Time limit: 15 minutes.
Instructions: This tiebreaker contains 3 short answer questions. All answers must be expressed in simplest form unless specified otherwise. You will submit answers to the problem as you solve them, and may solve problems in any order. You will not be informed whether your answer is correct until the end of the tiebreaker. You may submit multiple times for any of the problems, but **only the last submission for a given problem will be graded**. The participant who correctly answers the most problems wins the tiebreaker, with ties broken by the time of the last correct submission.
No calculators.

1. Compute the least positive x such that $25x - 6$ is divisible by 1001.

2. An integer a is a *quadratic nonresidue* modulo a prime p if there does not exist $x \in \mathbb{Z}$ such that $x^2 \equiv a \pmod{p}$. How many ordered pairs (a, b) modulo 29 exist such that

$$a + b \equiv 1 \pmod{29}$$

   where both a and b are quadratic nonresidues modulo 29?

3. Let $f : \mathbb{Z}^2 \to \mathbb{C}$ be a function such that $f(x+11, y) = f(x, y+11) = f(x, y)$, and $f(x, y)f(z, w) = f(xz - yw, xw + yz)$. How many possible values can $f(1, 1)$ have?