	Seventh Grade Math Extended Indicators
MA 7.1	**NUMBER: Students will communicate number sense concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.**
MA 7.1.1	**Numeric Relationships: Students will demonstrate, represent, and show relationships among rational numbers within the base-ten number system.**
	No additional indicator(s) at this level. Mastery is expected at previous grade levels.
MA 7.1.2	**Operations: Students will compute with rational numbers accurately.**
MA 7.1.2.a	Solve problems using proportions and ratios (e.g., cross products, percents, tables, equations, and graphs).
MAE 7.1.2.a	**Given a fraction 1/4, 1/2, or 3/4, write the corresponding percentage.**
MA 7.1.2.b	Add, subtract, multiply, and divide rational numbers (e.g., positive and negative fractions, decimals, and integers).
MAE 7.1.2.b	**Add and subtract positive rational numbers with like denominators up to 10 without regrouping.**
MA 7.1.2.c	Apply properties of operations as strategies for problem solving with rational numbers.
MA 7.1.2.d	Use multiple strategies to add, subtract, multiply, and divide integers.
MAE 7.1.2.d	**Add positive and negative integers (–10 to 10).**
MA 7.1.2.e	Estimate and check reasonableness of answers using appropriate strategies and tools.
MAE 7.1.2.e	**Estimate addition and subtraction results to the nearest 10 up to 100.**
MA 7.2	**ALGEBRA: Students will communicate algebraic concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.**
MA 7.2.1	**Algebraic Relationships: Students will demonstrate, represent, and show relationships with expressions, equations, and inequalities.**
MA 7.2.1.a	Describe and create an inequality from words and pictures (e.g., one-step, one-variable).
MAE 7.2.1.a	**Identify a solution to a given inequality.**
MA 7.2.1.b	Represent real-world situations with proportions.
MAE 7.2.1.b	**Identify a ratio between two quantities using a model.**
MA 7.2.2	**Algebraic Processes: Students will apply the operational properties when evaluating expressions and solving equations and inequalities.**
MA 7.2.2.a	Solve equations using the distributive property and combining like terms.

MA 7.2.2.b	Use factoring and properties of operations to create equivalent algebraic expressions (e.g., $2x + 6 = 2(x + 3)$).
MAE 7.2.2.b	**Identify equivalent expressions with one variable ($2n + 3n$ is the same as $5n$).**
MA 7.2.2.c	Given the value of the variable(s), evaluate algebraic expressions (including absolute value).
MAE 7.2.2.c	**Given the positive integer value of the single variable, evaluate an addition or subtraction expression.**
MA 7.2.2.d	Solve two-step equations involving rational numbers, which include integers.
MAE 7.2.2.d	**Solve a one-step equation using multiplication.**
MA 7.2.2.e	Solve one-step inequalities involving integers and rational numbers and represent solutions on a number line.
MAE 7.2.2.e	**Identify a solution to an inequality involving multiplication using a number line (–10 to 10).**
MA 7.2.3	**Applications: Students will solve real-world problems involving expressions, equations, and inequalities.**
MA 7.2.3.a	Describe and write linear equations from words and tables.
MA 7.2.3.b	Write a two-step equation to represent real-world problems involving rational numbers in any form.
MAE 7.2.3.b	**Identify a one-step linear equation containing a positive integer that represents a solution to a real-world problem.**
MA 7.2.3.c	Solve real-world problems with equations that involve rational numbers in any form.
MAE 7.2.3.c	**Solve a one-step linear equation using a positive integer that represents a solution to a real-world problem.**
MA 7.2.3.d	Solve real-world problems with inequalities.
MAE 7.2.3.d	**Identify an inequality that represents a solution to a real-world problem using a model.**
MA 7.2.3.e	Use proportional relationships to solve real-world problems, including percent problems, (e.g., % increase, % decrease, mark-up, tip, simple interest).
MAE 7.2.3.e	**Identify the percent for a discount problem (10%, 25%, or 50%).**
MA 7.2.3.f	Solve real-world problems involving scale drawings using a proportional relationship.
MAE 7.2.3.f	**Identify the measure of a scale drawing using the scale of 1/4, 1/3, or 1/2.**
MA 7.3	**GEOMETRY: Students will communicate geometric concepts and measurement concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.**
MA 7.3.1	**Characteristics: Students will identify and describe geometric characteristics of two-dimensional shapes.**
MA 7.3.1.a	Apply and use properties of adjacent, complementary, supplementary, and vertical angles to find missing angle measures.
MAE 7.3.1.a	**Identify a pair of congruent angles in two intersecting lines.**

MA 7.3.1.b	Draw triangles (freehand, using a ruler and a protractor, and using technology) with given conditions of three measures of angles or sides, and notice when the conditions determine a unique triangle, more than one triangle, or no triangle.
MA 7.3.2	**Coordinate Geometry: Students will determine location, orientation, and relationships on the coordinate plane.**
	No additional indicator(s) at this level. Mastery is expected at previous grade levels.
MA 7.3.3	**Measurement: Students will perform and compare measurements and apply formulas.**
MA 7.3.3.a	Solve real-world problems involving perimeter and area of composite shapes made from triangles, quadrilaterals, and polygons.
MAE 7.3.3.a	**Find the perimeter of two adjoining rectangles by counting unit lengths.**
MA 7.3.3.b	Solve real-world problems involving surface area and volume of composite shapes made from rectangular and triangular prisms.
MAE 7.3.3.b	**Find the area of two adjoining rectangles by counting unit squares.**
MA 7.3.3.c	Determine the area and circumference of circles both on and off the coordinate plane.
MAE 7.3.3.c	**Identify the center and radius of a circle.**
MA 7.4	**DATA: Students will communicate data analysis/probability concepts using multiple representations to reason, solve problems, and make connections within mathematics and across disciplines.**
MA 7.4.1	**Representations: Students will create displays that represent data.**
MA 7.4.1.a	Represent data using circle graphs.
MA 7.4.2	**Analysis & Applications: Students will analyze data to address the situation.**
MA 7.4.2.a	Solve problems using information presented in circle graphs.
MAE 7.4.2.a	**Solve problems with thirds and fourths of a circle using a circle graph.**
MA 7.4.2.b	Explain the difference between a population and a sample.
MA 7.4.2.c	Generate conclusions about a population based upon a random sample.
MA 7.4.2.d	Determine and critique biases in different data representations.

MA 7.4.3	Probability: Students will interpret and apply concepts of probability.
MA 7.4.3.a	Generate a list of possible outcomes for a simple event.
MA 7.4.3.b	Describe the theoretical probability of an event using a fraction, percentage, and decimal.
MA 7.4.3.c	Find theoretical probabilities for independent events.
MAE 7.4.3.c	**Identify the probability of an event as always, sometimes, or never.**
MA 7.4.3.d	Perform simple experiments and express the degree of likelihood (possible, impossible, certain, more likely, equally likely, or less likely); write as fractions and percentages.
MA 7.4.3.e	Find experimental probability for independent events.
MA 7.4.3.f	Compare and contrast theoretical and experimental probabilities.
MA 7.4.3.g	Find the probability of dependent compound events.
MA 7.4.3.h	Identify complementary events and calculate their probabilities.