

Presentations07

Hilbert's Hotel Problems (See http://webhome.auburn.edu/~smith01/math3010Sp21/HilbertsHotel.pdf)	1-3
Show that the set of all the integers is countable.	4
Show that the set of Prime numbers is countable.	5
Show that the complex integers is countable. (A complex integer is a number in the form $n + mi$ where n and m are integers and $i = \sqrt{-1}$.)	6
Show that the set of rational numbers is countable.	7
Argue that if I am visiting a farmer's market where there are many different baskets of fruit available that I can check out with exactly one of each kind of fruit.	8
Show that the well-ordering property implies the Axiom of Choice.	9