



School District of Pickens County

Building success beyond the classroom

SC Standards: Math

Algebra II

Unit: Algebra I Review

- Math-IA-1.1 Communicate a knowledge of algebraic relationships by using mathematical terminology appropriately.
- Math-IA-1.2 Connect algebra with other branches of mathematics.
- Math-IA-1.3 Apply algebraic methods to solve problems in real-world contexts.
- Math-IA-1.4 Judge the reasonableness of mathematical solutions.
- Math-IA-1.5 Demonstrate an understanding of algebraic relationships by using a variety of representations (including verbal, graphic, numerical, and symbolic).
- Math-IA-1.6 Understand how algebraic relationships can be represented in concrete models, pictorial models, and diagrams.
- Math-IA-1.7 Understand how to represent algebraic relationships by using tools such as handheld computing devices, spreadsheets, and computer algebra systems (CASs).

Unit: Functions

- Math-IA-1.1 Communicate a knowledge of algebraic relationships by using mathematical terminology appropriately.
- Math-IA-1.2 Connect algebra with other branches of mathematics.
- Math-IA-1.3 Apply algebraic methods to solve problems in real-world contexts.
- Math-IA-1.4 Judge the reasonableness of mathematical solutions.
- Math-IA-1.5 Demonstrate an understanding of algebraic relationships by using a variety of representations (including verbal, graphic, numerical, and symbolic).
- Math-IA-1.6 Understand how algebraic relationships can be represented in concrete models, pictorial models, and diagrams.
- Math-IA-1.7 Understand how to represent algebraic relationships by using tools such as handheld computing devices, spreadsheets, and computer algebra systems (CASs).
- Math-IA-2.10 Carry out a procedure to determine the domain and range of discontinuous functions (including piecewise and step functions).
- Math-IA-2.2 Carry out a procedure to solve a system of linear inequalities graphically.
- Math-IA-2.7 Carry out a procedure to graph translations of parent functions (including).
- Math-IA-2.8 Carry out a procedure to graph transformations of parent functions (including).
- Math-IA-2.9 Carry out a procedure to graph discontinuous functions (including piecewise and step functions).



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SC Standards: Math

Algebra II

Unit: Linear Systems

- Math-IA-1.1 Communicate a knowledge of algebraic relationships by using mathematical terminology appropriately.
- Math-IA-1.2 Connect algebra with other branches of mathematics.
- Math-IA-1.3 Apply algebraic methods to solve problems in real-world contexts.
- Math-IA-1.4 Judge the reasonableness of mathematical solutions.
- Math-IA-1.5 Demonstrate an understanding of algebraic relationships by using a variety of representations (including verbal, graphic, numerical, and symbolic).
- Math-IA-1.6 Understand how algebraic relationships can be represented in concrete models, pictorial models, and diagrams.
- Math-IA-1.7 Understand how to represent algebraic relationships by using tools such as handheld computing devices, spreadsheets, and computer algebra systems (CASs).
- Math-IA-2.11 Carry out a procedure to solve a system of equations (including two linear functions and one linear function with one quadratic function).
- Math-IA-2.2 Carry out a procedure to solve a system of linear inequalities graphically.
- Math-IA-2.3 Analyze a problem situation to determine a system of linear inequalities that models the problem situation.
- Math-IA-2.4 Use linear programming to solve contextual problems involving a system of linear inequalities.

Unit: Algebra I Review

- Math-IA-1.1 Communicate a knowledge of algebraic relationships by using mathematical terminology appropriately.
- Math-IA-1.2 Connect algebra with other branches of mathematics.
- Math-IA-1.3 Apply algebraic methods to solve problems in real-world contexts.
- Math-IA-1.4 Judge the reasonableness of mathematical solutions.
- Math-IA-1.5 Demonstrate an understanding of algebraic relationships by using a variety of representations (including verbal, graphic, numerical, and symbolic).
- Math-IA-1.6 Understand how algebraic relationships can be represented in concrete models, pictorial models, and diagrams.
- Math-IA-1.7 Understand how to represent algebraic relationships by using tools such as handheld computing devices, spreadsheets, and computer algebra systems (CASs).

Unit: Functions

- Math-IA-1.1 Communicate a knowledge of algebraic relationships by using mathematical terminology appropriately.



