# Math GOALS 2 Content Standard Blueprint

The CASAS Math GOALS 2 series is an assessment of mathematics for Adult Basic Education (ABE) and Adult Secondary Education (ASE) learners. This document provides information about the content coverage of each set of parallel forms in the test series. Math GOALS 2 is aligned to the College and Career Reading Standards (CCRS) for Adult Education and the mathematics standards of the National Reporting System's (NRS) Education Functioning Level Descriptors for Adult Basic Education (ABE). The blueprints on the following pages show the content coverage of the forms organized into content areas. These content areas are *Number Sense and Operations, Algebraic Thinking, Geometry and Measurement,* and *Data Analysis, Statistics, and Probability.* Under each content area is additional information about the specific content covered. Each content area was designed to be descriptive and concise to help people of various backgrounds in mathematics understand what the series is assessing. Additionally, CASAS has provided an alignment of the content areas to the CCRS. Below is a list of the CCRS sections covered by the series under each CASAS Content Area and a list of abbreviations that refer to the CCRS. These abbreviations are drawn from the CCRS.

| Content Area and CCRS Content Descriptions | CCRS Abbreviation |
|---|---|
| **Number Sense and Operations** | |
| Number and Operations: Base Ten | NBT |
| Number and Operations: Fractions | NOF |
| Number System | NS |
| Ratios and Proportional Relationships | RPR |
| Number and Quantity: The Real Number System | RN |
| **Algebraic Thinking** | |
| Operations and Algebraic Thinking | OA |
| Expressions and Equations | EE |
| Functions | F |
| Algebra: Arithmetic and Polynomials and Rational Exponents | A.APR |
| Algebra: Reasoning with Equations and Inequalities | A.REI |
| Algebra: Creating Equations | A.CED |
| Functions: Interpreting Functions | F.IF |
| Functions: Linear, Quadratic, and Exponential Models | F.LE |
| **Geometry and Measurement** | |
| Geometry | G |
| Measurement and Data | MD |
| Geometry: Congruence | G.CO |
| Geometry: Similarity, Right Triangles, and Trigonometry | G.SRT |
| Geometry: Geometric Measurement and Dimension | G.GMD |
| Geometry: Modeling with Geometry | G.MG |
| **Data Analysis, Statistics, and Probability** | |
| Measurement and Data | MD |
| Statistics and Probability | SP |
| Statistics and Probability: Interpreting Categorical and Quantitative Data | S.ID |

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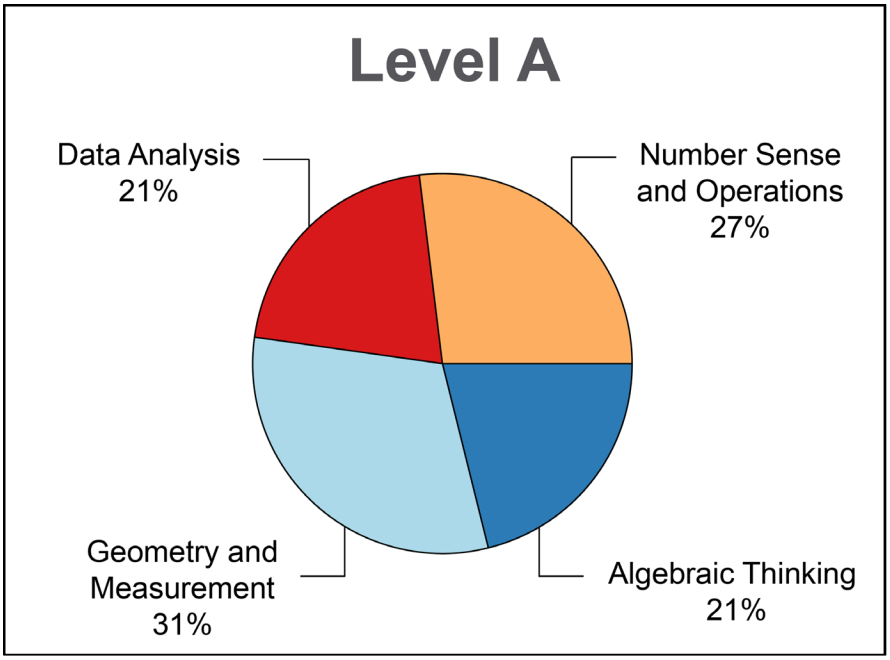


