ACT Math Test Content

(60 Minutes – 60 Questions)

Students have 60 minutes to complete 60 multiple-choice questions that are presented across eight reporting categories. The math test measures students' proficiency in Algebra, Numbers and Quantity, Functions, Geometry, Statistics and Probability and Modeling. Knowledge in essential math skills (i.e. percentages, proportional relationships) is also tested.

I.   **Preparing for Higher Math (57–60%)** **Approx. 35 Questions**

- Number & Quantity (7–10%): Demonstrate knowledge of real and complex number systems. Students will understand and reason with numerical quantities in many forms, including integer and rational exponents, and vectors and matrices.

- Algebra (12–15%): Solve, graph, and model multiple types of expressions. Students will employ many different kinds of equations, including but not limited to linear, polynomial, radical, and exponential relationships. The student will find solutions to systems of equations, even when represented by simple matrices, and apply their knowledge to applications.

- Functions (12–15%): The questions in this category test knowledge of function definition, notation, representation, and application. Questions may include but are not limited to linear, radical, piecewise, polynomial, and logarithmic functions. Students will manipulate and translate functions, as well as find and apply important features of graphs.

- Geometry (12–15%): Define and apply knowledge of shapes and solids, such as congruence and similarity relationships or surface area and volume measurements. Understand composition of objects, and solve for missing values in triangles, circles, and other figures, including using trigonometric ratios and equations of conic sections.

- Statistics & Probability (8–12%): Describe center and spread of distributions, apply and analyze data collection methods, understand and model relationships in bivariate data, and calculate probabilities, including the related sample spaces.

II.   **Integrating Essential Skills (40–43%)** **Approx. 24 Questions**

These questions address concepts typically learned before 8th grade, such as rates and percentages; proportional relationships; area, surface area, and volume; average and median; and expressing numbers in different ways. Students will solve problems of increasing complexity, combine skills in longer chains of steps, apply skills in more varied contexts, understand more connections, and become more fluent.

III.   **Modeling (>25%)** **Approx. > 28 Questions**

This category represents all questions that involve producing, interpreting, understanding, evaluating, and improving models. Each question is also counted in other appropriate reporting categories above. This category is an overall measure of how well students use modeling skills across mathematical topics.

Students have 45 minutes to complete 75 multiple-choice questions that are presented in five essay or passages. The English measure students understanding of the Conventions of Standard English (punctuation, usage, and sentence structure), production of writing (topic development, organization, unity, and cohesion), and knowledge of language (word choice, style, and tone).

Three reporting categories – Production of Writing, Knowledge of Language and Conventions of Standard English

1. Topic development; organization, unity, and cohesion;
2. Knowledge of language: precision in word choice, consistency in style
3. Punctuation: grammar, usage, sentence structure/formation.

I. **Production of Writing (29–32%) | 21-24 Questions**

Require students to apply their **understanding of the purpose and focus** of a piece of writing.

- Topic Development: Demonstrate an understanding of, and control over, the rhetorical aspects of texts. Identify the purposes of parts of texts, determine whether a text or part of a text has met its intended goal, and evaluate the relevance of material in terms of a text's focus.

- Organization, Unity, and Cohesion: Use various strategies to ensure that a text is logically organized, flows smoothly, and has an effective introduction and conclusion.

II.   Knowledge of Language (13–19%) | 9 – 14 Questions

Demonstrate effective language use through ensuring **precision and concision** in word choice and maintaining consistency in style and tone

III.   Conventions of Standard English (51–56%) | 38 – 42 Questions

Require students to apply an understanding of the conventions of Standard English **grammar, usage, and mechanics to revise and edit text.**

- Sentence Structure and Formation: Apply understanding of sentence structure and formation in a text and to make revisions to improve the writing.

- Punctuation: Recognize common problems with Standard English punctuation and to make revisions to improve the writing.

- Usage: Recognize common problems with standard English usage in a text and to make revisions to improve the writing.