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Algebra II

- Math-IA-1.4 Judge the reasonableness of mathematical solutions.
- Math-IA-1.5 Demonstrate an understanding of algebraic relationships by using a variety of representations (including verbal, graphic, numerical, and symbolic).
- Math-IA-1.6 Understand how algebraic relationships can be represented in concrete models, pictorial models, and diagrams.
- Math-IA-1.7 Understand how to represent algebraic relationships by using tools such as handheld computing devices, spreadsheets, and computer algebra systems (CASs).
- Math-IA-2.5 Carry out procedures to perform operations on polynomial functions (including $f(x) + g(x)$, $f(x) - g(x)$, $f(x) \cdot g(x)$, and $f(x)/g(x)$).
- Math-IA-4.1 Carry out a procedure to perform operations (including multiplication, exponentiation, and division) with polynomial expressions.
- Math-IA-4.2 Carry out a procedure to determine specified points (including zeros, maximums, and minimums) of polynomial functions.
- Math-IA-4.3 Carry out a procedure to solve polynomial equations (including factoring by grouping, factoring the difference between two squares, factoring the sum of two cubes, and factoring the difference between two cubes).
- Math-IA-4.4 Analyze given information (including polynomial models) to solve contextual problems.

Unit: Quadratics

- Math-IA-1.1 Communicate a knowledge of algebraic relationships by using mathematical terminology appropriately.
- Math-IA-1.2 Connect algebra with other branches of mathematics.
- Math-IA-1.3 Apply algebraic methods to solve problems in real-world contexts.
- Math-IA-1.4 Judge the reasonableness of mathematical solutions.
- Math-IA-1.5 Demonstrate an understanding of algebraic relationships by using a variety of representations (including verbal, graphic, numerical, and symbolic).
- Math-IA-1.6 Understand how algebraic relationships can be represented in concrete models, pictorial models, and diagrams.
- Math-IA-1.7 Understand how to represent algebraic relationships by using tools such as handheld computing devices, spreadsheets, and computer algebra systems (CASs).
- Math-IA-2.7 Carry out a procedure to graph translations of parent functions (including).
- Math-IA-2.8 Carry out a procedure to graph transformations of parent functions (including).



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SC Standards:

Math

Algebra II

- Math-IA-3.1 Carry out a procedure to simplify expressions involving powers of i .
- Math-IA-3.2 Carry out a procedure to perform operations with complex numbers (including addition, subtraction, multiplication, and division).
- Math-IA-3.3 Carry out a procedure to solve quadratic equations algebraically (including factoring, completing the square, and applying the quadratic formula).
- Math-IA-3.4 Use the discriminant to determine the number and type of solutions of a quadratic equation.
- Math-IA-3.5 Analyze given information (including quadratic models) to solve contextual problems.
- Math-IA-3.6 Carry out a procedure to write an equation of a quadratic function when given its roots.
- Math-IA-4.2 Carry out a procedure to determine specified points (including zeros, maximums, and minimums) of polynomial functions.
- Math-IA-4.3 Carry out a procedure to solve polynomial equations (including factoring by grouping, factoring the difference between two squares, factoring the sum of two cubes, and factoring the difference between two cubes).
- Math-IA-5.7 Match the equation of a conic section with its graph.

Unit: Matrices

- Math-IA-1.1 Communicate a knowledge of algebraic relationships by using mathematical terminology appropriately.
- Math-IA-1.2 Connect algebra with other branches of mathematics.
- Math-IA-1.3 Apply algebraic methods to solve problems in real-world contexts.
- Math-IA-1.4 Judge the reasonableness of mathematical solutions.
- Math-IA-1.5 Demonstrate an understanding of algebraic relationships by using a variety of representations (including verbal, graphic, numerical, and symbolic).
- Math-IA-1.6 Understand how algebraic relationships can be represented in concrete models, pictorial models, and diagrams.
- Math-IA-1.7 Understand how to represent algebraic relationships by using tools such as handheld computing devices, spreadsheets, and computer algebra systems (CASs).

Unit: Polynomials

- Math-IA-1.1 Communicate a knowledge of algebraic relationships by using mathematical terminology appropriately.
- Math-IA-1.2 Connect algebra with other branches of mathematics.
- Math-IA-1.3 Apply algebraic methods to solve problems in real-world contexts.