| *NRS Educational Functioning Levels* | *College and Career Readiness Standards (CCRS)* |
|---|---|
| Levels 1 and 2 | Levels A and B |

| Content Area | CCRS | % of test items |
|---|---|---|
| **Number Sense and Operations**<br>Understand place value<br>Compute using the four operations | NBT | 27% |
| **Algebraic Thinking**<br>Apply properties of the four operations<br>Determine unknown numbers | OA | 21% |
| **Geometry and Measurement**<br>Compare shapes<br>Solve perimeter and area problems<br>Measure with non-standard and metric units<br>Solve problems using time and liquid volumes | G<br>MD | 31% |
| **Data Analysis**<br>Interpret simple data sets, bar graphs and line graphs<br>Solve one- and two-step problems using bar graphs | MD | 21% |

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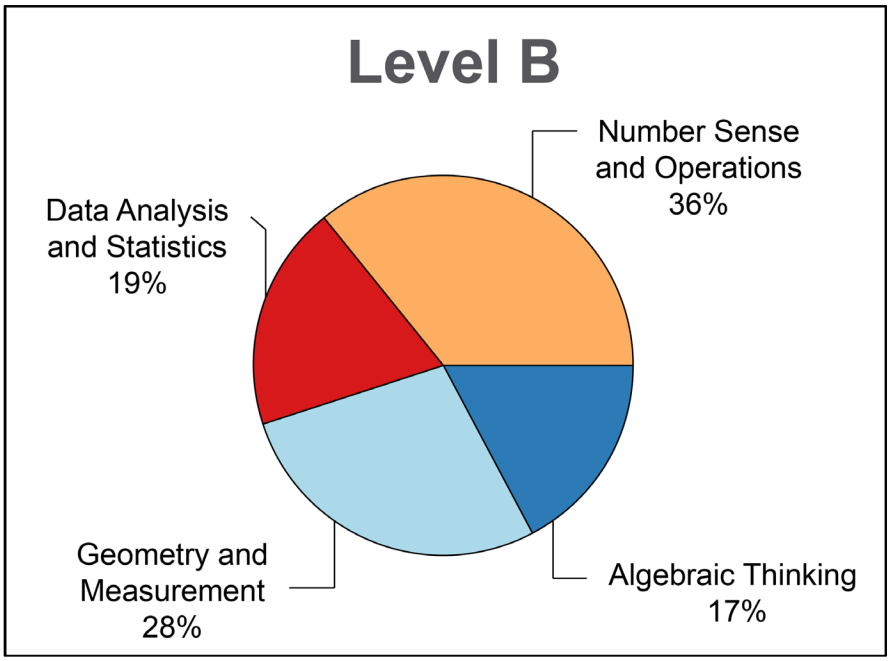


| *NRS Educational Functioning Levels* | *College and Career Readiness Standards (CCRS)* |
|---|---|
| Levels 2 and 3 | Levels B and C |

| Content Areas | CCRS | % of test items |
|---|---|---|
| **Number Sense and Operations**<br>Understand place value for whole numbers and decimals<br>Compute using the four operations<br>Perform operations with whole numbers, decimals, and fractions<br>Understand ratio concepts and use ratios to solve problems | NBT<br>NOF<br>NS<br>RPR | 36% |
| **Algebraic Thinking**<br>Apply properties of the four operations<br>Use a symbol to represent variables, and solve simple one-variable equations | OA<br>EE | 17% |
| **Geometry and Measurement**<br>Solve perimeter and area problems<br>Measure with non-standard and metric units, and convert within a given measurement system<br>Solve measurement word problems, including with time and volumes | G<br>MD | 28% |
| **Data Analysis and Statistics**<br>Interpret simple data sets, bar graphs, line graphs, and histograms<br>Solve one- and two-step problems using bar graphs<br>Understand statistical variability concepts like center and spread | MD<br>SP | 19% |

