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G Donald Allen* (dallen@math.tamu.edu), Department of Mathematics, Texas A&M University, College Station, TX 77843. *Mathematical Misconceptions of Pre-service Teachers*. Preliminary report.

Interpreting the idea of a mathematical misconception in a broad way, we have generated two tests that explore the fundamental mathematical knowledge of pre-service teachers. The first and most elementary of the tests explores basic knowledge of arithmetic and algebra, at about the basic Algebra II level. The second test is at the College Algebra level, somewhat like Algebra II, but with more complex problems. The test was given in class to more than 170 pre-service elementary and middle school teachers. Each student received bonus points for participating. Each of the students had previously passed a one semester calculus course and a one semester finite mathematics course. All had sophomore or junior college standing. The average score on the first of the tests was about 50% for the elementary test and 34% for the more advanced version. The disappointing results lead to interesting conclusions not only about the mathematical preparedness of pre-service teachers but also about the manner in which collegiate courses must be taught to allow such a high success rate but such a low mathematical ability of foundational subjects. WIn this talk, we will give details of the misconceptions studied, the particular tests given, and specific results for individual test items. (Received November 29, 2007)