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

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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

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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

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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