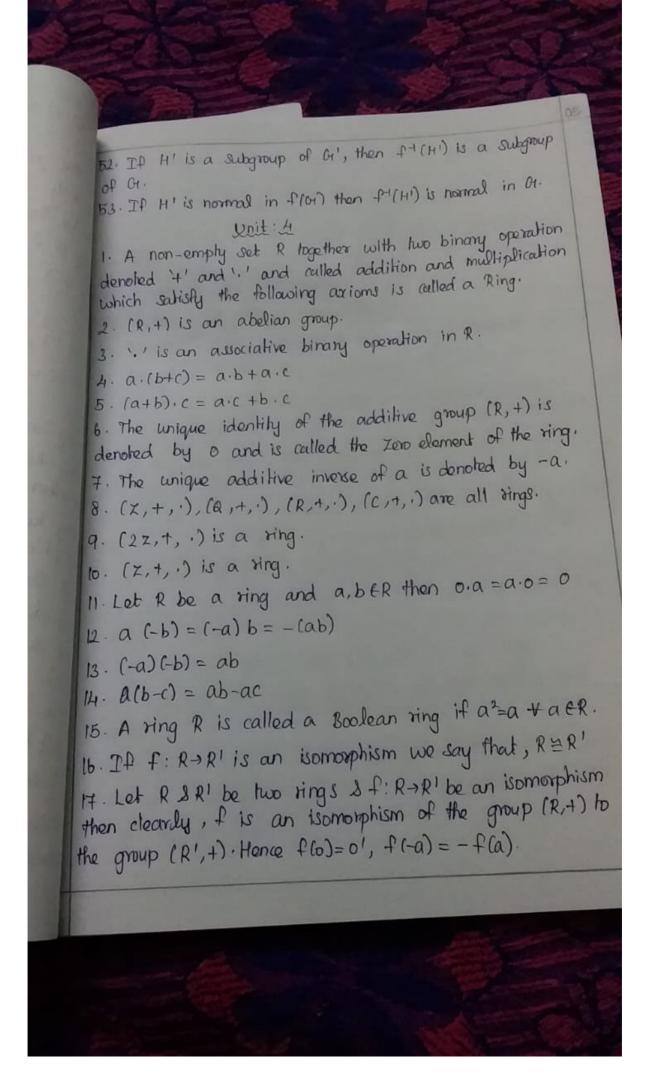
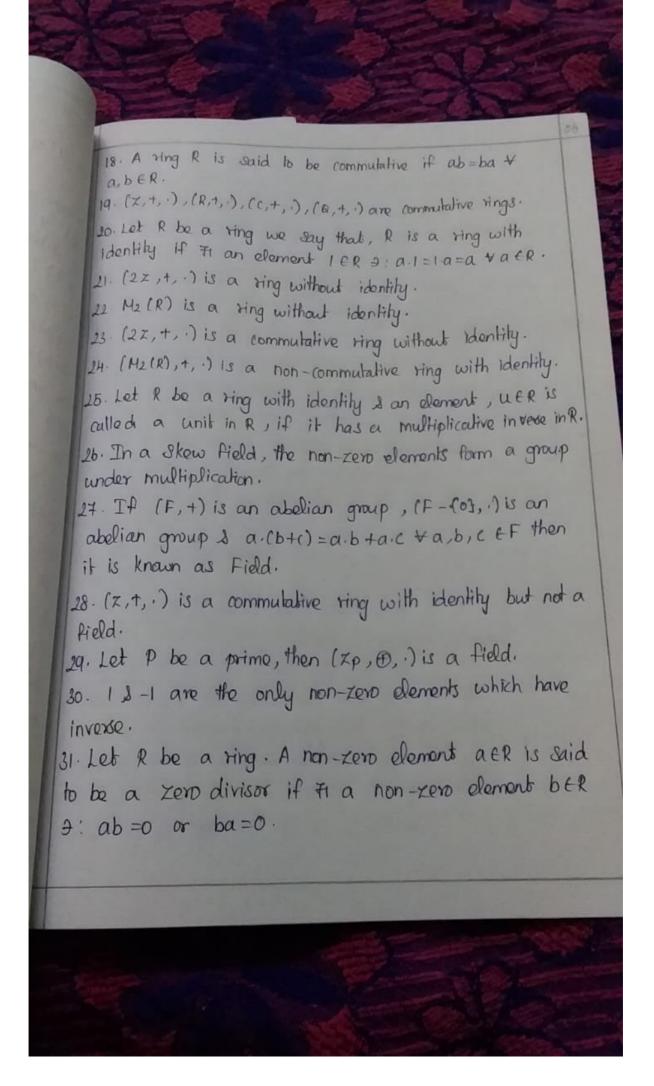
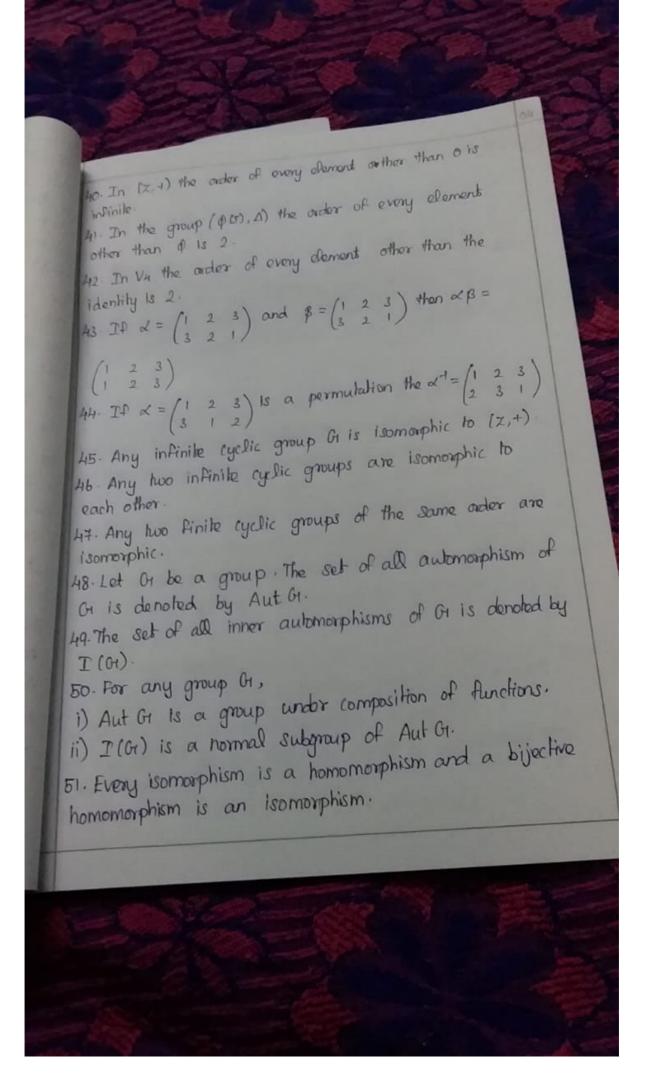
st. The character of (a, +, .) is o. 15. The charaderistic of (X+, 0, 0) is 7. 66. The map P: Z > Z defined by fra) = 2243 is not a ring. 67. The map f. z > z defined f(z) = 2x is group homomorphism. 68. Let P: C>C be defined by f(x)= 7. Then ker f is for. 19. Any ordered integral domain is of characteristic o. 70 Let R= {a+ib/a,b+z}. Then R is a ring under usual addition and multiplication. This ring is called the Ring of Gaussian integers. II. (0) with binary operations '+' and '. ' defined as 0+0=0 & 0.0=0 is a ring. This is called the null ring. 72. In a ring with identity the identity element is unique. 73. Let R be a ring with identity element. R is called a skow field or a division ring if every non-zero element 74. A commutative skew field is called a field. 75. Let R be a ring. If It a tre integer n 2: na = 0, + a FR then the least such the integer is called the characteristic of the ring R. 76. If no such the integer exists then the ring is said to be of characteristic zero. 77. M2(R) is a ring of characteristic zero. 78. Any Boolean ring is of characteristic 2. 19. The characteristic of an integral domain D is either 0 or a prime number.