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SC Standards:

Math

Algebra II

- Math-IA-1.4 Judge the reasonableness of mathematical solutions.
- Math-IA-1.5 Demonstrate an understanding of algebraic relationships by using a variety of representations (including verbal, graphic, numerical, and symbolic).
- Math-IA-1.6 Understand how algebraic relationships can be represented in concrete models, pictorial models, and diagrams.
- Math-IA-1.7 Understand how to represent algebraic relationships by using tools such as handheld computing devices, spreadsheets, and computer algebra systems (CASs).
- Math-IA-2.5 Carry out procedures to perform operations on polynomial functions (including $f(x) + g(x)$, $f(x) - g(x)$, $f(x) \cdot g(x)$, and $f(x)/g(x)$).
- Math-IA-3.5 Analyze given information (including quadratic models) to solve contextual problems.
- Math-IA-3.6 Carry out a procedure to write an equation of a quadratic function when given its roots.
- Math-IA-4.1 Carry out a procedure to perform operations (including multiplication, exponentiation, and division) with polynomial expressions.
- Math-IA-4.2 Carry out a procedure to determine specified points (including zeros, maximums, and minimums) of polynomial functions.
- Math-IA-4.3 Carry out a procedure to solve polynomial equations (including factoring by grouping, factoring the difference between two squares, factoring the sum of two cubes, and factoring the difference between two cubes).
- Math-IA-4.4 Analyze given information (including polynomial models) to solve contextual problems.

Unit: Quadratics

- Math-IA-1.1 Communicate a knowledge of algebraic relationships by using mathematical terminology appropriately.
- Math-IA-1.2 Connect algebra with other branches of mathematics.
- Math-IA-1.3 Apply algebraic methods to solve problems in real-world contexts.
- Math-IA-1.4 Judge the reasonableness of mathematical solutions.
- Math-IA-1.5 Demonstrate an understanding of algebraic relationships by using a variety of representations (including verbal, graphic, numerical, and symbolic).
- Math-IA-1.6 Understand how algebraic relationships can be represented in concrete models, pictorial models, and diagrams.
- Math-IA-1.7 Understand how to represent algebraic relationships by using tools such as handheld computing devices, spreadsheets, and computer algebra systems (CASs).



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Algebra II

- Math-IA-2.8 Carry out a procedure to graph transformations of parent functions (including).
- Math-IA-4.10 Carry out a procedure to solve logarithmic equations algebraically.
- Math-IA-4.11 Carry out a procedure to solve logarithmic equations graphically.
- Math-IA-4.13 Carry out a procedure to graph logarithmic functions.
- Math-IA-4.14 Carry out a procedure to graph exponential functions.
- Math-IA-4.4 Analyze given information (including polynomial models) to solve contextual problems.
- Math-IA-4.6 Carry out a procedure to simplify algebraic expressions involving logarithms.

Unit: Rational Expressions and Functions

- Math-IA-1.1 Communicate a knowledge of algebraic relationships by using mathematical terminology appropriately.
- Math-IA-1.2 Connect algebra with other branches of mathematics.
- Math-IA-1.3 Apply algebraic methods to solve problems in real-world contexts.
- Math-IA-1.4 Judge the reasonableness of mathematical solutions.
- Math-IA-1.5 Demonstrate an understanding of algebraic relationships by using a variety of representations (including verbal, graphic, numerical, and symbolic).
- Math-IA-1.6 Understand how algebraic relationships can be represented in concrete models, pictorial models, and diagrams.
- Math-IA-1.7 Understand how to represent algebraic relationships by using tools such as handheld computing devices, spreadsheets, and computer algebra systems (CASs).
- Math-IA-2.7 Carry out a procedure to graph translations of parent functions (including).
- Math-IA-2.8 Carry out a procedure to graph transformations of parent functions (including).
- Math-IA-3.5 Analyze given information (including quadratic models) to solve contextual problems.
- Math-IA-4.12 Carry out a procedure to solve rational equations algebraically.
- Math-IA-4.4 Analyze given information (including polynomial models) to solve contextual problems.
- Math-IA-4.8 Carry out a procedure to perform operations with rational expressions (including addition, subtraction, multiplication, and division).

Unit: Exponential and Logarithmic Functions

- Math-IA-1.1 Communicate a knowledge of algebraic relationships by using mathematical terminology appropriately.
- Math-IA-1.2 Connect algebra with other branches of mathematics.



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Algebra II

- Math-IA-1.3 Apply algebraic methods to solve problems in real-world contexts.
- Math-IA-1.4 Judge the reasonableness of mathematical solutions.
- Math-IA-1.5 Demonstrate an understanding of algebraic relationships by using a variety of representations (including verbal, graphic, numerical, and symbolic).
- Math-IA-1.6 Understand how algebraic relationships can be represented in concrete models, pictorial models, and diagrams.
- Math-IA-1.7 Understand how to represent algebraic relationships by using tools such as handheld computing devices, spreadsheets, and computer algebra systems (CASs).
- Math-IA-4.10 Carry out a procedure to solve logarithmic equations algebraically.
- Math-IA-4.11 Carry out a procedure to solve logarithmic equations graphically.
- Math-IA-4.13 Carry out a procedure to graph logarithmic functions.
- Math-IA-4.14 Carry out a procedure to graph exponential functions.
- Math-IA-4.6 Carry out a procedure to simplify algebraic expressions involving logarithms.

