3. Countability

We use technique "dovetailing"
R= {a+bi: a.b are nationar}

Since we know hational numbers Q is counterble that means we can order all newtional numbers in a list (by def of countability)

Shuh as Q=90, 1/1, -1/1, 3/1; -3/1, 1/2, -1/2, 3/1, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2, -3/2,

R={a+bi: a.b one rational}

				*				
6/9	0	1/1	21/1	12/1	-2/	1/2	-1/2	(in Q's order)
0	0		-	2	-2	1	2	(m (x) graps,)
VI	1			The state of the s	1-2			
-1/1					J [			
2/1	21	1721	-1121	2+21	-2+21	2+21	-2+2	
					-2-2;			
1/2	1/2	叶为	4+2	2+1/2	-2+1/2	さり	2-12	
-1/2	ージュ	1	-1-½	2-1/2	2-1/2	ナール	-1-1/2	
11.00	ann an Aireann ag Magairt Stock Market (1977 Or to an Airean		The second se	k agastagat ka pina salap ara salah yan agresa ka ata di kesas Sheki Sheki A	ď			7

(in Q's order) a. b can be any routional number in this table therefore by "clavetarting", we can order R in a list [0, i, 1, -i, 1+i, -1, 2i, 1-i, -1+i, 2, -2i, 1+2i "" ]

So by def of countability, R: ga+bi, a.b one nortional?

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