



# DOMA Pre-Algebra Assessment Report

## Confidential Information

**Student: Anna Santos**

**Assessment Date: 2/08/2005**

**Grade: 7.5**

**Age: 12 yrs 7 months**

### **DOMA (Diagnostic Online Math Assessment) Pre-Algebra Overview**

*DOMA Pre-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 one question for each of 14 Pre-Algebra constructs that have been determined to encompass the prerequisite knowledge necessary for success in Algebra I. The 14 Pre-Algebra constructs are aligned to NCTM standards. The majority of the questions in this section require students to key in answers, thus reducing the chance that they will guess correct answers, which can skew results. Based on the 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 14 Pre-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.

**Part III: Foundation Skills:** If students' errors demonstrate a possible deficit in multiplication math facts or reading comprehension, this section is given. Otherwise, it will be skipped.

\*See "Interpreting Pre-Algebra Scores." [www.letsgolearn.com/media/PDFs/InterPreA.pdf](http://www.letsgolearn.com/media/PDFs/InterPreA.pdf)

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Diagnostic Summary - ( 8 out of 14 constructs mastered )			
<b>Part I - Prescreening</b> 21.4% Correct		<b>Results</b>	
Prescreening .....		Coordinate Graphing ..... ●	
<b>Part II - Pre-Algebra</b>		<b>Results</b>	
Integer Operations .....	●	Linear Func. & Exte. Pat. .... ●	
Fraction Operations .....	●	Simplifying Expressions ..... ○	
Decimal Operations .....	●	Geometry..... ●	
Comparing & Conversion. ....	●	Interpreting Data..... ○	
Estimating & Rounding.....	●	Simple Probabilty ..... ○	
Evaluating Exponents.....	●	<b>Part III - Foundation Skills</b> % Correct	
Ratios and Proportions.....	○	Timed Multi. Math Facts .....	65.4
Simplifying Expressions .....	○	Untimed Mult. Math Facts .....	88.5
		Reading comprehension .....	66.5

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: Integer Operations**

Mastery demonstrated by Pre-Screening

Test Question	Results
Adding two positive numbers .....	nt
Subtracting two positive numbers .....	nt
Multiplying two positive numbers.....	nt
Adding a positive and a negative .....	nt
Adding two negative numbers .....	nt
Subtracting a negative and a positive .....	nt
Subtracting two negative numbers .....	nt
Dividing two negative numbers .....	nt
Multiplying a positive and a negative.....	nt
Dividing a positive and a negative.....	nt
Absolute value.....	nt

Subtracting decimals, different place values .....	+
Multiplying decimals (vertically written) .....	+
Multiplying decimals (horizontally written) .....	+
Dividing a whole number by a whole number (decimal answer) .....	+
Dividing a whole number by a decimal.....	+
Dividing a decimal by a decimal .....	-

● **Construct 2: Fraction Operations**

Mastery demonstrated by Pre-Screening

Test Question	Results
Fraction identification .....	nt
Simplifying fractions .....	nt
Adding fractions with the same denominator .....	nt
Subtracting fractions with the same denominator ..	nt
Adding fractions with different denominators.....	nt
Subtracting fractions with different denominators...	nt
Multiplying fractions .....	nt
Dividing fractions .....	nt
Adding mixed numbers with regrouping .....	nt
Subtracting mixed numbers with regrouping .....	nt
Multiplying mixed numbers .....	nt
Dividing mixed numbers .....	nt

● **Construct 4: Comparing and Converting**

Mastery demonstrated by complete construct testing

Test Question	Results
Converting a fraction to a decimal.....	+
Converting a decimal to a fraction.....	+
Converting a decimal to a percent.....	+
Converting a percent to a decimal.....	+
Converting a percent to a fraction .....	+
Converting a fraction to a percent .....	-
Ordering fractions.....	+
Ordering mixed numbers.....	+
Ordering fractions, decimals, and percents.....	-
Ordering fractions, decimals, and percents.....	+