Unit: Exponents and Radicals

- Math-IA-1.1 Communicate a knowledge of algebraic relationships by using mathematical terminology appropriately.
- Math-IA-1.2 Connect algebra with other branches of mathematics.
- Math-IA-1.3 Apply algebraic methods to solve problems in real-world contexts.
- Math-IA-1.4 Judge the reasonableness of mathematical solutions.
- Math-IA-1.5 Demonstrate an understanding of algebraic relationships by using a variety of representations (including verbal, graphic, numerical, and symbolic).
- Math-IA-1.6 Understand how algebraic relationships can be represented in concrete models, pictorial models, and diagrams.
- Math-IA-1.7 Understand how to represent algebraic relationships by using tools such as handheld computing devices, spreadsheets, and computer algebra systems (CASs).
- Math-IA-2.5 Carry out procedures to perform operations on polynomial functions (including $f(x) + g(x)$, $f(x) - g(x)$, $f(x) \cdot g(x)$, and $f(x)/g(x)$).
- Math-IA-2.6 Apply a procedure to write the equation of a composition of given functions.
- Math-IA-2.7 Carry out a procedure to graph translations of parent functions (including).
- Math-IA-2.8 Carry out a procedure to graph transformations of parent functions (including).



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Algebra II

- Math-IA-4.5 Carry out a procedure to simplify algebraic expressions involving rational exponents.
- Math-IA-4.7 Carry out a procedure to perform operations with expressions involving rational exponents (including addition, subtraction, multiplication, division, and exponentiation).
- Math-IA-4.9 Carry out a procedure to solve radical equations algebraically.

Unit: Rational Expressions and Functions

- Math-IA-1.1 Communicate a knowledge of algebraic relationships by using mathematical terminology appropriately.
- Math-IA-1.2 Connect algebra with other branches of mathematics.
- Math-IA-1.3 Apply algebraic methods to solve problems in real-world contexts.
- Math-IA-1.4 Judge the reasonableness of mathematical solutions.
- Math-IA-1.5 Demonstrate an understanding of algebraic relationships by using a variety of representations (including verbal, graphic, numerical, and symbolic).
- Math-IA-1.6 Understand how algebraic relationships can be represented in concrete models, pictorial models, and diagrams.
- Math-IA-1.7 Understand how to represent algebraic relationships by using tools such as handheld computing devices, spreadsheets, and computer algebra systems (CASs).
- Math-IA-2.10 Carry out a procedure to determine the domain and range of discontinuous functions (including piecewise and step functions).
- Math-IA-2.5 Carry out procedures to perform operations on polynomial functions (including $f(x) + g(x)$, $f(x) - g(x)$, $f(x) \div g(x)$, and $f(x)/g(x)$).
- Math-IA-3.6 Carry out a procedure to write an equation of a quadratic function when given its roots.
- Math-IA-4.1 Carry out a procedure to perform operations (including multiplication, exponentiation, and division) with polynomial expressions.
- Math-IA-4.12 Carry out a procedure to solve rational equations algebraically.
- Math-IA-4.4 Analyze given information (including polynomial models) to solve contextual problems.
- Math-IA-4.8 Carry out a procedure to perform operations with rational expressions (including addition, subtraction, multiplication, and division).

Unit: Conics

- Math-IA-1.1 Communicate a knowledge of algebraic relationships by using mathematical terminology appropriately.
- Math-IA-1.2 Connect algebra with other branches of mathematics.



