



DOMA: Algebra Assessment Report

Confidential Information

Student: Tom Jacob

Assessment Date: 2/08/2005

Grade: 8.5

Age: 14 yrs 7 months

DOMA (Diagnostic Online Math Assessment) Algebra Overview

DOMA Algebra was built on the Let's Go Learn OAASIS™ platform, which uses adaptive assessment technology to intelligently decide which specific test items will be given to each student. Based on individual student performance during the assessment, *DOMA*, with OAASIS's help, adjusts in difficulty, item selection, and construct selection. These adaptations allow *DOMA* to measure a wide range of student abilities efficiently and accurately.

Part I: Pre-Screening: This section presents students with two questions for each of 11 Algebra constructs that have been determined to encompass the knowledge necessary for success in Algebra I. The 11 Algebra constructs are aligned to NCTM standards. Based on their Pre-Screening results, students may test out of constructs on which they have demonstrated mastery. Constructs in Part II of this assessment may be skipped or abbreviated based on performance.

Part II: Pre-Algebra Constructs: This part of *DOMA* contains the detailed test items that make up each of the 11 Algebra constructs. Construct selection will vary depending on the student's performance. A high error* rate may terminate a construct before a student has completed all of its questions.

*See "Interpreting Algebra Scores." www.letsgolearn.com/media/PDFs/InterAlg.pdf

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Diagnostic Summary - (6 out of 11 constructs mastered)		
Part I - Prescreening 75.1 % Correct		
Prescreening		Results
Part II - Algebra		
	Results	
Eval. Adv. Exponents	●	Solv. & Grap. Sys. of Lin Equ.. ●
Solving Linear Equations.....	●	Polynomial Operations
Graph & Analyze Linear Equ..	●	Factoring Polynomials
Relations & Functions.	●	Radical Expressions & Equ
Solving & Graphing Inequal....	●	Quadratic Expressions
		Rational Expres. & Equ.

Test Question Legend	
+	Tested Correctly
-	Tested Incorrectly
N/T	Not Tested
●	Mastery of Construct*
●	Partial Mastery of Construct*
○	Non-mastery of Construct*

* Mastery of a construct is determined by the student either correctly answering the corresponding pre-screening question or correctly answering 75% or more of the questions in the full construct set. Partial mastery is determined by full construct testing and a percent correct of greater than 50% but less than 75%.

● Construct 1: Evaluating Advanced Exponents

Mastery demonstrated by Pre-Screening

Test Question

	Results
Zero exponent rule	nt
Applying a negative exponent	nt
Multiplying monomials	nt
Dividing monomials	nt
Applying negative exponents to variables	nt
Multiplying in scientific notation	nt
Dividing in scientific notation	nt

● Construct 2: Solving Linear Equations

Mastery demonstrated by Pre-Screening

Test Question

	Results
Solving a multi-step equation	nt
Solving an equation with no solution set	nt
Solving an equation with an infinite solution set.....	nt
Isolating variables.....	nt
Solving a word problem involving percent.....	nt
Solving absolute value equations.....	nt

● Construct 3: Graph and Analyze Linear Equations

Mastery demonstrated by complete construct testing

Test Question

	Results
Graphing an equation	+
Graphing an absolute value equation.....	+
Deriving an equation from a graph	+
Deriving an equation from the y-intercept and slope	+
Deriving an equation from two points	+
Writing an equation for a parallel line	+
Writing an equation for a perpendicular line	+
Verifying a point on a line	+
Determining perimeter of a polygon from coordinates	-

● Construct 4: Relations and Functions

Mastery demonstrated by complete construct testing

Test Question

	Results
Identifying a function from a relation	+
Completing the input/output for a function.....	+
Identifying range/domain	+
Identifying a graph from a relation chart.....	-
Writing a function from data.....	+
Identifying a function from a graph	-
Using a stem and leaf table	+

● Construct 5: Solving and Graphing Inequalities

Mastery demonstrated by complete construct testing

Test Question

	Results
Solving a linear inequality.....	+
Solving an absolute value inequality	+
Solving a compound inequality.....	+
Graphing a two-variable inequality	-
Graphing an inequality system	+

● Construct 6: Solving and Graphing Systems of Linear Equations

Non-mastery demonstrated by construct testing

Test Question

	Results
Solving systems using substitution.....	+
Solving systems using addition	+
Solving systems using subtraction	+
Solving systems using multiplication	-
Identifying parallel line solution sets	-
Identifying infinite solution sets.....	+
Graphing systems	-
Solving three-variable systems	-

○ Construct 7: Polynomial Operations **○ Construct 11: Rational Expressions and Equations**

Non-mastery demonstrated by construct testing

Test Question	Results
Adding polynomials	-
Subtracting polynomials	-
Multiplying a monomial by a polynomial	-
Multiplying polynomials	-
Squaring polynomials	nt
Evaluating a polynomial	nt
Solving polynomial equations	nt
Finding the additive inverse of a polynomial	nt

Non-mastery demonstrated by construct testing

Test Question	Results
Identifying exclusions in the denominator	-
Simplifying rational expressions	-
Multiplying rational expressions	-
Dividing rational expressions	-
Adding rational expressions with like denominators	nt
Subtracting rational expressions with like denominators	nt
Adding rational expressions with unlike denominators	nt
Subtracting rational expressions with unlike denominators	nt
Solving rational equations	nt

○ Construct 8: Factoring Polynomials

Non-mastery demonstrated by construct testing

Test Question	Results
Factoring binomials	-
Factoring polynomials	-
Factoring trinomials	-
Finding the difference of squares	-
Identifying a perfect square trinomial	nt
Identifying a prime polynomials	nt
Solving polynomial equations	nt

○ Construct 9: Radical Expressions and Equations

Mastery demonstrated by complete construct testing

Test Question	Results
Simplifying radical expressions without variables ..	+
Simplifying radical expressions with variables	+
Rationalizing the denominator of a rational expression	+
Adding radical expressions	-
Subtracting radical expressions	+
Multiplying radical expressions	+
Solving radical equations	-

○ Construct 10: Quadratic Equations

Mastery demonstrated by complete construct testing

Test Question	Results
Finding the axis of symmetry of a quadratic equation	+
Finding the vertex coordinates of a quadratic equation	+
Finding the x-intercepts of a quadratic equation	+
Graphing quadratic equations	+
Identifying a perfect square trinomial	+
Completing the square of a quadratic equation	+
Solving quadratic equations	-