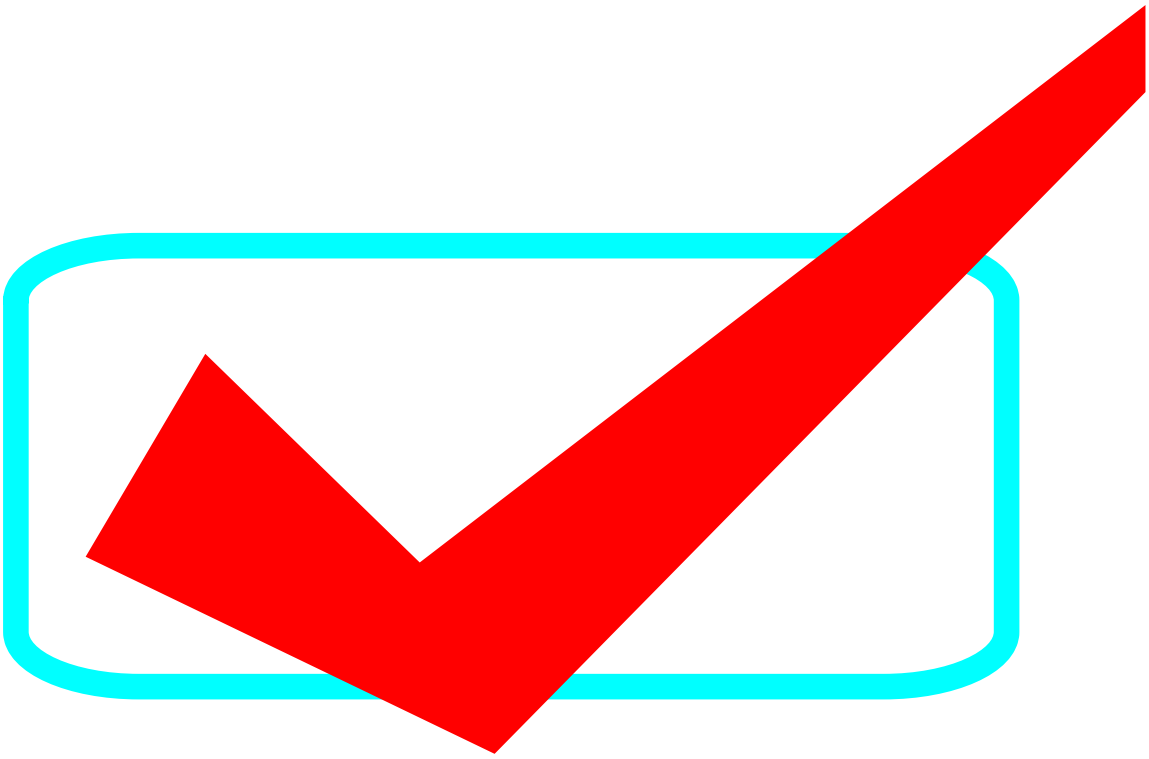
PERFORMANCE STANDARDS



Algebra I

DUVAL COUNTY SCHOOLS
JACKSONVILLE, FLORIDA

Created by Marita Eng
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Algebra I
Performance Standards

1.0 Variable Expressions and Open Sentences

The student will:

1.1 Simplify numerical expressions with and without grouping symbols.
1.2 Evaluate variable expressions for specified values.
1.3 Find solution sets for equations and inequalities over a given domain.
1.4 Use appropriate mathematical symbols to translate word phrases into variable expressions and word sentences into equations or inequalities.

2.0 Operations on Rational Numbers

The student will:

2.1 State the coordinates of specified points on the number line and graph points on the number line when given the coordinates.
2.2 Find sums of rational numbers.
2.3 Find differences of rational numbers.
2.4 Find products of rational numbers.
2.5 Determine the reciprocals of specified rational numbers.
2.6 Find quotients of rational numbers.
2.7 Find the absolute value for specified rational numbers.

3.0 Properties of Real Numbers

The student will:

3.1 Use the field properties to justify algebraic statements.
3.2 Use the field properties to simplify numerical expressions.
3.3 Use the distributive property to combine similar terms.

4.0 Linear Equations in One Variable

The student will:

4.1 Solve equations using the addition property of equality or subtraction property of equality.

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4.2 Solve equations using the multiplication property of equality or division property of equality.
4.3 Solve first degree literal equations or formulas for a specified variable.

5.0 Inequalities

The student will:

5.1 Use order symbols to compare given real numbers.
5.2 Use the addition property of order and multiplication property of order to solve simple inequalities.
5.3 Solve compound inequalities.
5.4 Graph the solution sets of inequalities on number lines.

6.0 Polynomials

The student will:

6.1 Simplify expressions involving exponents.
6.2 Add and subtract polynomials.
6.3 Multiply polynomials.
6.4 Factor integers and find the greatest common factor for sets of integers.
6.5 Find the monomial factors of given polynomials.
6.6 Simplify quotients of monomials.
6.7 Divide polynomials by monomials.
6.8 Factor differences of squares, trinomial squares, and trinomials which are not perfect squares.
6.9 Factor by grouping.
6.10 Solve equations by factoring.

7.0 Functions

The student will:

7.1 State the domain and range of specified functions.
7.2 Identify whether given graphs or sets of points are functions.
7.3 Find function values.
7.4 Graph sets of ordered pairs, linear equations in two variables by using intercepts, slope and a point, and point-plotting.
7.5 Find images for transformations.
7.6 Determine the slope of a line when given two points on a line or an equation of a line.

7.7 Graph equations of the form $y = ax^2 + bx + c$, where a, b, and c are real numbers.

8.0 Rational and Irrational Numbers

The student will:

8.1 Arrange sets of real numbers in increasing or decreasing order.
8.2 Find fractions or decimals between any two given fractions or decimals.
8.3 Change fractions to terminating or repeating deciamls and change terminating or repeating decimals to fractions.
8.4 Simplify radical expressions involving square roots.
8.5 Add, subtract, and multiply radicals.

9.0 Rational Algebraic Expressions

The student will:

9.1 Simplify algebraic fractions.
9.2 Multiply and divide algebraic fractions.
9.3 Add and subtract algebraic fractions.
9.4 Solve equations involving proportions.

10.0 Systems of Linear Equations and Inequalities

The student will:

10.1 Solve systems of linear equations by graphing, substitution, and linear combination.
10.2 Solve systems of linear inequalities by graphing.