

VÎRGOLICI, Horia, ON THE EXPONENTIAL DIOPHANTINE EQUATION

$$2^x + 1009^y = p^z$$

Abstract: The aim of this paper is to give all nonnegative solutions (x, y, z) to the equation $2^x + 1009^y = p^z$, where p is a positive rational prime number with $3 \leq p \leq 997$ (we discuss 167 equations).

Keywords: exponential Diophantine equation, Lebesgue-Nagell equation, Catalan equation

AMS Classification: 11D61, 11Y50