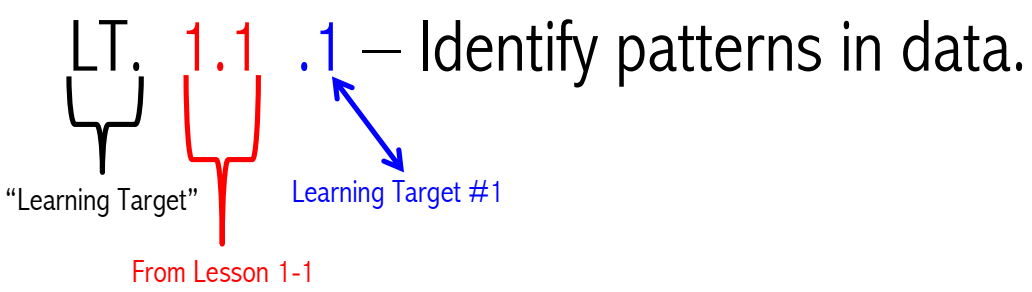
Olsen: Advanced Algebra Learning Targets

"How do I read these?" – Students/Parents of Mrs. Olsen



UNIT 1: I CAN . . .

LT.1.1.1 – Identify patterns in data.

LT.1.1.2 – Use tables, graphs, and expressions to model situations.

LT.1.1.3 – Use expressions to make predictions.

LT.1.2.1 – Use patterns to write expressions.

LT.1.2.2 – Use tables, graphs, and expressions to model situations.

LT.2.1.1 – Use the algebraic method to solve an equation.

LT.2.1.2 – Write and solve an equation to model a real-world situation.

LT.2.2.1 – Write and solve an equation to model a real-world situation.

LT.2.2.2 – Interpret parts of an expression in terms of its context.

LT.2.3.1 – Solve complex equations with variables on both sides and justify each step in the solution process.

LT.2.3.2 – Write and solve an equation to model a real-world situation.

LT.2.4.1 – Identify equations that have no solution.

LT.2.4.2 – Identify equations that have infinitely many solutions.

LT.2.5.1 – Solve literal equations for a specified variable,

LT.2.5.2 – Use a formula that has been solved for a specified variable to determine an unknown quantity.

LT.3.1.1 – Understand what is meant by a solution of an inequality.

LT.3.1.2 – Graph solutions of inequalities on a number line.

LT.3.2.1 – Write inequalities to represent real-world situations.

LT.3.2.2 – Solve multi-step inequalities.

LT.3.3.1 – Graph compound inequalities.

LT.3.3.2 – Solve compound inequalities.

LT.4.1.1 – Understand what is meant by a solution of an absolute value equation.

LT.4.1.2 – Solve absolute value equations.

LT.4.2.1 – Solve absolute value inequalities.

LT.4.2.2 – Graph solutions of absolute value inequalities.

UNIT 2: I CAN . . .

LT.5.1.1 – Represent relations and functions using tables, diagrams, and graphs.

LT.5.1.2 – Identify relations that are functions.

LT.5.2.1 – Describe the domain and range of a function.

LT.5.2.2 – Find input-output pairs for a function.

LT.5.3.1 – Use and interpret function notation.

LT.5.3.2 – Evaluate a function for specific values of the domain.

LT.6.1.1 – Relate the domain and range of a function to its graphs.

LT.6.1.2 – Identify and interpret key features of graphs.

LT.6.2.1 – Relate the domain and range of a function to its graph and to its function rule.

LT.6.2.2 – Identify and interpret key features of graphs.

LT.6.3.1 – Identify and interpret key features of graphs.

LT.6.3.2 – Determine the reasonable domain and range for a real-world situation.

LT.7.1.1 – Graph a function given a table.

LT.7.1.2 – Write an equation for a function given a table or graph.

LT.7.2.1 – Graph a function describing a real-world situation and identify and interpret key features of the graph.

LT.7.3.1 – Given a verbal description of a function, make a table and a graph of the function.

LT.7.3.2 – Graph a function and identify and interpret key features of the graph.

LT.8.1.1 – Identify the effect on the graph of replacing $f(x)$ by $f(x)+k$.

LT.8.1.2 – Identify the transformation used to produce one graph from another.

