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# The Math Placement Tests: Relationships to Mathematics Course Performance, Mathematics Course Selection, and Other Predictors of Academic Achievement

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## ***Report 1991-06: The Math Placement Tests: Relationships to Mathematics Course Performance, Course Selection, and other Predictors of Academic Achievement***

Since 1984, the Math Placement Tests (MPT) have been used by all four-year institutions in the state of Washington to aid in the placement of students into their first college-level mathematics course. This report was prepared in response to concerns of Western's Mathematics Department regarding the usefulness of the tests in correctly placing students.

The relationship of MPT scores to final mathematics course grade and other indicators of academic achievement, including high school gpa, WPCT-Quantitative score, and SAT-Math score were evaluated. The MPT scores were found to be moderately positively related to final grade and each of the three indicator variables. The MPT scores were not, in most cases, superior to high school gpa and/or WPCT-Q scores in prediction of final mathematics course grade.

The percentage of students who passed their mathematics course (earned a grade of C- or better) varied depending on the course in which they enrolled, which placement test they took, and the score they received on the placement test. The probability of receiving a C- or better among those who took the Intermediate test ranged from a low of 48.2% in Math 103 to a high of 72.4% in Math 155. The chance of passing a mathematics course for those who took the Advanced test ranged from a low of 63.5% in Math 103 to a high of 90.9% in Math 104. In general, the probability of receiving a passing grade increased with higher MPT scores.

For a number of courses, the current cut-off score on the Intermediate test may be too low. Students who enrolled with scores below, or at, or slightly above these cut-offs had, in many cases, only a slim chance of passing the course. Conversely, cut-off scores on the Advanced test for

admission to many courses were too high. Students who had a reasonable chance of passing these courses would be denied admission based on the current cut-off points. It is suggested that the current cut-off scores be re-evaluated and when new cut-off scores are decided upon, that they be more strictly adhered to.