

Study Profile: STAAR Algebra II – SAT Mathematics (★★★★☆)

The STAAR Algebra II – SAT mathematics external validity study is designed to establish empirical links between performance on the STAAR Algebra II assessment and performance on the SAT mathematics test.

Motivation (★★★★☆)

This analysis was based on a single group of students who took both the STAAR Algebra II and the SAT mathematics assessments in 2010 or 2011. Data from STAAR derive from a stand-alone field test administered in 2010 and a low-stakes operational administration in 2011 and are linked to motivated SAT mathematics scores in corresponding years.

Representativeness (★★★★☆) and Sample Size (★★★★★)

Grade Levels

All Algebra II Examinees Versus Those Linked to SAT Scores

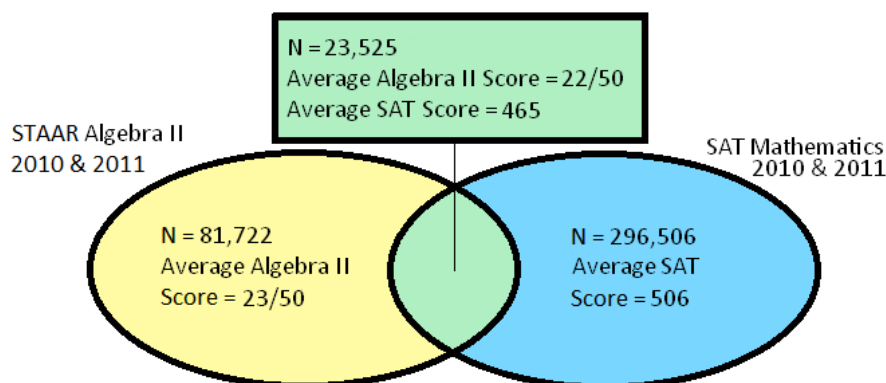
Group	Grade 8		Grade 9		Grade 10		Grade 11		Grade 12		Missing		Total
All Algebra II	32	0%	2,778	3%	32,934	31%	53,095	50%	16,400	16%	8	0%	105,247
Linked	0	0%	15	0%	3,103	13%	15,693	67%	4,714	20%	0	0%	23,525

Demographic Characteristics

All Algebra II Examinees Versus Those Linked to SAT Scores

Group	Female		Economically Disadvantaged		African American		Hispanic		White		Other	
All Algebra II	53,448	51%	45,607	43%	11,879	11%	45,589	43%	39,119	37%	8,660	8%
Linked	13,003	55%	8,989	38%	3,591	15%	8,758	37%	9,282	39%	1,894	8%

Summary of STAAR Algebra II and SAT Mathematics Achievement Linked and Unlinked Groups



Average SAT Mathematics Scores Based on Students' STAAR Performance

Satisfactory Academic Performance	Advanced Academic Performance
533	599

Correlation (★★★★☆)

Correlation between STAAR Algebra II and SAT mathematics = **0.61**

Content Overlap (★★☆☆☆)

There is minimal (approximately 20%) content/skills overlap between the STAAR Algebra II assessment and the SAT mathematics test.

Assessment Characteristics

Assessment Characteristic	STAAR Algebra II	SAT Mathematics
Purpose	Created to determine mastery of the Algebra II Texas Essential Knowledge and Skills (TEKS), the state-mandated curriculum	Designed to help college admissions officials identify students likely to be successful at their academic institutions.
Assessment Type	A criterion-referenced assessment	A norm-referenced test that assesses student performance against the performance of other students nationally.
Content	Measures properties and attributes of functions, representational tools to solve problems, properties of quadratic functions, representations of quadratic relations, properties of square root functions, properties of rational functions, and properties of exponential and logarithmic functions	Measures number operations; algebra and functions; geometry and measurement; and data analysis, statistics, and probability There is minimal (approximately 20%) content/skills overlap between the STAAR Algebra II assessment and the SAT mathematics test.
Item Format	50 items total: 45 multiple-choice items and 5 gridded-response items	54 items total: 44 multiple choice items and 10 gridded-response items
Administration	- Administered in May, July, and December - Administered online and on paper - Administered by trained school personnel 4 hour time limit	- Administered seven times annually in the United States - Administered on paper - Administered by approved test supervisors and room supervisors - The mathematics test is divided into three sections consisting of two 25-minute sections and one 20-minute section for a total 70 minutes
Performance Standards	Performance standards will be established and implemented in spring 2012	The SAT Mathematics college readiness benchmark is a scale score of 500. It indicates a 65 percent probability of earning a first-year GPA of 2.67 (B-) or higher.