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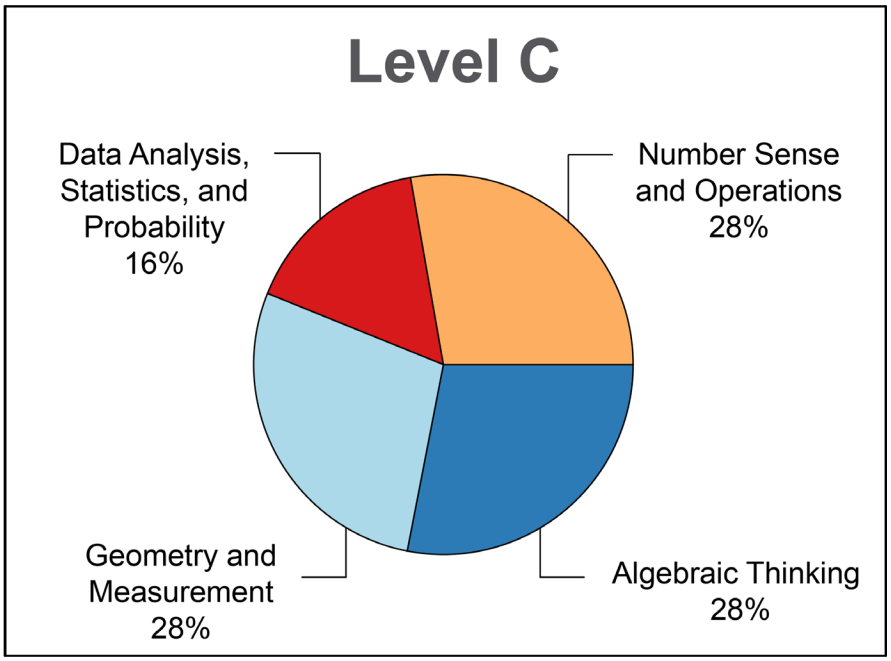


*NRS Educational Functioning Levels*
Levels 3 and 4

*College and Career Readiness Standards (CCRS)*
Levels C and D

| Content Area | CCRS | % of test items |
|---|---|---|
| **Number Sense and Operations**<br>Perform the four operations with whole numbers, decimals, and fractions<br>Understand ratio, rate, and percent concepts<br>Understand properties of integer exponents | NBT<br>NOF<br>NS<br>RPR | 28% |
| **Algebraic Thinking**<br>Solve simple one-variable equations and simple inequalities<br>Understand relationships between dependent and independent variables<br>Understand proportional relationships and linear equations | OA<br>EE | 28% |
| **Geometry and Measurement**<br>Solve problems involving perimeter, area, surface area, and volume<br>Solve problems with measurement and scale drawings<br>Understand the Pythagorean theorem and concepts of congruence and similarity | G<br>MD | 28% |
| **Data Analysis, Statistics, and Probability**<br>Understand statistical variability concepts like center and spread, and recognize deviations from patterns<br>Understand and apply the concept of probability | MD<br>SP | 16% |

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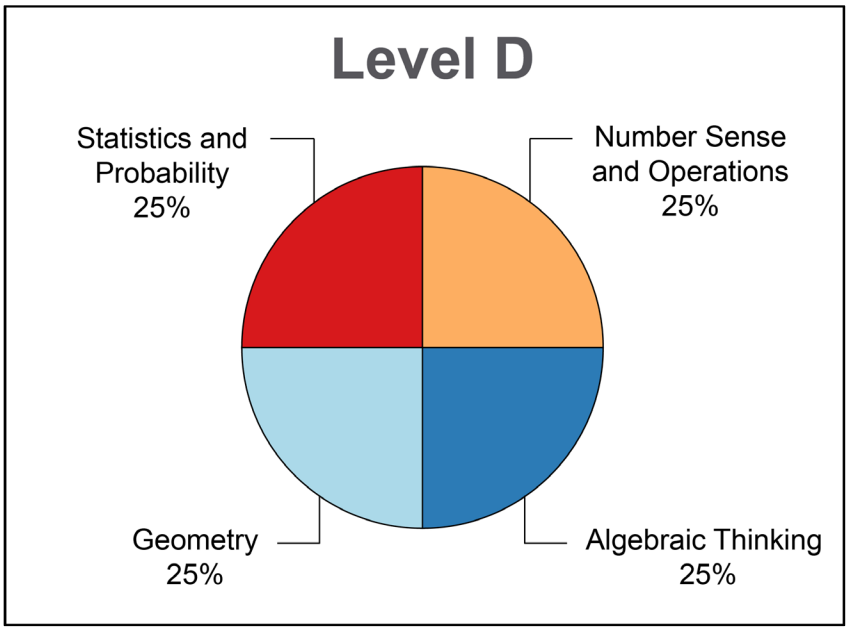


