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**Rachel Davis\*** ([davis705@math.purdue.edu](mailto:davis705@math.purdue.edu)), West Lafayette, IN 47907, and **Edray Herber Goins**. *The arithmetic of a non-abelian cover of an elliptic curve*. Preliminary report.

Let  $E$  be an elliptic curve over  $\mathbb{Q}$ . Let  $f : C \rightarrow E$  be an étale cover, ramified only above one point. The pair  $(C, f)$  is called an origami. The name comes from a picture that I will show during the talk. We study the pre-images of a rational point on  $E$  under such a map  $f$ . We will be especially interested in maps with non-abelian deck transformation group. We will also study Galois representations obtained by adjoining the coordinates of the pre-image set to  $\mathbb{Q}$ . (Received September 21, 2015)