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 $A\subseteq\{1,2,\ldots, p-1\}$ with at most 2m elements such that for every $a\in\{1,2,\ldots,p-1\}$ there are $b\in A$ and $c\in\{1,2,\ldots,k\}$ 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**