

Math ISAT: Algebra, Functions, and Mathematical Models

Skills: Equations and Inequalities

Students:

RIT Above 260:

- Writes linear equations, given slope and point on a line
- Rewrites a complex formula to solve for a specific variable
- Solves polynomial inequalities
- Solves polynomial equations with fractions as exponents
- Solves polynomial equations and inequalities with absolute value
- Solves quadratic equations by completing the square
- Solves quadratic equations using the quadratic formula

Students:

RIT 251-260:

- Uses algebraic terms appropriately (e.g., "equation," "inequality," "variable," "expression," "term," "coefficient," "domain," "range")
- Writes equivalent forms of algebraic equations using multiplication and division
- Writes linear equations, given two points on a line
- Uses polynomial equations to solve complex theoretical problems (e.g., using distributive property, variables on both sides)
- Solves problems involving consecutive numbers
- Uses polynomial equations to solve area and perimeter problems
- Rewrites a complex formula to solve for a specific variable
- Rewrites an equation for a line in standard form
- Solves equations using rational numbers
- Solves polynomial equations (e.g., $ax = b + cx$, $a(x + b) = c$, $ax + b = cx + d$, $a(bx + c) = d(ex + f)$, $a/x = b$)
- Rewrites an equation as a first step in factoring
- Solves polynomial equations using binomial expansion
- Solves polynomial equations with integers as exponents
- Solves polynomial equations and inequalities with absolute value
- Identifies discriminants and roots
- Solves quadratic equations by factoring
- Solves quadratic equations by completing the square
- Solves inequalities using number lines

Students:

RIT 241-250:

- Solves 2-step open sentences with missing factors (variables on both sides of the sentence)
- Solves open sentences with fractions
- Solves linear equations with fractions
- Applies algebraic methods to solve real-world problems
- Uses polynomial equations to solve complex real-world problems (e.g., using distributive property, variables on both sides)
- Solves problems involving consecutive numbers
- Solves equations using rational numbers
- Solves simple inequalities using number lines

Students:

RIT 231-240:

- Solves 2-step open sentences with missing factors (variables on both sides of the sentence)
- Solves open sentences with integers
- Solves 2-step linear equations
- Solves linear equations with decimals
- Solves linear equations with integers
- Solves linear equations with fractions
- Applies algebraic methods to solve real-world problems
- Uses polynomial equations to solve complex real-world problems (e.g., using distributive property, variables on both sides)
- Solves simple inequalities with rational number solutions
- Recognizes commutative, associative, distributive, symmetric, transitive, and reflexive properties
- Solves equations using rational numbers
- Solves simple inequalities using graphs

Students:

RIT 221-230:

- Solves open sentences with calculations on both sides of the sentence
- Solves 2-step open sentences with missing factors
- Solves simple inequality open sentences
- Solves open sentences with decimals
- Solves open sentences with integers
- Solves 1-step linear equations
- Solves 2-step linear equations
- Solves linear equations with decimals
- Solves linear equations with integers
- Solves linear equations using substitution
- Writes equivalent forms of algebraic equations using addition and subtraction

Math ISAT: Algebra, Functions, and Mathematical Models

Skills: Equations and Inequalities

- Applies algebraic methods to solve theoretical problems
- Applies algebraic methods to solve real-world problems
- Solves linear equations in a real-world context using a given formula
- Recognizes commutative, associative, distributive, symmetric, transitive, and reflexive properties

Students:

RIT 211-220:

- Uses algebraic reasoning to solve problems involving equality relationships
- Solves open sentences using the distributive property
- Solves open sentences with calculations on both sides of the sentence
- Solves simple open sentences with missing factors (numbers over 100)
- Solves 2-step open sentences with missing factors
- Solves 1-step linear equations
- Applies algebraic methods to solve theoretical problems

Students:

RIT 201-210:

- Solves complex open sentences using diagrams and models (e.g., using balances)
- Uses algebraic reasoning to solve problems involving equality relationships
- Solves 1-step open sentences with missing addends (numbers over 100)
- Solves 2-step open sentences with missing addends
- Solves open sentences with basic-facts calculations on both sides of the sentence
- Solves simple open sentences with missing factors (numbers 100 and under)
- Solves 2-step open sentences with missing operation symbols

Students:

RIT 191-200:

- Solves simple open sentences using diagrams and models (e.g., using balances)
- Solves complex open sentences using diagrams and models (e.g., using balances)
- Uses algebraic reasoning to solve problems involving equality relationships
- Solves 1-step open sentences with missing addends (numbers 100 and under)
- Solves 1-step open sentences with missing addends (numbers over 100)
- Solves 2-step open sentences with missing addends
- Solves simple open sentences with missing factors (numbers 100 and under)
- Solves 2-step open sentences with missing operation symbols

Students:

RIT 181-190:

- Solves simple open sentences using diagrams and models (e.g., using balances)
- Solves 1-step open sentences with missing addends (numbers 100 and under)
- Solves 2-step open sentences with missing operation symbols
- Solves linear equations with basic facts

Students:

RIT 171-180:

- Solves basic-facts open sentences
- Solves simple open sentences with missing operation symbols
- Solves linear equations with basic facts

Students:

RIT Below 171:

- Solves basic-facts open sentences
- Solves simple open sentences with missing operation symbols