

2013 Algebra 1 End-of-Course Assessment Comparative Study

Comparative scores are alternatives to the testing requirement that allow students to demonstrate that they have either met or exceeded the passing standard using an alternative test. These scores must be reviewed, and potentially revised, when test procedures, test content, or large shifts in the testing population change. This is the first comparative study for the Algebra 1 End-of-Course (EOC) Assessment, which is based on the Next Generation Sunshine State Standards adopted by the State Board of Education in 2007.

Florida Statute 1008.22 states:

The Commissioner of Education must identify one or more comparative scores for the Algebra I EOC assessment and may identify comparative scores for the other EOC assessments. If the content or scoring procedures change for the EOC assessments, new comparative scores must be determined. If new comparative scores are not timely adopted, the last-adopted comparative scores remain in effect until such time as new scores are adopted. The state board shall adopt comparative scores in rule.

The Algebra 1 EOC Assessment was first administered in spring 2011. For the first test administration, scores were reported as T scores using a norm-referenced score scale of 20-80, since the scale and cut scores had not yet been established for the Algebra 1 EOC Assessment. In fall 2011, a standard-setting process took place and, as a result of that process, the recommended Achievement Level 3 cut score (or passing score) was adopted by the State Board of Education. In December 2012, the State Board of Education established 399 on a scale of 325-475 as the minimum score in Achievement Level 3. Pursuant to the legislation cited above, a comparative study has now been conducted to determine a comparative score for the passing standard.

A comparative study is a recognized technical procedure for converting scores from one standardized test to another. Using this procedure, two tests are linked through an analysis of test results of students who have taken both tests. These studies can take some time to conduct because the experts performing the analyses need to wait until a sufficient sample of students is available to ensure reliable data. Once the study is conducted, two scores are considered concordant when they have equal, or close to equal, Percentile Ranks (PR).

To assist the department with this study, districts were asked to volunteer to have their schools participate by administering the Postsecondary Education Readiness Test (PERT) Mathematics to students enrolled in Algebra 1 at some time during the two weeks before or the two weeks following the date that each student completed the Algebra 1 EOC Assessment. The study included 9,630 students who took both the Algebra 1 EOC Assessment and the PERT Mathematics assessment for the first time, and psychometric analyses indicate that this is a representative student sample requiring no additional test administrations for the study. The correlations between the Algebra 1 EOC Assessment and PERT Mathematics were found to be positive and strong. Based on psychometric analyses of the sample and determined percentile ranks, the comparative PERT Mathematics score corresponding to the Algebra 1 EOC

Assessment scale score of 399 is a score of 97 on the 50-150 PERT Mathematics score scale (as indicated in Table 1).

Table 1: Algebra 1 EOC Assessment and PERT Mathematics Comparative Study

| Algebra 1 EOC Assessment/PERT Mathematics | |
|--|-----------------------------|
| N=9,630 (Correlation: 0.803) | |
| PERT Mathematics | Algebra 1 EOC Assessment |
| 97 (PR: 39.9896) | 399 (PR: 38.6137) |
| *PR refers to "Percentile Rank" | |

Due to the differences between score scale structures (i.e., the PERT Mathematics score scale vs. the Algebra 1 EOC Assessment score scale), it is not always possible to identify exact matching PR scores; therefore, the department has selected the PERT Mathematics score that ensures a comparable score by choosing the score that meets or exceeds the PR that corresponds to the Algebra 1 EOC Assessment passing score.

Providing options for every student to meet high school exit examination requirements is consistent with the state's commitment to ensure that every student is prepared to enter postsecondary education or the workplace. Using the results of the comparative study as a basis upon which assessment options are established may ensure that every high school student has graduation exit options without lowering the state's academic standards.