

Focus Statement: Students will add, subtract, multiply, and divide rational numbers, apply those operations to geometric concepts, as well as solve one-step and two-step equations. They will also evaluate algebraic expressions using the Substitution Principle and the Order of Operations.

MA6.1 Students will use decimals and integers to compute with and display numbers.

MA6.1.1 Estimate the sums, differences, products and quotients of decimals

MA6.1.2 Add and subtract decimals to the ten millionth place

MA6.1.3 Multiply and divide decimals to the ten thousandths

MA6.1.4 Measure and convert within the metric system.

MA6.1.5 Compare and order integers.

MA6.1.6 Add and subtract integers

MA6.1.7 Multiply and divide integers

MA6.1.8 Apply the order of operations with multiple grouping symbols and the distributive property when evaluating expressions

MA6.1.9 Calculate the mean, median, mode and range of integers and decimals

MA6.2 Students will compute and display numbers with exponents, factor numbers and display fractions in various forms.

MA6.2.1 Write and evaluate exponents and apply the order of operations with exponents.

MA6.2.2 Use the prime factorization of numbers to find LCM and GCF.

MA6.2.3 Simplify, compare and order fractions.

MA6.2.4 Convert between mixed numbers and improper fractions.

MA6.2.5 Convert between fractions, mixed numbers and decimals.

MA6.2.6 Compare and order rational numbers.

MA6.2.7 When given large or small numbers, convert between scientific and decimal notation

MA6.3 Students will estimate and compute with fractions and mixed numbers

MA6.3.1 Estimate with fractions and mixed numbers.

MA6.3.2 Add and subtract fractions

MA6.3.3 Add and subtract mixed numbers.

MA6.3.4 Multiply fractions and mixed numbers

MA6.3.5 Divide fractions and mixed numbers

MA6.3.6 Convert units within the customary system

MA6.4 Students will write and solve algebraic expressions, equations and inequalities.

MA6.4.1 Write and evaluate algebraic expressions using the Substitution Principle

MA6.4.2 Apply properties of addition and subtraction to solve equations in the form:

$$x + a = b$$

$$x - a = b$$

MA6.4.3 Apply properties of multiplication and division to solve equations in the form:

$$ax = b$$

$$\frac{x}{a} = b$$

MA6.4.4 Solve two-step equations using inverse order of operations.

MA6.4.5 Write and graph inequalities in the form of:

$$x < a \text{ and } x \leq a$$

$$x > a \text{ and } x \geq a$$

$$a < x < b$$

MA6.4.6 Apply properties of addition and subtraction to solve inequalities.

MA6.4.7 Apply properties of multiplication and division to solve inequalities.

MA6.5 Students will apply rates, ratios and proportions to real life situations.

MA6.5.1 Write ratios and use them to compare quantities

MA6.5.2 Find unit rates and unit costs using proportional reasoning.

MA6.5.3 Test whether ratios form a proportion using equivalent ratios and cross products.

MA6.5.4 Solve proportions using unit rates, mental math and cross products.

MA6.5.5 Find missing lengths of similar figures using proportions.

MA6.5.6 Use proportions to solve problems involving scale.

MA6.6 Students will solve problems involving applications of percent

MA6.6.1 Convert between percents, fractions and decimals.

MA6.6.2 Convert between fractions, decimals and percents greater than 100% and less than 1%.

MA6.6.3 Find and estimate the percent of a number

MA6.6.4 Use proportions to solve problems involving percent

MA6.6.5 Use equations to solve problems involving percent

MA6.6.6 Find and estimate solutions to application problems involving percent

MA 6.6.7 Find percents of increase and decrease

MA6.7 Students will work with plane geometry concepts and apply those concepts to polygons and circles

MA6.7.1 Identify segments, rays and lines.

MA6.7.2 Classify angles and angle pairs.

MA6.7.3 Classify triangles and find missing angle measures of triangles.

MA6.7.4 Classify polygons and special quadrilaterals

MA6.7.5 Identify congruent figures and use them to find missing measures

MA6.7.6 Identify parts of a circle and in order to construct and analyze a circle graph

MA6.8 Students will estimate and find areas of polygons and circles as well as find surface area and volume of three dimensional shapes

MA6.8.1 Estimate length, perimeter and area.

MA6.8.2 Find the area and perimeter of a parallelogram using appropriate formulas.

MA6.8.3 Find the area and perimeter of a triangle and trapezoid using appropriate formulas.

MA6.8.4 Find the area of irregular figures.

MA6.8.5 Find the circumference and area of a circle.

MA6.8.6 Use the Pythagorean Theorem to solve real world problems.

MA6.8.7 Classify and draw three-dimensional figures.

MA6.8.8 Find the surface area of prisms and cylinders using appropriate formulas.

MA6.8.9 Find the volume of prisms and cylinders using appropriate formulas.

MA6.9 Students will study patterns, sequences and functions as they interpret and use tables, rules, graphs and formulas.

MA6.9.1 Graph data and use graphs to make predictions

MA6.9.2 Describe patterns in geometric and arithmetic sequences and use the pattern to find terms.

MA6.9.3 Use tables to represent and find patterns.

MA6.9.4 Write and evaluate functions.

MA6.9.5 Find solutions to problems using tables, rules and graphs.

MA6.9.6 Describe and sketch graphs that represent real-world problems.

MA6.9.7 Find simple and compound interest

MA6.9.8 Solve an equation for a given variable

MA6.10 Students will explore linear and nonlinear relationships and transformations in the coordinate plane.

MA6.10.1 Name and graph points on a coordinate plane

MA6.10.2 Find solutions to and graph linear equations

MA6.10.3 Graph nonlinear relationships

MA6.10.4 Graph and write rules for transformations

MA6.10.5 Identify lines of symmetry and graph reflections

MA6.10.6 Identify rotational symmetry

MA6.11 Students will display and analyze data.

MA6.11.1 Represent data using frequency tables, line plots and histograms

MA6.11.2 Read and analyze a variety of graphs including double bar and double line graphs.

MA6.11.3 Represent and interpret data using stem-and-leaf plots.

MA6.11.4 Identify components of misleading graphs.

MA6.11.5 Draw and interpret scatter plots

MA6.11.6 Find the probability of a simple event and interpret probability of zero and one.

