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Olivia Beckwith*, 244 N Colonial Homes Cir, Atlanta, GA 30309. *Indivisibility of class numbers of imaginary quadratic fields.*

I quantify a recent theorem of Wiles by proving an estimate for the number of negative fundamental discriminants down to $-X$ whose class numbers are indivisible by a given prime and whose imaginary quadratic fields satisfy almost any given finite set of local conditions. This estimate matches the best results in the direction of the Cohen-Lenstra heuristics for the number of imaginary quadratic fields with class number indivisible by a given prime. I will also show how this result can be applied to study rank 0 twists of certain elliptic curves. (Received July 10, 2017)