962-11-1120 **Mugurel A. Barcau*** (barcau@math.unm.edu), University of New Mexico, Department of Mathematics and Statistics, Albuquerque, NM 87131. *The affine line modulo isogeny.*

Let $Y(1)$ classify the isomorphism classes of elliptic curves $E/\mathbf{C}$. Then one has an analytic isomorphism $j : Y(1) \longrightarrow \mathbb{A}^1_{\mathbf{C}}$, $E \longmapsto j(E)$ onto the set of $\mathbf{C}$-points of the affine line, where $j(E)$ is the $j-$invariant of the elliptic curve $E/\mathbf{C}$. We say that $x \in \mathbb{A}^1_{\mathbf{C}}$ is isogeneous to $y \in \mathbb{A}^1_{\mathbf{C}}$, in notation $x \overset{isog}{\sim} y$, if there exists an isogeny $\pi : E_x \longrightarrow E_y$ defined over $\mathbf{C}$, with $x = j(E_x)$ and $y = j(E_y)$. Let $\mathbb{A}^1_{\mathbf{C}}/isogeny$ be the set of cosets of $\mathbb{A}^1_{\mathbf{C}}$ modulo the equivalence relation $\overset{isog}{\sim}$. We cannot expect to find any reasonable object in the usual algebraic geometry, whose $\mathbf{C}$-points are naturally in bijection with $\mathbb{A}^1_{\mathbf{C}}/isogeny$, because the equivalence classes of $\overset{isog}{\sim}$ are dense in the complex topology. We will be able to find a geometric substitute for the quotient "$\mathbb{A}^1/isogeny$" in the "new" geometry obtained by "adjoining" one new operation to the "classical" one, that plays the role of a derivation. (Received October 03, 2000)