

North Carolina Tutorials are designed specifically for the Common Core State Standards for English language arts, the North Carolina Standard Course of Study for Math, and the North Carolina Essential Standards, to prepare students for the READY End-of-Course Assessments.

Math Tutorials offer targeted instruction, practice and review designed to develop computational fluency, deepen conceptual understanding, and apply mathematical practices. They automatically identify and address learning gaps down to elementary-level content, using adaptive remediation to bring students to grade-level no matter where they start. Students engage with the content in an interactive, feedback-rich environment as they progress through standards-aligned modules. By constantly honing the ability to apply their knowledge in abstract and real world scenarios, students build the depth of knowledge and higher order skills required to demonstrate their mastery when put to the test.

In each module, the Learn It and Try It make complex ideas accessible to students through focused content, modeled logic and process, multi-modal representations, and personalized feedback as students reason through increasingly challenging problems. The Review It offers a high impact summary of key concepts and relates those concepts to students' lives. The Test It assesses students' mastery of the module's concepts, providing granular performance data to students and teachers after each attempt. To help students focus on the content most relevant to them, unit-level pretests and posttests can quickly identify where students are strong and where they're still learning.

### Unit 1: Real Number System

- OPERATIONS ON RATIONAL AND IRRATIONAL NUMBERS
- MONITORING PRECISION AND ACCURACY

### Unit 2: Equations and Inequalities

- FORMULATING AND SOLVING EQUATIONS FROM WORD PROBLEMS
- FORMULATING AND SOLVING INEQUALITIES FROM WORD PROBLEMS
- AXIOMS OF EQUALITY
- LITERAL EQUATIONS

### Unit 3: Introduction to Functions

- FUNCTIONS AND RELATIONS
- DOMAIN AND RANGE
- EVALUATING FUNCTIONS

### Unit 4: Functions

- MULTIPLE REPRESENTATIONS OF FUNCTIONS

- ARITHMETIC OPERATIONS ON FUNCTIONS

- INVERSE FUNCTIONS

#### Unit 5: Polynomial Expressions

- POLYNOMIAL BASICS
- ADDITION AND SUBTRACTION OF POLYNOMIALS
- MULTIPLICATION OF POLYNOMIALS
- DIVISION OF POLYNOMIALS

#### Unit 6: Representations of Quadratic Functions

- REPRESENTATIONS OF QUADRATIC FUNCTIONS
- ANALYZING GRAPHS OF QUADRATIC FUNCTIONS

#### Unit 7: Quadratic Functions

- SOLVING QUADRATIC FUNCTIONS WITH FACTORING
- COMPLETING THE SQUARE
- QUADRATIC FORMULA

#### Unit 8: Complex Numbers

- COMPLEX NUMBERS
- COMPLEX NUMBERS AND QUADRATIC FUNCTIONS

#### Unit 9: Exponential Functions

- EXPONENTIAL GROWTH AND DECAY
- SOLVING EXPONENTIAL EQUATIONS

#### Unit 10: Logarithmic Functions

- LOGARITHMIC FUNCTIONS
- EVALUATING LOGARITHMIC EXPRESSIONS
- SOLVING LOGARITHMIC EQUATIONS

#### Unit 11: Factoring and the Factor Theorem

- FACTORING CUBIC POLYNOMIALS
- FACTORING HIGHER-ORDER POLYNOMIALS
- FACTOR THEOREM AND REMAINDER THEOREM

#### Unit 12: Polynomials and Polynomial Identities

- GRAPHS OF POLYNOMIAL FUNCTIONS
- POLYNOMIAL IDENTITIES
- POLYNOMIAL IDENTITIES AND COMPLEX NUMBERS

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**Unit 13: Parent Functions and Transformations**

- PARENT FUNCTIONS
- TRANSFORMATIONS OF PARENT FUNCTIONS
- MULTIPLE TRANSFORMATIONS OF PARENT FUNCTIONS

**Unit 14: Radical Equations and Functions**

- ANALYZING GRAPHS OF SQUARE ROOT FUNCTIONS
- SOLVING SQUARE ROOT EQUATIONS

**Unit 15: Rational Expressions, Equations, and Functions**

- OPERATIONS WITH RATIONAL EXPRESSIONS
- ANALYZING GRAPHS OF RATIONAL FUNCTIONS
- SOLVING RATIONAL EQUATIONS
- MODELING SITUATIONS WITH RATIONAL FUNCTIONS

**Unit 16: Nonlinear Equations**

- CIRCLES
- PARABOLAS
- SYSTEMS OF NONLINEAR EQUATIONS

**Unit 17: Sequences**

- SEQUENCES
- ARITHMETIC AND GEOMETRIC SEQUENCES
- SUMS OF GEOMETRIC SEQUENCES

**Unit 18: Lines and Bisectors**

- PARALLEL LINES AND ANGLE RELATIONSHIPS
- PERPENDICULAR BISECTOR AND ANGLE BISECTOR THEOREMS

**Unit 19: Triangles**

- TRIANGLE ANGLE THEOREMS
- MEDIANS AND ALTITUDES OF TRIANGLES
- TRIANGLE BISECTORS

**Unit 20: Triangles and Trigonometry**

- PYTHAGOREAN THEOREM
- RADIANS AND THE UNIT CIRCLE
- TRIGONOMETRIC FUNCTIONS

**Unit 21: Quadrilaterals**

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- PARALLELOGRAMS AND RECTANGLES
  - SQUARES AND RHOMBI

**Unit 22: Circles**

- CIRCLE BASICS
- CENTRAL ANGLES, INSCRIBED ANGLES, AND CHORDS
- SECANTS, ANGLES, AND INTERCEPTED ARCS
- TANGENTS, ANGLES, AND INTERCEPTED ARCS

**Unit 23: Properties of Circles**

- CONGRUENT AND SIMILAR CIRCLES
- AREA OF CIRCLES AND SECTORS

**Unit 24: Similarity**

- TRIANGLES AND SIMILARITY TRANSFORMATIONS
- SIMILARITY OF OTHER POLYGONS

**Unit 25: Topics in Geometry**

- CONSTRUCTIONS
- MODELING SITUATIONS WITH GEOMETRY

**Unit 26: Statistics and Probability**

- ANALYZING STATISTICAL SAMPLES
- EXPERIMENTAL AND OBSERVATIONAL DESIGN
- CONCLUSIONS IN DATA
- NORMAL DISTRIBUTION
- ANALYZING DECISIONS IN PROBABILITY