Florida Mathematics (B.E.S.T.)

Grade 7: Standards

Number Sense and Operations

1 Rewrite numbers in equivalent forms.

1. Know and apply the Laws of Exponents to evaluate numerical expressions and generate equivalent numerical expressions, limited to whole-number exponents and rational number bases. MA.7.NSO.1.1
2. Rewrite rational numbers in different but equivalent forms including fractions, mixed numbers, repeating decimals and percentages to solve mathematical and real-world problems. MA.7.NSO.1.2

2 Add, subtract, multiply and divide rational numbers.

1. Solve mathematical problems using multi-step order of operations with rational numbers including grouping symbols, whole-number exponents and absolute value. MA.7.NSO.2.1
2. Add, subtract, multiply and divide rational numbers with procedural fluency. MA.7.NSO.2.2
3. Solve real-world problems involving any of the four operations with rational numbers. MA.7.NSO.2.3

Algebraic Reasoning

1 Rewrite algebraic expressions in equivalent forms.

1. Apply properties of operations to add and subtract linear expressions with rational coefficients. MA.7.AR.1.1
2. Determine whether two linear expressions are equivalent. MA.7.AR.1.2

2 Write and solve equations and inequalities in one variable.

1. Write and solve one-step inequalities in one variable within a mathematical context and represent solutions algebraically or graphically. MA.7.AR.2.1
2. Write and solve two-step equations in one variable within a mathematical or real-world context, where all terms are rational numbers. MA.7.AR.2.2

3 Use percentages and proportional reasoning to solve problems.

1. Apply previous understanding of percentages and ratios to solve multi-step real-world percent problems. MA.7.AR.3.1
2. Apply previous understanding of ratios to solve real-world problems involving proportions. MA.7.AR.3.2
3. Solve mathematical and real-world problems involving the conversion of units across different measurement systems. MA.7.AR.3.3

4 Analyze and represent two-variable proportional relationships.

1. Determine whether two quantities have a proportional relationship by examining a table, graph or written description. MA.7.AR.4.1
2. Determine the constant of proportionality within a mathematical or real-world context given a table, graph or written description of a proportional relationship. MA.7.AR.4.2
3. Given a mathematical or real-world context, graph proportional relationships from a table, equation or a written description. MA.7.AR.4.3
4. Given any representation of a proportional relationship, translate the representation to a written description, table or equation. MA.7.AR.4.4
5. Solve real-world problems involving proportional relationships. MA.7.AR.4.5

Geometric Reasoning

1 Solve problems involving two-dimensional figures, including circles.

1. Apply formulas to find the areas of trapezoids, parallelograms and rhombi. MA.7.GR.1.1
2. Solve mathematical or real-world problems involving the area of polygons or composite figures by decomposing them into triangles or quadrilaterals. MA.7.GR.1.2
3. Explore the proportional relationship between circumferences and diameters of circles. Apply a formula for the circumference of a circle to solve mathematical and real-world problems. MA.7.GR.1.3
4. Explore and apply a formula to find the area of a circle to solve mathematical and real-world problems. MA.7.GR.1.4
5. Solve mathematical and real-world problems involving dimensions and areas of geometric figures, including scale drawings and scale factors. MA.7.GR.1.5

2 Solve problems involving three-dimensional figures, including right circular cylinders.

1. Given a mathematical or real-world context, find the surface area of a right circular cylinder using the figure's net. MA.7.GR.2.1
2. Solve real-world problems involving surface area of right circular cylinders. MA.7.GR.2.2
3. Solve mathematical and real-world problems involving volume of right circular cylinders. MA.7.GR.2.3

Data Analysis and Probability

1 **Represent and interpret numerical and categorical data.**

1 Determine an appropriate measure of center or measure of variation to summarize numerical data, represented numerically or graphically, taking into consideration the context and any outliers. MA.7.DP.1.1

2 Given two numerical or graphical representations of data, use the measure(s) of center and measure(s) of variability to make comparisons, interpret results and draw conclusions about the two populations. MA.7.DP.1.2

3 Given categorical data from a random sample, use proportional relationships to make predictions about a population. MA.7.DP.1.3

4 Use proportional reasoning to construct, display and interpret data in circle graphs. MA.7.DP.1.4

5 Given a real-world numerical or categorical data set, choose and create an appropriate graphical representation. MA.7.DP.1.5

2 **Develop an understanding of probability. Find and compare experimental and theoretical probabilities.**

1 Determine the sample space for a simple experiment. MA.7.DP.2.1

2 Given the probability of a chance event, interpret the likelihood of it occurring. Compare the probabilities of chance events. MA.7.DP.2.2

3 Find the theoretical probability of an event related to a simple experiment. MA.7.DP.2.3

4 Use a simulation of a simple experiment to find experimental probabilities and compare them to theoretical probabilities. MA.7.DP.2.4