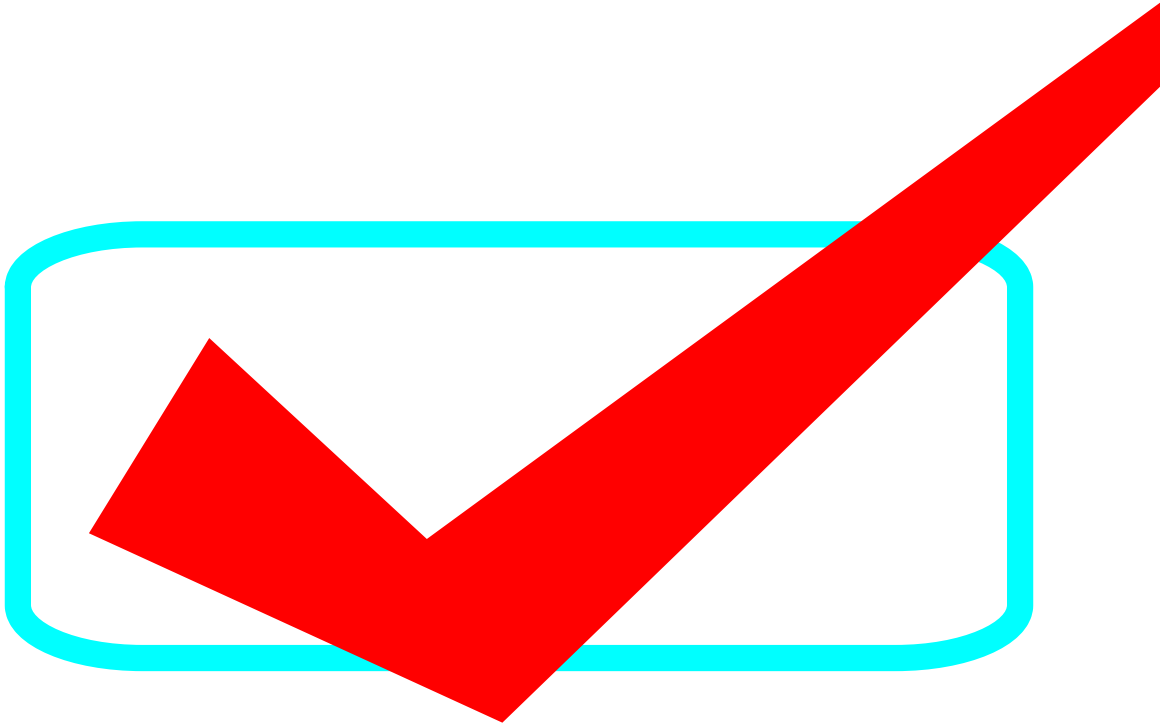

PERFORMANCE STANDARDS

2004-2005



Pre-Algebra

DUVAL COUNTY SCHOOLS
JACKSONVILLE, FLORIDA

**Pre-Algebra
Performance Standards
2004-2005**

13.0 Surface Areas and Volumes

The student will:

- 13.1 Conceptualize volume as a measure of *filling* an object.
- 13.2 Conceptualize surface area as a measure of *wrapping* an object.
- 13.3 Find volumes and surface areas for rectangular prisms.
- 13.4 Find volumes and surface areas for cylinders.
- 13.5 Reason about problems involving the surface areas and volumes of rectangular prisms, cylinders, cones, and spheres.

14.0 Linear Relationships:

The student will:

- 14.1 Represent the relationships among variables in a variety of ways, including the use of words, tables, graphs, and symbols.
- 14.2 Determine the appropriate range of values for independent and dependent variables.
- 14.3 Solve linear equations.
- 14.4 Find the slope of a line from a graph, a table, or an equation.
- 14.5 Find the y-intercept of a linear equation from its table, graph, or equation.
- 14.6 Write a linear equation given the slope and y-intercept.
- 14.7 Find a solution common to two linear equations by graphing or creating tables.

15.0 Probability and Expected Values

The student will:

- 15.1 Review the understanding of experimental and theoretical probabilities and the relationships between them.
- 15.2 Make the distinction between single, specific outcomes and sets of outcomes that comprise an event.
- 15.3 Analyze situations involving independent events.
- 15.4 Analyze situations involving dependent events.

- 15.5 Use probability and equivalent fractions to find expected values.
- 15.6 Develop a variety of strategies for analyzing probabilities, such as using lists, counting trees, and area models.
- 15.7 Determine the expected value of a chance situation.

16.0 Number Sense

The student will:

- 16.1 Read, write, and interpret the large numbers that occur in real-life measurements using standard, scientific, and calculator notation.
- 16.2 Review the concepts of place value as it relates to reading, writing, and using large numbers.
- 16.3 Review and extend the use of exponents.
- 16.4 Choose sensible ways of comparing counts and measurements, including using differences, rates, and ratios.

17.0 Relations

The student will:

- 17.1 Collect data and record in tables.
- 17.2 Construct coordinate graphs to represent data.
- 17.3 Make predictions from data tables or graphs.
- 17.4 Use patterns in data to find equations that model relationships between variables.
- 17.5 Distinguish between linear and nonlinear relationships.
- 17.6 Identify inverse relationships and describe their characteristics.
- 17.7 Use intuitive ideas about rates of change to sketch graphs for or to match graphs to given situations and to create situations that fit given graphs.

18.0 Real Numbers

The student will:

- 18.1 Extend understanding of number systems to include irrational numbers.
- 18.2 Locate irrational numbers on the number line.
- 18.3 Represent decimals as fractions and fractions as decimals.
- 18.4 Use the Pythagorean Theorem to solve problems.
- 18.5 Use slope to solve problems.

19.0 Expressions and Equations

The student will:

- 19.1 Evaluate expressions by applying the rules of order of operations.
- 19.2 Write symbolic sentences that communicate their reasoning.
- 19.3 Develop methods for manipulating symbolic expressions in ways that are both connected to and independent from tabular, graphical, and contextualized reasoning.
- 19.4 Make sense of symbolic expressions involving addition, subtraction, multiplication, division, and using exponents.
- 19.5 Recognize applications of the commutative and distributive properties.
- 19.6 Recognize and interpret equivalent expressions.
- 19.7 Explain the reasoning underlying the solution of linear equations.
- 19.8 Apply the properties for manipulating expressions to solve linear equations.