| *NRS Educational Functioning Levels* | *College and Career Readiness Standards (CCRS)* |
|---|---|
| Levels 4 and 5 | Level D |

| Content Area | CCRS | % of test items |
|---|---|---|
| **Number Sense and Operations**<br>Solve real-world mathematical problems involving the four operations and rational numbers<br>Understand ratio, rate, and percent concepts<br>Understand properties of integer exponents, square roots, and cube roots | NS | 25% |
| **Algebraic Thinking**<br>Solve problems involving proportional relationships, linear equations, and pairs of simultaneous linear equations<br>Use algebraic expressions to solve real-world mathematical problems<br>Use linear functions to model relationships between quantities | EE<br>F | 25% |
| **Geometry**<br>Compare shapes<br>Solve real-world problems involving volume and surface area<br>Solve problems with measurement and scale drawings<br>Understand the Pythagorean theorem and concepts of congruence and similarity | G | 25% |
| **Statistics and Probability**<br>Understand statistical variability concepts and recognize deviations<br>Understand and apply the concept of probability<br>Use 2-way tables to interpret bivariate data | SP | 25% |

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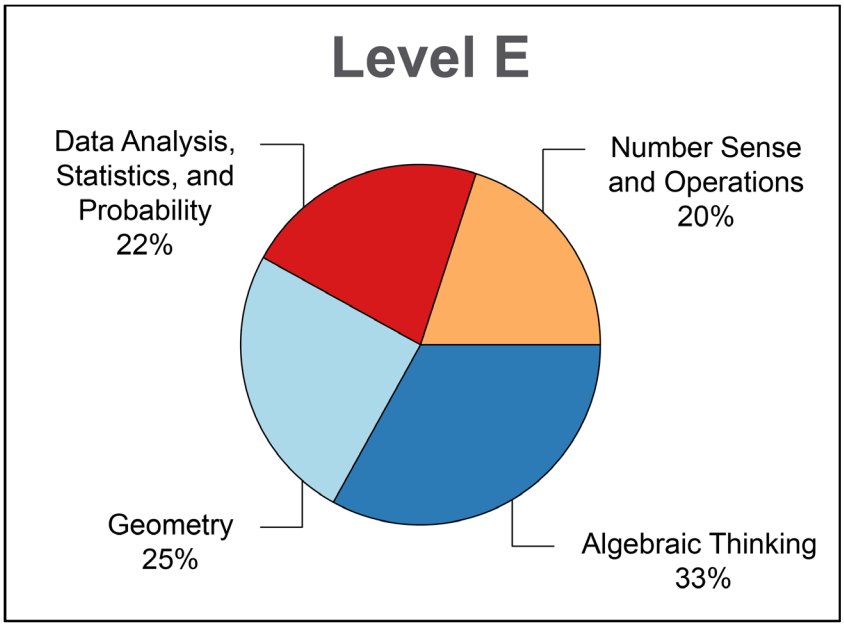


| *NRS Educational Functioning Levels* | *College and Career Readiness Standards (CCRS)* |
|---|---|
| Levels 5 and 6 | Levels D and E |

| Content Area | CCRS | % of test items |
|---|---|---|
| **Number Sense and Operations**<br>Solve multi-step problems using rates and proportional relationships<br>Understand radicals and irrational numbers | NS<br>RN | 20% |
| **Algebraic Thinking**<br>Solve problems involving inequalities, pairs of simultaneous linear equations, and quadratic expressions<br>Understand and use function notation<br>Rearrange formulas to highlight a quantity of interest | EE<br>F<br>A.APR<br>A.REI<br>A.CED<br>F.LE<br>F.IF | 33% |
| **Geometry**<br>Solve real-world problems involving volume and surface area<br>Apply the Pythagorean theorem in real-world contexts and on the coordinate plane<br>Solve problems involving similarity and congruence<br>Understand the concept of density based on area and volume | G<br>G.CO<br>G.SRT<br>G.GMD<br>G.MG | 25% |
| **Data Analysis, Statistics, and Probability**<br>Understand and apply the concept of probability<br>Use 2-way tables to interpret bivariate data<br>Interpret and compare data sets, including comparisons of statistical variability | SP<br>S.ID | 22% |