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Bo-Hae Im* (bohaeim@gmail.com), Dept. of Mathematics, Chung-Ang University, 221 Heukseok-dong, Dongjak-gu, Seoul, Seoul, Seoul 156-756, South Korea, and **Michael Larsen** (larsen@math.indiana.edu), Indiana University, Bloomington, Bloomington, IN. *Infinite rank of elliptic curves over the maximal abelian extension of \mathbb{Q} .*

We prove that if E is an elliptic curve defined over a quadratic field K , and the j -invariant of E is not 0 or 1728, then $E(\mathbb{Q}^{ab})$ has infinite rank. Also we prove that if E is an elliptic curve in Legendre form, $y^2 = x(x-1)(x-\lambda)$, where $\mathbb{Q}(\lambda)$ is a cubic field, then $E(K\mathbb{Q}^{ab})$ has infinite rank. (Received September 20, 2011)