ab=0 (a) ba=0 If this case a is called John zone divisor is b the ring of 1 to divisor. In the ring of integers no element is a zero divisors No skew field has any zero divisors. Is a commutative ting with identity having no zero Avisor is called an Integral dermain 16. 7 is an integral domain. 1. It is an Integral domain. 3 (In,+, ·) is an integral domain. H. Z12 is not an integral domain. so. In is an integral domain iff n is a prime. I Any unit in R carrot be a zero divisor w. A Ring R has no zero divisor iff cancellation law is valid in R. 15. The only idempotent elements of an integral domain are 021. 44. A ring R is called a boolean ring if a=a + a e R and an element 'a' is called Idempotent element. 45. Any field F is an integral domain. 46. An integral domain need not be a field. At. I is an integral domain but not a field. 48. Any finite integral domain is a field. 49. An infinite integral domain is not a field. 50. In is a field iff n is a prime.

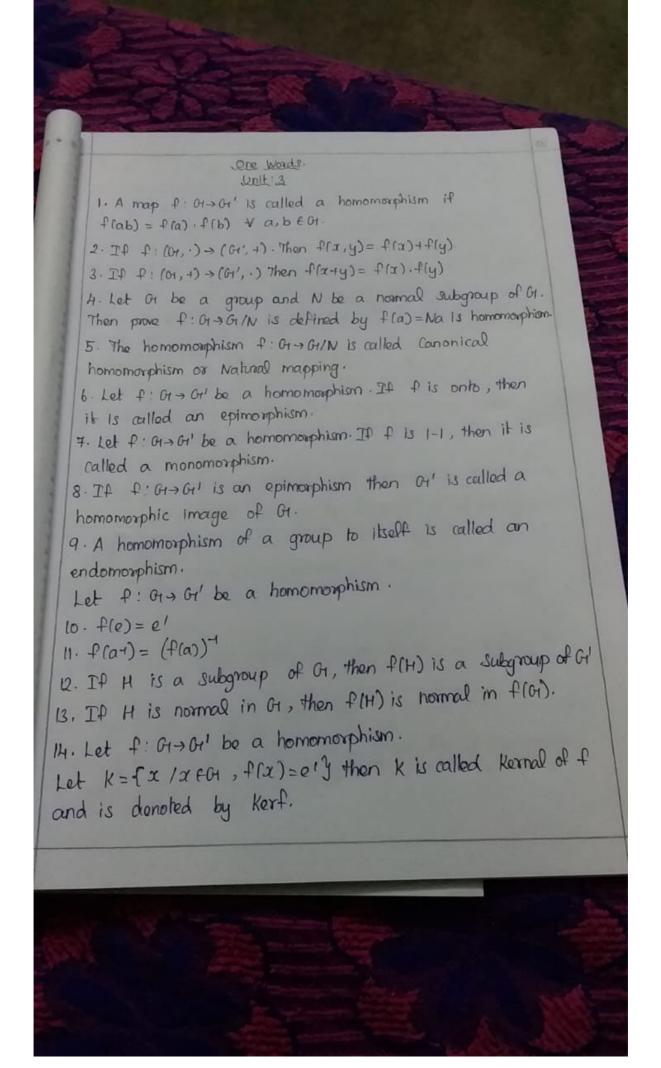
A pinite commulative ring R without zon divisor is a the Algebraic structure which is not a ring is (Zn. (8,8)) the Algebraic Structure which is not a ving is (2, ... ) The Algebraic Structure which is a ring is (\$13), A, (1) which of the following poir of tobbes motes (a.i) is aring 5. A ring is called a Scolean ring if a a 4 a e R of In the ring (Z4,000), (10,13,000) is subring without identity. 58. In the ring Me(R) (4 2) is a writ. 59. In (x,+, .) 1 2 -1 are the only with. to An example of a finite commutative ring with identity but not an integral domain is (24,0,8). 61. An example of an infinite commutative ring without identify is (22,+,-) What R be a ring with identity. Then for all a ber we have (a+b)2 = a2+ab+ba+b2. 6. Let R be a commutative ring. Then the all o, be R  $(a+b)^2 = a^2 + 2ab + b^2$ .

