| that QUGC = IR is countable, which is a contradiction. Thus, QC is uncountable 13.) A is infinite because Vn Q IN, Engle A and N is infinite. Define, Fift > IN U & OP such that B to and VX e A, X = \(\frac{2}{2} \) \(\frac | | 4) Suppose the set of irretional numbers, Q, is countable. |
|--|------|--|
| Thus, & is uncountable and is infinite. 13.) A is infinite because Vn & IN, Engle A and N is infinite. Define, fift is IN U & of such that & to and VX & A, X = EX,, X = In Px Px Px Px Fx Fx G is a function because. B to a accidency concerptly element of A is mapped to a product of gives defined as Pn is the pth prime. F is insective by FTA. A B E13 \$22 \$125 \$125 \$125 \$50 A = Rio = N & Elorum of like 1 2 3 4 5 Elorum of like 1 2 3 4 5 1) For each b & B let a be an element of A for which f(ab) = Superse U = E a 1 6 B B. Then the function f: D = B is bisected by construction. Then since B is uncountable, so is 0. Therefore U 2) Let C be the series countable numbers such that where yo is fixed, but a chartery real numbers. Because this Set of R | | The union of 2 countable sets is countable implies |
| 13.) A is infinite because Vn & No, Engle A and N is infinite. Define, fift > M U & of such that & H O and VX & A, X = EX,, X, E + Px, + Px, + Px, f is a function because B +> 0 and every concempty element of A is mapped to a product of pources defined as Pn is the nth prime. F is insective by FTA. A B E13 \$22 \$23 \$1.23 \$50 A = \$N = N B clower of list 1 2 3 4 5 Clower of list 1 2 3 4 5 Suppose U = Ea; + G B & Then the Princetion F: U > B is bisected is an inconvector substract A So A is uncountable by Then I's C = E(x,y): x, y e R 3. Suppose f(x) = (x, y); R > C function is insective but now surse surse arms set of R. | | that QUGE = IR is countable, which is a contradiction. |
| 13.) A is infinite because Vn & No, Engle A and N is infinite. Define, fift > M U & of such that & H O and VX & A, X = EX,, X, E + Px, + Px, + Px, f is a function because B +> 0 and every concempty element of A is mapped to a product of pources defined as Pn is the nth prime. F is insective by FTA. A B E13 \$22 \$23 \$1.23 \$50 A = \$N = N B clower of list 1 2 3 4 5 Clower of list 1 2 3 4 5 Suppose U = Ea; + G B & Then the Princetion F: U > B is bisected is an inconvector substract A So A is uncountable by Then I's C = E(x,y): x, y e R 3. Suppose f(x) = (x, y); R > C function is insective but now surse surse arms set of R. | | Thus, & is uncountable |
| Define, fift is MUSOF, such that B is 0 and YX e A, X = \$X,, X & Is Px Px Px Px Px B is 0 and every concerptly element of A is memped to a product of primes defined as Pn is the nth prime, & is insective by FTA. A B E13 \$22 \$32 \$125 | | 13.) A is inframe because Vn & M, Eng & A and N is infinite. |
| X= \(\) X, \(\) X, \(\) Px | | |
| product of primes defined as PD is the 1th prime. F is insective by FTA. A B E13 \$23 \$33 \$123 So, A = Rio = N F(A) 6 P=2 P=3 5 6 clored of list 1 2 3 4 5 Suppose U = 5 a: 6 B & Then the Princetion F: U > B is bisective by construction. Then since B is uncountable, so is U. Therefore U 1s an uncountable subser of A. So A is uncountable by Then the C = 5 (x,y): x, y e123. Suppose f(x) = (x,y); R > C Suppose U insective but not surjective. Because this | | |
| products of primes defined as PD is the 1th prime. F is insective by FTA. A B E13 \$23 \$33 \$123 So, A = Rio = N F(A) 6 P=2 P=3 S 6 clored 1 2 3 4 5 Suppose U = 5 a, 6 B & Then the Princeton F: U > B is bisective by construction. Then since B is uncountable, so is U Therefore U 1s an uncountable subset of A. So A is uncountable by Then the C = 5 (x,y): x, y e123. Suppose f(x) = (x,y); R > C Gunction is insective but not sursective. Set of R | | B to and every concempty element of A is mapped to a |
| insective by FTA A B E13 523 523 5123 So, A = Si = N F(A) 6 P=2 P=3 5 6 clored 1 2 3 4 5 Superse U = E a: 6 6 B Then the Punction F: U > B is bisective by construction. Then since B is uncountable, so is U. Therefore U 15 an uncountable subset of A So A is uncountable by Then It C = E (x,y): x, y e R3. Suppose F(x) = (x,y); R > C Gunction is insective but now surjection. Because this Set of R. | | product of primes defined as po is the nth prime. F is |
| element of lief 1 2 3 4 5 (1.3) 1) For each be let a, be an element of A for which $f(a_b)$ = Suppose $U = S$ $a_b : b \in B$? Then the function $f: U \rightarrow B$ is bisective by construction. Then since B is uncountable, so is U . Therefore U 1s an uncountable subset of A. S. A is uncountable by Then V 2) Let C be the set of countable numbers such that $C = S(x,y): x, y \in R$? Suppose $f(x) = (x, y_a): R \rightarrow C$ Gunction is insective but not sursection. | | insective by FTA. |
| 4.3) 1) For each b EB let a, be an element of A for which $f(a_b)$ = Suppose $U = \xi$ a; ξ 6 B ξ . Then the function f : $U \rightarrow B$ is bisection by construction. Then since B is uncountable, so is U . Therefore U is an uncountable subset of A. So A is uncountable by Then U 2) Let C be the set of countable numbers such that $C = \xi(x,y)$: $x, y \in \mathbb{R}^3$. Suppose $f(x) = (x, y)$; $R \rightarrow C$ Gunetian U insective but not surjected. Because this | | 0 |
| by construction. Then since B is uncountable, so is O. Therefore U is an uncountable subset of A. So A is uncountable by Then I's c = E (x,y): x, y e R3. Suppose f(x) = (x,y); R -> C function is insective but not sursection. Set of R | 1.3) | 1) For each b & B let a be |
| by construction. Then since B is uncountable, so is O. Therefore U 1s an uncountable subset of A. S. A is uncountable by Then I's 2) Let C be the set of countable numbers such that C = E (x,y): x, y e R 3. Suppose f(x) = (x, y); R \rightarrow C Gunetian is insective but not sursection. Set of R | | Suresse 11 = 5 a 1 a 5 = 1 |
| 15 an uncourable subset of A. S. A is uncountable by Then I's 2) Let C be the set of countable numbers such that C = \(\) (x,y): x, y \(\) (R \) . Suppose \(\) (x) = (x,y); \(R \) \(\) C Gunetian is insective but not sursection. Set of R | | by community |
| Let C be the set of counteble numbers such that C = \(\((x,y) \): \(x, y \) \(e \) \(R \) \(\) Uhere yo is fixed, but arbitrary real numbers. Because this Set of \(R \): | | is an ince B is uncountable so is 1) The 12 |
| where yo is fixed, but arbitrary real numbers. Because this Set of R is | | 2) les s |
| where yo is fixed, but arbitrary real numbers. Because this Set of IR | | C = 5 the set of counteble numbers a uncountable by them 19. |
| set of R | | C- Z (X,y): X, y e 123. Suppose Co |
| set of R | | where yo is fixed, but arbitrary arbitrary |
| | | Tumbere Se |
| Thus, R is unconnected & C is us. | | |
| C to un | | Thus R is uncountered of C. (IR CC) |
| Carrie III | | C is uncompal |