LT.8.2.1 – Identify the effect on the graph of replacing $f(x)$ by $f(x+k)$.

LT.8.2.2 – Identify the transformation used to produce one graph from another.

LT.9.1.1 – Determine the slope of a line from a graph.

LT.9.1.2 – Develop and use the formula for slope.

LT.9.2.1 – Calculated and interpret the rate of change for a function.

LT.9.2.2 – Understand the connection between rate of change and slope.

LT.9.3.1 – Show that a linear function has a constant rate of change.

LT.9.3.2 – Understand when the slope of a line is positive, negative, zero, or undefined.

LT.9.3.3 – Identify functions that do and do not have a constant rate of change and understand that these functions are not linear.

LT.12.1.1 – Write the equation of a line in slope-intercept form.

LT.12.1.2 – Use slope-intercept form to solve problems.

LT.12.2.1 – Write the equation of a line in point-slope form.

LT.12.2.2 – Use point-slope form to solve problems.

LT.12.3.1 – Write the equation of a line in standard form.

LT.12.3.2 – Use the standard form of a linear equation to solve problems.

LT.12.4.1 – Describe the relationship among the slopes of parallel lines and perpendicular lines.

LT.12.4.2 – Write an equation of a line that contains a given point and is parallel or perpendicular to a given line.

LT.13.1.1 – Use collected data to make a scatter plot.

LT.13.1.2 – Determine the equation of a trend line.

LT.13.2.1 – Use a linear model to make predictions.

LT.13.2.2 – Use technology to perform a linear regression.

LT.13.3.1 – Use technology to perform quadratic and exponential regressions, and then make predictions.

LT.13.3.2 – Compare and contrast linear, quadratic, and exponential regressions.

UNIT 3: I CAN . . .

LT.14.1.1 – Use function notation and interpret statements that use functions notation in terms of a context.

LT.14.1.2 – Calculate the rate of change of a linear function presented in multiple representations.

LT.14.2.1 – Write linear equations in two variables given a table of values, a graph, or a verbal description.

LT.14.2.2 – Determine the domain and range of a linear function, determine their reasonableness, and represent them using inequalities.

LT.14.3.1 – Evaluate a function at specific inputs within the function's domain.

LT.14.3.2 – Graph piecewise-defined functions.

LT.14.4.1 – Compare the properties of two functions each represented in a different way.

LT.15.1.1 – Write a linear equation given a graph or a table.

LT.15.1.2 – Analyze key features of a function given its graph.

LT.15.2.1 – Graph and analyze functions on the same coordinate plane.

LT.15.2.2 – Write inequalities to represent real-world situations.

LT.15.3.1 – Write a linear equation given a verbal description.

LT.15.3.2 – Graph and analyze functions on the same coordinate plane.

LT.16.1.1 – Write linear inequalities in two variables.

LT.16.1.2 – Read and interpret the graph of the solutions of a linear inequality in two variables.

LT.16.2.1 – Graph on a coordinate plane the solutions of a linear inequality in two variables.

LT.16.2.2 – Interpret the graph of the solutions of a linear inequality in two variables.

LT.17.1.1 – Solve a system of linear equations by graphing.

LT.17.1.2 – Interpret the solution of a system of linear equations.

LT.17.2.1 – Solve a system of linear equations using a table or the substitution method.

LT.17.2.2 – Interpret the solution of a system of linear equations.

LT.17.3.1 – Use the elimination method to solve a system of linear equations.

LT.17.3.2 – Write a system of linear equations to model a situation.

LT.17.4.1 – Explain when a system of linear equations has no solution.

LT.17.4.2 – Explain when a system of linear equations has infinitely many solutions.

LT.17.5.1 – Determine the number of solutions of a system of equations.

LT.17.5.2 – Classify a system of linear equations as independent or dependent and as consistent or inconsistent.

LT.18.1.1 – Determine whether an ordered pair is a solution of a system of linear inequalities.

LT.18.1.2 – Graph the solutions of a system of linear inequalities.

LT.18.2.1 – Identify solutions to systems of linear inequalities when the solution region is determined by parallel lines.

LT.18.2.2 – Interpret solutions of systems of linear inequalities.

UNIT 4: I CAN . . .

