. > Show that the set of integers form an abelian group under addition.

 $G_1 = \langle ..., -2, -1, 0, 1, 2, ... \rangle$   $(G_1, +)$ 

0 Cri, Closure haw > 2,1 EG7 2+1= 3 EG7

o G12, Associative haw,  $\Rightarrow -2, -1, 0 \in G_1$ -2 + (-1+0) = (-2 + (-1)) + 0

-3 EG

O Gr3, Identity law -> The 2EG & O EG, then 2+0 = 0+2 2=2

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0 Gi4, Inverse haw => 2EG & -2EG, then 2+(-2) = (-2)+2

0 = 0

OEG

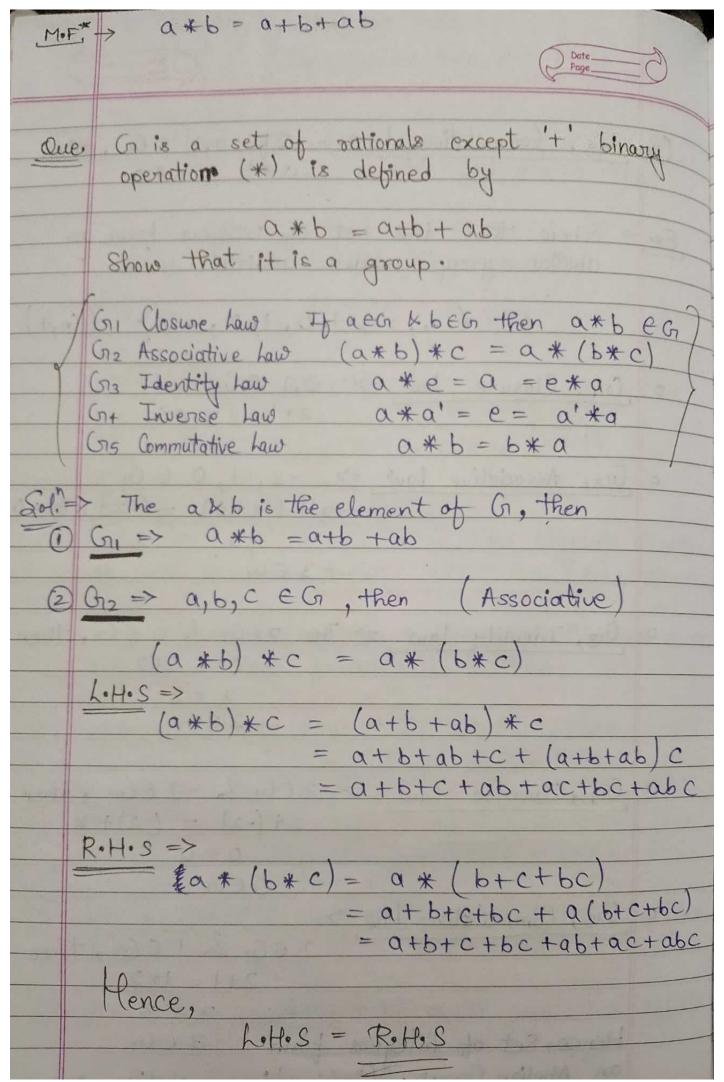
0 Crs, Commutative law =>

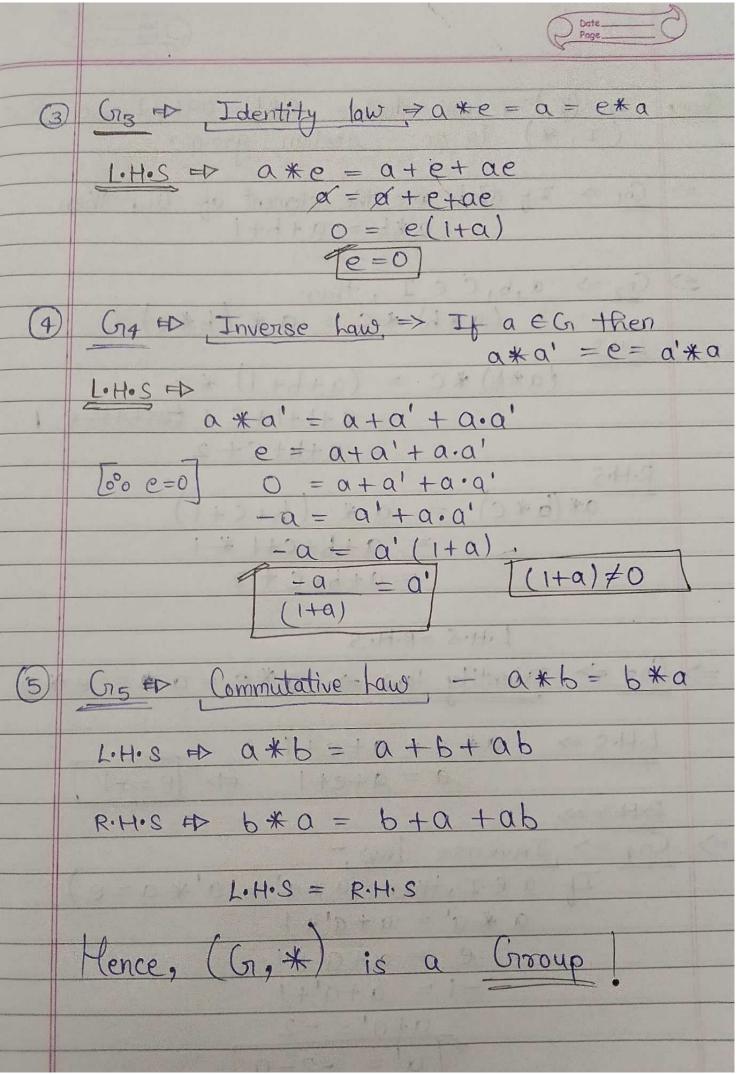
2 eG & I eG, then

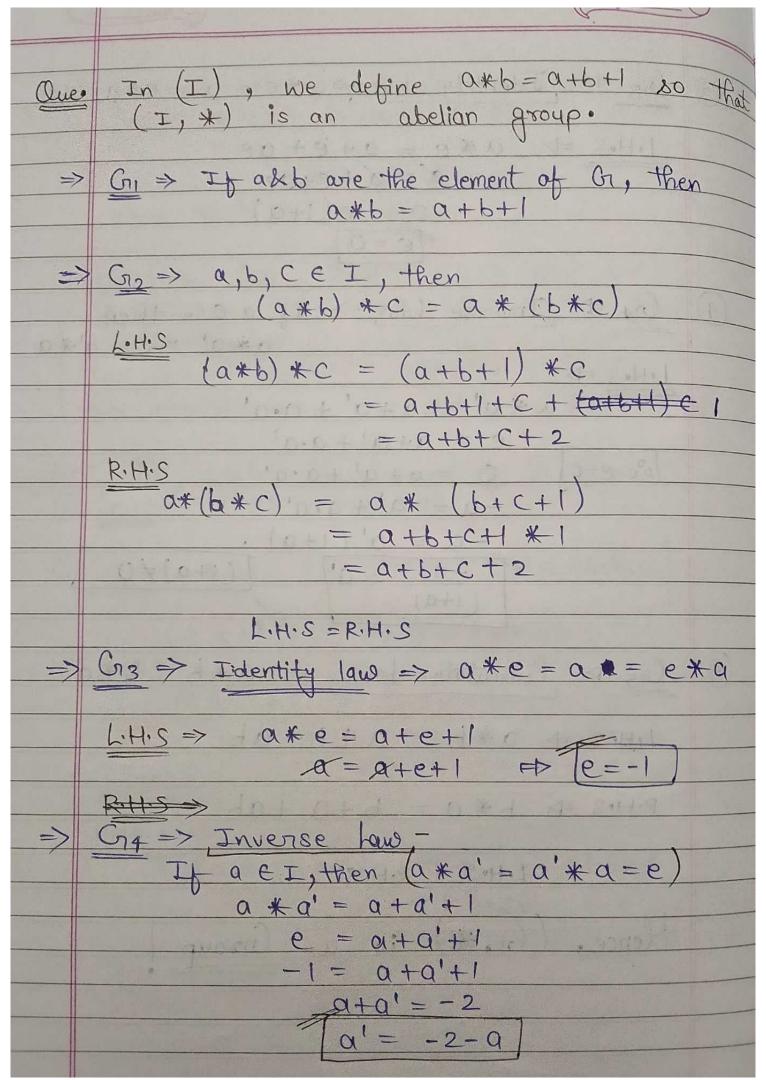
2+1=1+2

3 = 3

Hence, Set of integers form 3 ECr an Abelian Group. [60 (Cr,+) is an abelian group







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