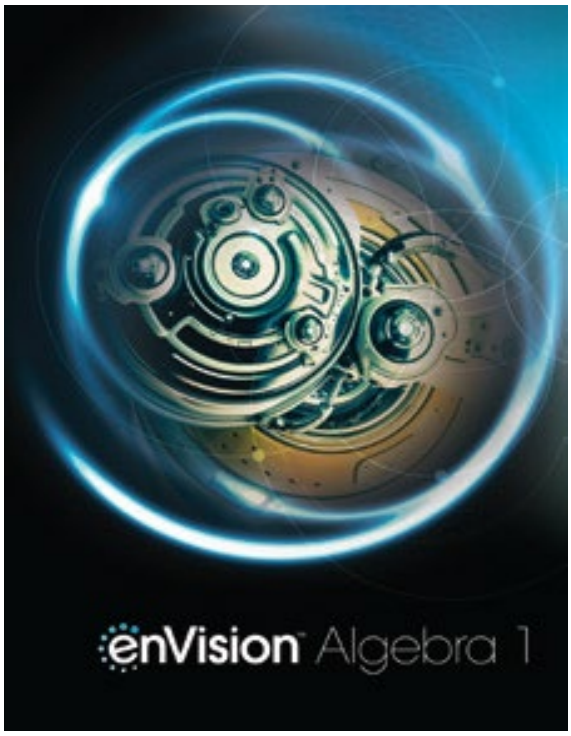
SAVVAS
LEARNING COMPANY

A Correlation of

enVision® Mathematics

Accelerated Grade 7 ©2021
Algebra 1 ©2018



to the

Ohio Middle School Compacted Mathematics Standards 2021

Prepared by Savvas Learning Company, formerly Pearson K12 Learning

A Correlation of enVision Mathematics
to the Ohio Middle School Compacted Mathematics Standards

Table of Contents

A Correlation of enVision Mathematics
to the Ohio Middle School Compacted Mathematics Standards

Ohio Middle School Compacted Mathematics Standards Year 1	enVision Mathematics enVision Accelerated Grade 7, ©2021 Algebra 1, ©2018
Ratio and Proportions	
7.RP.1 Compute unit rates associated with ratios of fractions, including ratios of lengths, areas, and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction[G] $(1/2)/(1/4)$ miles per hour, equivalently 2 miles per hour.	**enVision Accelerated Grade 7** **SE/TE:** 169-174, 175-180
7.RP.2 Recognize and represent proportional relationships between quantities.	**enVision Accelerated Grade 7** **SE/TE:** 181-186, 187-192, 199-204, 223-228, 229-234, 235-240, 265-268
a. Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.	**enVision Accelerated Grade 7** **SE/TE:** 181-186, 199-204, 223-228, 265-268
b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.	**enVision Accelerated Grade 7** **SE/TE:** 187-192, 199-204, 223-228, 265-268
c. Represent proportional relationships by equations. *For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn.*	**enVision Accelerated Grade 7** **SE/TE:** 187-192, 229-234, 235-240, 265-268, 487-494, 513-516, 531-536, 573-574
d. Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate.	**enVision Accelerated Grade 7** **SE/TE:** 199-204
7.RP.3 Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.	**enVision Accelerated Grade 7** **SE/TE:** 169-174, 175-180, 205-210, 223-228, 229-234, 235-240, 243-248, 253-258, 259-264, 265-268

A Correlation of enVision Mathematics
to the Ohio Middle School Compacted Mathematics Standards

