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Mathematics > Number Theory

A Cohen-Lenstra phenomenon for elliptic curves

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Given an elliptic curve \$E\$ and a finite Abelian group \$G\$, we consider the problem of counting the number of primes \$p\$ for which the group of points modulo \$p\$ is isomorphic to \$G\$. Under a certain conjecture concerning the distribution of primes in short intervals, we obtain an asymptotic formula for this problem on average over a family of elliptic curves.

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