LT.19.1.1 – Develop basic exponent properties.

LT.19.1.2 – Simplify expressions involving exponents.

LT.19.2.1 – Understand what is meant by negative and zero powers.

LT.19.2.2 – Simplify expressions involving exponents.

LT.19.3.1 – Develop the Power of a Power, Power of a Product, and the Power of a Quotient Properties.

LT.19.3.2 – Simplify expressions involving exponents.

LT.20.1.1 – Write and simplify radical expressions.

LT.20.1.2 – Understand what is meant by rational exponent.

LT.20.2.1 – Add radical expressions.

LT.20.2.2 – Subtract radical expressions.

LT.20.3.1 – Multiply and divide radical expressions.

LT.20.3.2 – Rationalize the denominator of a radical expression.

LT.24.1.1 – Identify parts of a polynomial.

LT.24.1.2 – Identify the degrees of a polynomial.

LT.24.2.1 – Use algebra tiles to add polynomials.

LT.24.2.2 – Add polynomials algebraically.

LT.24.3.1 – Subtract polynomials algebraically.

LT.25.1.1 – Use a graphic organizer to multiply expressions.

LT.25.1.2 – Use the Distributive Property to multiply expressions.

LT.25.2.1 – Multiply binomials.

LT.25.2.2 – Find special products of binomials.

LT.25.3.1 – Use a graphic organizer to multiply polynomials.

LT.25.3.2 – Use the Distributive Property to multiply polynomials.

LT.26.1.1 – Identify the GCF of the terms in a polynomial.

LT.26.1.2 – Factor the GCF from a polynomial.

LT.26.2.1 – Factor a perfect square trinomial.

LT.26.2.2 – Factor a difference of two squares.

LT.27.1.1 – Use algebra tiles to factor trinomials of the form $x^2 + bx + c$.

LT.27.1.2 – Factor trinomials of the form $x^2 + bx + c$.

LT.27.2.1 – Factor trinomials of the form $ax^2 + bx + c$ when the GCF is 1.

LT.27.2.2 – Factor trinomials of the form $ax^2 + bx + c$ when the GCF is not 1.

UNIT 5: I CAN . . .

LT.29.1.1 – Model a real-world situation with a quadratic function.

LT.29.1.2 – Identify quadratic functions.

LT.29.1.3 – Write a quadratic function in standard form.

LT.29.2.1 – Graph a quadratic function.

LT.29.2.2 – Interpret key features of the graph of a quadratic function.

LT.30.1.1 – Graph translations of the quadratic parent function.

LT.30.1.2 – Identify and distinguish among transformations.

LT.30.2.1 – Graph vertical stretches and shrinks of the quadratic parent functions.

LT.30.2.2 – Identify and distinguish among transformations.

LT.30.3.1 – Graph reflections of the quadratic parent function.

LT.30.3.2 – Identify and distinguish among transformations.

LT.30.3.3 – Compare functions represented in different ways.

LT.31.1.1 – Use a graph to solve a quadratic equation.

LT.31.1.2 – Use factoring to solve a quadratic equation.

LT.31.1.3 – Describe the connection between the zeros of a quadratic function and the x-intercepts of the function's graph.

LT.31.2.1 – Identify the axis of symmetry of the graph of a quadratic function.

LT.31.2.2 – Identify the vertex of the graph of a quadratic function.

LT.31.3.1 – Use the axis of symmetry, the vertex, and the zeros to graph a quadratic function.

LT.31.3.2 – Interpret the graph of a quadratic function.

LT.32.1.1 – Solve quadratic equations by the square root method.

LT.32.1.2 – Provide examples of quadratic equations having given number of real solutions.

LT.32.2.1 – Solve quadratic equations by completing the square.

LT.32.2.2 – Complete the square to analyze a quadratic function.

LT.32.3.1 – Derive the quadratic formula.

LT.32.3.2 – Solve quadratic equations using the quadratic formula.

LT.32.4.1 – Choose a method to solve a quadratic equation.

LT.32.4.2 – Use the discriminant to determine the number of real solutions of a quadratic equation.

LT.32.5.1 – Use the imaginary unit i to write complex numbers.

LT.32.5.2 – Solve a quadratic equation that has complex solutions.