# The representation of integers by quadratic forms

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**Abstract.**  The classical "Four Squares Theorem" of Lagrange asserts that any positive integer can be expressed as the sum of four squares; that is, the quadratic form $a^2+b^2+c^2+d^2$ represents all (positive) integers. When does a general quadratic form represent all integers? When does it represent all odd integers? When does it represent all primes? We will show how all these questions turn out to have very simple and surprising answers.