

BJ02: 1:40-1:50 p.m. Exploring Student Difficulties in Mathematics Used in Introductory Physics*

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To study students' mathematical difficulties in introductory university physics courses, we continue to administer written diagnostics, as well as conduct one-on-one problem-solving interviews. After reviewing many interviews and thousands of diagnostics over the past three years, we have found that many students in both algebra- and calculus-based courses have significant difficulties in solving high-school-level (and lower) mathematics problems. Some of these problems include basic trigonometry and algebra posed both in numeric and symbolic form ("numeric" and "symbolic" refer to the nature of the constant coefficients and/or given information). We will report our most recent findings on these test problems, but will focus on new items including basic fraction manipulation and symbolic algebra involving Greek letters.

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