● **Construct 3: Decimal Operations**

Mastery demonstrated by complete construct testing

Test Question	Results
Adding decimals, same place values .....	+
Adding decimals, different place values .....	+
Subtracting decimals, same place values .....	+

● **Construct 5: Estimating and Rounding**

Mastery demonstrated by complete construct testing

Test Question	Results
Estimating measurement.....	+
Estimating measurement (metric) .....	+
Rounding whole numbers (hundreds) .....	+
Rounding whole numbers (ten-millions) .....	+
Rounding decimals (hundredths) .....	+
Rounding decimals (ten-thousandths).....	-

**Construct 6: Evaluating Exponents**

Partial mastery demonstrated by construct testing

Test Question	Results
Knowledge of base and exponent .....	+
Definition of base .....	+
Definition of exponent .....	+
Evaluating exponents .....	-
Scientific notation (converting to) .....	-
Scientific notation (converting from) .....	-

Solving for one variable, harder equation .....	+
Completing an input/output for a function .....	-

**Construct 7: Ratios and Proportions**

Non-mastery demonstrated by construct testing

Test Question	Results
Writing as a ratio from a word problem .....	-
Solving proportions (using : symbol) .....	-
Solving proportions (using fractions) .....	-
Solving proportions, word problem .....	nt
Rewriting a proportion as a percent .....	nt

**Construct 8: Simplifying Expressions**

Non-mastery demonstrated by construct testing

Test Question	Results
Order of operations (simple) .....	-
Order of operations (harder) .....	-
Parentheses .....	-
Simplifying with variables .....	-
Simplifying with variables and parentheses .....	nt
Simplifying with variables and exponents .....	nt

**Construct 9: Coordinate Graphing**

Mastery demonstrated by complete construct testing

Test Question	Results
Knowledge of quadrants .....	+
Knowledge of quadrants .....	+
Point identification .....	+
Point identification .....	+
Knowledge of line equations .....	+
Knowledge of slope .....	+
Knowledge of y-intercept .....	-
Knowledge of line equations .....	-

**Construct 10: Linear Functions and Extending Patterns**

Mastery demonstrated by complete construct testing

Test Question	Results
Number patterns .....	+
Number patterns as a data chart .....	+
Complex number patterns .....	+
Identifying the graph of an input/output table .....	+
Solving for one variable, basic equation .....	+
Solving for one variable, fraction in equation .....	+

**Construct 11: Simple Equations**

Non-mastery demonstrated by construct testing

Test Question	Results
Solving one-step equations, add/sub .....	-
Solving one-step equations, add/sub .....	-
Solving one-step equations, mult/div .....	-
Solving one-step equations, ratio .....	nt
Solving two-step equations .....	nt
Solving two-step equations, harder .....	nt

**Construct 12: Geometry**

Mastery demonstrated by Pre-Screening

Test Question	Results
Finding perimeter of a rectangle .....	nt
Finding area of a square .....	nt
Finding area of a rectangle .....	nt
Finding missing angle measurement of a triangle ..	nt
Finding area of a triangle .....	nt
Solving a triangle .....	nt
Finding missing angle measurement of a circle .....	nt
Finding perimeter of a circle .....	nt
Finding area of a circle .....	nt
Finding surface area of a rectangular prism .....	nt
Finding volume of a cylinder .....	nt

**Construct 13: Interpreting Data**

Non-mastery demonstrated by construct testing

Test Question	Results
Reading a bar graph .....	+
Reading a bar graph and finding a range .....	+
Reading a pie graph .....	-
Reading a table, performing a calculation .....	+
Reading a table, drawing a conclusion .....	-
Finding the sample space of a data set .....	-
Finding an average of a data set .....	-
Finding the mean of a data set .....	-
Finding the median of a data set .....	nt
Finding the mode of a data set .....	nt

**Construct 14: Simple Probability**

Non-mastery demonstrated by construct testing

Test Question	Results
Probability rule .....	+
General rule of a coin flip .....	-
Probability of a coin flip .....	-
Probability of dice .....	-
Simple probability .....	-
Simple probability .....	nt
Simple probability .....	nt