INTRODUCTION

The *Maryland School Assessment (MSA)* is a measure of students' reading and mathematics comprehension. The *MSA* fulfills recommendations of the Visionary Panel for Better Schools and meets the federal testing requirements of the *No Child Left Behind Act (NCLB)* of 2001.

New academic standards were designed to inform parents, teachers, and educators of what students actually learned in schools and to make schools accountable for teaching contents measured by the *MSA*. To this end, the Maryland State Department of Education (MSDE), in collaboration with hundreds of educators across the state, developed a series of math tests to measure students' achievement against the new academic standards.

In 2003, the MSA-Math was introduced in grades 3, 5, and 8; grades 4, 6, and 7 were added to the program in 2004.

The purpose of the 2010 *MSA-Math Technical Report* is to provide users and other interested parties with a general overview and statistical analysis results of the MSA-Math.

The 2010 *Technical Report* is composed of four sections.

The first section contains the following information:

- General overview and purposes of the MSA-Math
- Development and review of the MSA-Math items and test
- Test form design, test form specifications, item type, and item roles
- Operational form construction using the Rasch model
- Test administration
- Scoring procedures
- Operational item analyses
- Linking, equating, and scaling procedures
- Score interpretation
- Test validity and unidimensionality analyses
- Field test analysis and item bank construction
- Quality assurance

The second section provides the current year's academic achievement results for grades 3 through 8. It contains information about the cutoff score and pass rate at each performance level for the 2010 math assessment. In addition, students' performance levels were analyzed by key student subgroups such as gender, ethnicity, and LEA (Local Education Agency).

In the third section, we summarized detailed statistical procedures used for the 2010 math test. This section provides psychometric information in detail to those who might be interested in learning psychometric characteristics and procedures applied in the MSA-Math.

The last section contains statistical results of the 2010 MSA-Math. It includes descriptive statistics for the 2010 math test based on raw scores and scale scores, accuracy and consistency of the 2010 math test, rater agreement rates, correlation coefficients among substrands, and total and substrand RS/SS conversion tables. Accordingly, this section provides the statistical and psychometric characteristics of the 2010 MSA-Math.

Four appendices provide additional statistical results for the 2010 MSA-Math: Appendix A contains stratified random sampling results; Appendix B contains 2010 MSA-Math scale score histograms and Tukey charts; Appendix C contains both classical and Rasch (One-Parameter Logistic Item Response Theory) item parameters. The last appendix contains test blueprints for grades 3 through 8.