

21-235 Math Studies: Problem Seminar

5. Let p be a prime number and let $a, b \in \{1, \dots, p\}$. Suppose that A and B are subsets of \mathbb{Z}_p such that the number of elements of A is a and the number of elements of B is b . How small can the set $A + B$ be?
6. Is it possible that an uncountable number of non-intersecting figure eight curves can exist in the plane?