

1077-11-1757

Alejandra Alvarado* (alvaraa@math.purdue.edu), Purdue University, Department of Mathematics, 150 N. University Street, West Lafayette, IN 47907, and **Edray Herbert Goins**.
Arithmetic Progressions in the x -coordinates on Mordell Curves.

An arithmetic progression (AP) is a sequence of numbers such that the difference between any two consecutive numbers is constant. When we talk about an AP on the curve $y^2 = x^3 + k$, we mean an AP in the x -coordinates. The goal of this talk is to classify length three, four, and five AP's. We show that there exist AP's of length three, four, or five if and only if there there exist rational points on a surface whose fibers are curves of genus zero, one or five, respectively. (Received September 20, 2011)