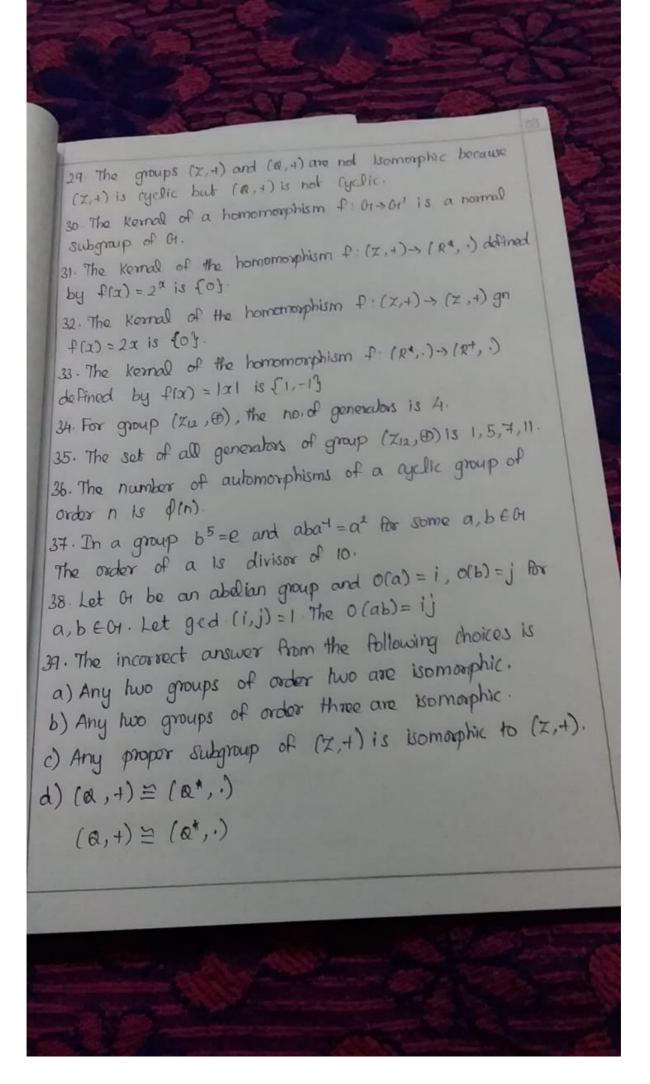


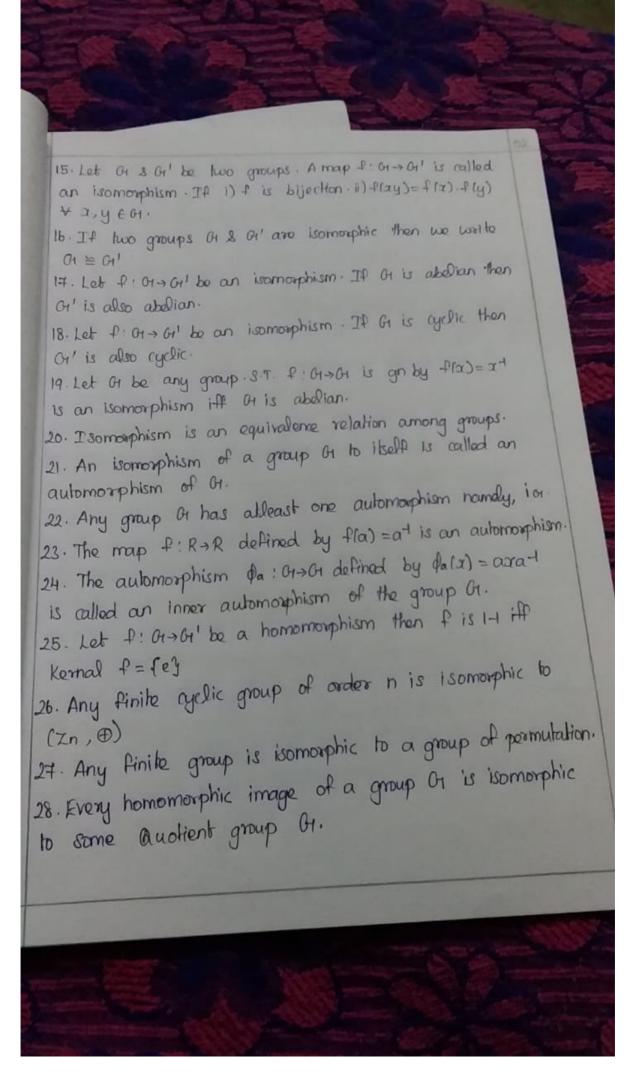




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