

Problem 7 (due Monday, May 12)

Let p be a prime number and $k < p$ a positive integer. Let $m = \left\lceil \frac{p}{k+1} \right\rceil$. Show that there is a set $A \subseteq \{1, 2, \dots, p-1\}$ with at most $2m$ elements such that for every $a \in \{1, 2, \dots, p-1\}$ there are $b \in A$ and $c \in \{1, 2, \dots, k\}$ such that p divides $a - bc$.

No solutions were submitted. For a detailed solution see the following link [Solution](#).

From:

<https://www2.math.binghamton.edu/> - **Department of Mathematics and Statistics, Binghamton University**

Permanent link:

<https://www2.math.binghamton.edu/p/pow/problem7s25>

Last update: **2025/05/13 15:54**

