Title: Complete solutions of certain Lebesgue–Ramanujan–Nagell type equations

Author(s): Kalyan Chakraborty, Azizul Hoque and Richa Sharma

It is well-known that for $p = 1, 2, 3, 7, 11, 19, 43, 67, 163$, the class number of $\mathbb{Q}(\sqrt{-p})$ is one. We use this fact to determine all the solutions of $x^2 + p^m = 4y^n$ in non-negative integers x, y, m and n.

Address:
Kalyan Chakraborty
Kerala School of Mathematics
Kozhikode 673571
Kerala
India

Address:
Azizul Hoque
Department of Mathematics
Rangapara College
Rangapara
Sonitpur 784505
Assam
India

Address:
Richa Sharma
Malaviya National Institute
of Technology Jaipur
Jaipur 30201
India