1096-11-193 **Alyson Deines***, adeines@uw.edu, and **Ben Lundell**. *Elliptic curve discriminant twins.*

Elliptic curves $E : y^2 = x^3 + Ax + B$ have an invariant called the discriminant $\Delta = -16(4A^3 + 27B^2)$. The discriminant roughly measures what happens when we view E over a finite field $\mathbb{F}_p$. The conductor N is another measure of $E(\mathbb{F}_p)$. We define $N = \prod p^{f_p}$ such that E has has bad reduction at p and f_p tells you what kind of bad reduction, i.e., $E(\mathbb{F}_p)$ has either a cusp or a node. Isogenous curves have the same conductor. I will explain how and when isogenous curves can have $N = \Delta$ and the surprising results about how often this can occur. (Received August 15, 2013)