1116-Q1-951 **Aaron Montgomery*** (montgoaa@cwu.edu), Mathematics Department, Central Washington University, 400 East University Way, Ellensburg, WA 98926-7424. *What is left after everything is removed? Unexpected results from infinite processes.*

As filler in an undergraduate abstract algebra class, I tossed out a question that I had encountered in a high school math puzzler involving the final state of an infinite process. In the process, chips are added and removed from a bag and the question asks what remains at the end of all additions and removals. As the class discussed the solution, more questions arose than we could answer. The question sparked enough interest that an undergraduate and I decided to spend some time exploring the questions raised. Some of the early exploration involved enumeration and suggested basic computational techniques, but soon we found that the more interesting questions led through an introduction to cardinality theory and the point-set topology of the real line. As we discussed this topic with other faculty on campus, we discovered that the original question was unknown to the them. In the talk, I will present the original question and discuss some of our results. Hopefully, you will leave the talk with some new questions for your students to ponder. (Received September 15, 2015)