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Algebra II

- Math-IA-1.3 Apply algebraic methods to solve problems in real-world contexts.
- Math-IA-1.4 Judge the reasonableness of mathematical solutions.
- Math-IA-1.5 Demonstrate an understanding of algebraic relationships by using a variety of representations (including verbal, graphic, numerical, and symbolic).
- Math-IA-1.6 Understand how algebraic relationships can be represented in concrete models, pictorial models, and diagrams.
- Math-IA-1.7 Understand how to represent algebraic relationships by using tools such as handheld computing devices, spreadsheets, and computer algebra systems (CASs).
- Math-IA-2.8 Carry out a procedure to graph transformations of parent functions (including).
- Math-IA-5.1 Carry out a procedure to graph the circle whose equation is the form .
- Math-IA-5.2 Carry out a procedure to write an equation of a circle centered at the origin when given its radius.
- Math-IA-5.3 Carry out a procedure to graph the ellipse whose equation is the form .
- Math-IA-5.4 Carry out a procedure to write an equation of an ellipse centered at the origin when given information from among length of major axis, length of minor axis, and vertices.
- Math-IA-5.5 Carry out a procedure to graph the hyperbola whose equation is the form .
- Math-IA-5.6 Carry out a procedure to write an equation of a hyperbola centered at the origin with specified vertices.
- Math-IA-5.7 Match the equation of a conic section with its graph.

Unit: Matrices

- Math-IA-1.1 Communicate a knowledge of algebraic relationships by using mathematical terminology appropriately.
- Math-IA-1.2 Connect algebra with other branches of mathematics.
- Math-IA-1.3 Apply algebraic methods to solve problems in real-world contexts.
- Math-IA-1.4 Judge the reasonableness of mathematical solutions.
- Math-IA-1.5 Demonstrate an understanding of algebraic relationships by using a variety of representations (including verbal, graphic, numerical, and symbolic).
- Math-IA-1.6 Understand how algebraic relationships can be represented in concrete models, pictorial models, and diagrams.
- Math-IA-1.7 Understand how to represent algebraic relationships by using tools such as handheld computing devices, spreadsheets, and computer algebra systems (CASs).



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SC Standards: Math

Algebra II

Unit: Sequence and Series

- Math-IA-1.1 Communicate a knowledge of algebraic relationships by using mathematical terminology appropriately.
- Math-IA-1.2 Connect algebra with other branches of mathematics.
- Math-IA-1.3 Apply algebraic methods to solve problems in real-world contexts.
- Math-IA-1.4 Judge the reasonableness of mathematical solutions.
- Math-IA-1.5 Demonstrate an understanding of algebraic relationships by using a variety of representations (including verbal, graphic, numerical, and symbolic).
- Math-IA-1.6 Understand how algebraic relationships can be represented in concrete models, pictorial models, and diagrams.
- Math-IA-1.7 Understand how to represent algebraic relationships by using tools such as handheld computing devices, spreadsheets, and computer algebra systems (CASs).
- Math-IA-6.1 Categorize a sequence as arithmetic, geometric, or neither.
- Math-IA-6.2 Carry out a procedure to write a specified term of an arithmetic or geometric sequence when given the n th term of the sequence.
- Math-IA-6.3 Carry out a procedure to write a formula for the n th term of an arithmetic or geometric sequence when given at least four consecutive terms of the sequence.
- Math-IA-6.4 Carry out a procedure to write a formula for the n th term of an arithmetic or geometric sequence when given at least four terms of the sequence.
- Math-IA-6.5 Represent an arithmetic or geometric series by using sigma notation.
- Math-IA-6.6 Carry out a procedure to calculate the sum of an arithmetic or geometric series written in sigma notation.
- Math-IA-6.7 Carry out a procedure to determine consecutive terms of a sequence that is defined recursively.
- Math-IA-6.8 Carry out a procedure to define a sequence recursively when given four or more consecutive terms of the sequence.
- Math-IA-6.9 Translate between the explicit form and the recursive form of sequences.

Unit: Conics

- Math-IA-1.1 Communicate a knowledge of algebraic relationships by using mathematical terminology appropriately.
- Math-IA-1.2 Connect algebra with other branches of mathematics.
- Math-IA-1.3 Apply algebraic methods to solve problems in real-world contexts.
- Math-IA-1.4 Judge the reasonableness of mathematical solutions.



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SC Standards: Math

Algebra II

- Math-IA-6.3 Carry out a procedure to write a formula for the n th term of an arithmetic or geometric sequence when given at least four consecutive terms of the sequence.
- Math-IA-6.4 Carry out a procedure to write a formula for the n th term of an arithmetic or geometric sequence when given at least four terms of the sequence.
- Math-IA-6.5 Represent an arithmetic or geometric series by using sigma notation.
- Math-IA-6.6 Carry out a procedure to calculate the sum of an arithmetic or geometric series written in sigma notation.
- Math-IA-6.7 Carry out a procedure to determine consecutive terms of a sequence that is defined recursively.
- Math-IA-6.8 Carry out a procedure to define a sequence recursively when given four or more consecutive terms of the sequence.
- Math-IA-6.9 Translate between the explicit form and the recursive form of sequences.