



## Understanding and Interpreting the Let's Go Learn

### *DOMA: Algebra I*

**Overview:** The *Diagnostic Online Math Assessment (DOMA) Algebra I* 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 pre-screening and assessment, *DOMA*, with OAASIS's help, adjusts in item and construct selection. The purpose of OAASIS is to maximize the diagnostic range of the assessment in the fewest number of questions presented to a student.

**Test Duration:** Our philosophy in designing *DOMA Algebra I* was to create a valid and reliable assessment. However, this cannot be achieved as a “quick” assessment. When completed, the assessment will provide teachers with solid diagnostic information on the students who have taken it. As you prepare to administer *DOMA Algebra I*, please keep the following in mind:

- On average, this assessment will take between 30 and 60 minutes to complete. Struggling students with more gaps in their abilities may take longer.
- Choose a testing duration appropriate for your class. This assessment can be taken in multiple sittings. *DOMA Algebra I* can be stopped at any time, and when resumed, it will continue where your students have left off.
- The biggest variable in student assessment is the student himself or herself. Be sure to stress to students the seriousness of taking this diagnostic assessment and monitor them as they are being assessed. Watch for fatigue; stop the assessment if you feel it is necessary and continue later.

**Pre-Screening:** *DOMA Algebra I* uses a 22-question Pre-Screening test in order to help reduce testing time and test fatigue. Each of the 11 constructs of *DOMA Algebra I* is represented by a pair of questions in the pre-screening. This pair reflects the most difficult questions within that construct. If the student correctly answers both of a pair of pre-screening questions, the corresponding construct is not tested in its entirety; instead it is assumed that the student has mastery of that construct. But if the student misses one or both of the pair, then the construct is tested completely. Because the *DOMA Algebra I* Pre-Screening is a multiple-choice test, it uses pairs of questions to increase its validity and reduce the possibility of a good-luck guess. The *DOMA Algebra I* report will note whether mastery is demonstrated by the pre-screening or through complete construct assessment.

**How the Constructs are Organized:** *DOMA Algebra I* is comprised of 11 testing constructs that represent curriculum content usually covered during a complete Algebra I class. These constructs are listed below in the order in which they are organized in the assessment:

- Evaluating Advanced Exponents
- Solving Linear Equations
- Graphing and Analyzing Linear Equations
- Relations and Functions

- Solving and Graphing Inequalities
- Solving and Graphing Systems of Linear Equations
- Polynomial Equations
- Factoring Polynomials
- Radical Expressions and Equations
- Quadratic Equations
- Rational Expressions and Equations

The order of the report is also the order in which the strands reside in the test item banks. Each construct represents a set of questions, containing a minimum of 5 to a maximum of 9 questions. Each question represents a specific sub-skill that is a part of the construct. The reason we use sets of questions is to increase the validity of our assessments in making judgments of mastery or non-mastery on any particular construct. This reduces the risk that a single incorrectly answered question will skew the results.

**How to Read the Construct Mastery Report:** When reading the Construct Mastery Report, you will find several important pieces of information:

- The first thing you will notice on the Construct Mastery Report is a brief summary of the pre-screening giving the percentage correct. This will give you an overall understanding of the student's success on this assessment.
- For quick reference, each numbered construct heading is marked with either a **green filled circle** (indicating mastery), a **yellow half-filled circle** (indicating partial mastery), or a **red empty circle** (indicating non-mastery).
- Under each numbered construct heading you will find a red result sentence, indicating mastery or non-mastery of the construct. You will find one of these three result sentences:
  - **Mastery demonstrated by Pre-Screening.** This indicates that the student successfully answered the pair of pre-screening questions, and the individual sub-skills were not tested.
  - **Mastery demonstrated by complete construct testing.** This indicates that the student did not answer one or both pre-screening questions correctly, but after having answered all the construct questions, showed mastery of the sub-skill with a score of 66.6% or higher.
  - **Non-Mastery demonstrated by construct testing.** This indicates that the student did not answer the pre-screening questions correctly and also failed to answer 66.6% of the construct questions correctly.
- In the Construct Mastery Report, each of the 11 constructs is broken down further into individual testing sub-skills. Next to each construct, you will find one of three marks:
  - nt : "nt" indicates that the sub-skill was not tested, either because the student correctly answered the pre-screening questions for the construct in which it was located, or because the student reached a ceiling of knowledge in that construct.



If a student misses either 4 construct questions in a row or misses 50% or more of the construct questions, the testing of that sub-skill stops to reduce frustrating the student and causing test fatigue.

- ( + ) : A plus sign indicates that the sub-skill was tested and that the student answered correctly.
- ( - ) : A negative sign indicates that the sub-skill was tested but that the student did not answer correctly.

***How Valid are the Results for Questions and Constructs?:***

- On the question level, treat a (+), (-), or (nt) response as a screening indicator for any particular sub-skill. Due to practical limits for total test time, multiple questions cannot be asked for each question sub-skill. Thus, at the question level, *DOMA Algebra 1* results are only a “screening.” Teachers may want to follow up with additional evaluations if they wish to determine definitive mastery or non-mastery of individual sub-skills.
- On the construct level, the “mastery”, “partial mastery”, or “non-mastery” indication is diagnostic and thus can be interpreted with a high degree of certainty. Each construct uses multiple questions to determine its results. Or in the case of “pre-screening mastery,” the most difficult sub-skill questions are used to test the student’s knowledge.

***What This Means for Instruction:*** When planning differentiated instruction for students based on the *DOMA Algebra I* test, use the following guidelines:

- Instruction should begin with non-mastered constructs (indicated by a red “priority” flag), as these show areas where students have not mastered Algebra I knowledge.
- Also, pay attention to gaps in knowledge, indicated by negative signs next to sub-skills within mastered constructs. These gaps could be preventing students from advancing.

**Happy Assessing!**