Ohio Middle School Compacted Mathematics Standards Year 1	enVision Mathematics enVision Accelerated Grade 7, ©2021 Algebra 1, ©2018
7.G.1 Solve problems involving similar figures with right triangles, other triangles, and special quadrilaterals.	**enVision Accelerated Grade 7** **SE/TE:** 587-592, 649-650
a. Compute actual lengths and areas from a scale drawing and reproduce a scale drawing at a different scale.	**enVision Accelerated Grade 7** **SE/TE:** 587-592, 649-650
b. Represent proportional relationships within and between similar figures.	**enVision Accelerated Grade 7** **SE/TE:** 587-592, 649-650
8.EE.5 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. *For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.*	**enVision Accelerated Grade 7** **SE/TE:** 435-440, 465-466
8.EE.6 Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b.	**enVision Accelerated Grade 7** **SE/TE:** 441-446, 447-452, 453-458, 459-464, 465-466
Integer Operations	
7.NS.1 Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.	**enVision Accelerated Grade 7** **SE/TE:** 9-14, 21-26, 27-32, 33-38, 75-80
a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.	**enVision Accelerated Grade 7** **SE/TE:** 9-14, 75-80

Ohio Middle School Compacted Mathematics Standards Year 1	enVision Mathematics enVision Accelerated Grade 7, ©2021 Algebra 1, ©2018
b. Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.	**enVision Accelerated Grade 7** **SE/TE:** 21-26, 33-38, 75-80
c. Understand subtraction of rational numbers as adding the additive inverse, p − q = p + (−q). Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.	**enVision Accelerated Grade 7** **SE/TE:** 27-32, 33-38, 75-80
d. Apply properties of operations as strategies to add and subtract rational numbers.	**enVision Accelerated Grade 7** **SE/TE:** 21-26, 27-32, 33-38, 75-80
7.NS.2 Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.	**enVision Accelerated Grade 7** **SE/TE:** 15-20, 41-46, 47-52, 53-58, 59-64, 75-80
a. Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (−1)(−1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts.	**enVision Accelerated Grade 7** **SE/TE:** 41-46, 47-52, 75-80
b. Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then −(p/q) = (−p)/q = p/(–q). Interpret quotients of rational numbers by describing real-world contexts.	**enVision Accelerated Grade 7** **SE/TE:** 53-58, 59-64, 75-80
c. Apply properties of operations as strategies to multiply and divide rational numbers.	**enVision Accelerated Grade 7** **SE/TE:** 41-46, 47-52, 53-58, 59-64, 75-80

Ohio Middle School Compacted Mathematics Standards Year 1	enVision Mathematics enVision Accelerated Grade 7, ©2021 Algebra 1, ©2018
d. Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats.	**enVision Accelerated Grade 7** **SE/TE:** 15-20, 75-80
7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers. Computations with rational numbers extend the rules for manipulating fractions to complex fractions.	**enVision Accelerated Grade 7** **SE/TE:** 65-70, 75-80, 637-642, 643-648, 649-650
Linear Expressions, Equations, and Inequalities	
7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	**enVision Accelerated Grade 7** **SE/TE:** 283-288, 289-294, 295-300, 301-306, 313-318, 319-324, 331-334
7.EE.2 In a problem context, understand that rewriting an expression in an equivalent form can reveal and explain properties of the quantities represented by the expression and can reveal how those quantities are related. For example, a discount of 15% (represented by $p - 0.15p$) is equivalent to $(1 - 0.15)p$, which is equivalent to $0.85p$ or finding 85% of the original price.	**enVision Accelerated Grade 7** **SE/TE:** 295-300, 301-306, 313-318, 319-324, 331-334
7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example, if a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 ¾ inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.	**enVision Accelerated Grade 7** **SE/TE:** 65-70, 75-80, 277-282, 331-334, 349-354, 355-360, 391-394, 487-494, 513-516, 525-530, 543-548, 573-574, 621-626, 637-642, 643-648, 649-650

A Correlation of enVision Mathematics
to the Ohio Middle School Compacted Mathematics Standards

Ohio Middle School Compacted Mathematics Standards Year 1	enVision Mathematics enVision Accelerated Grade 7, ©2021 Algebra 1, ©2018
7.EE.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.	**enVision Accelerated Grade 7** **SE/TE:** 277-282, 331-334, 343-348, 349-354, 355-360, 363-368, 369-374, 379-384, 385-390, 391-394, 613-618, 621-626, 637-642, 643-648, 649-650
a. Solve word problems leading to equations of the form $px + q = r$ and $p(x + q) = r$, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. *For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?*	**enVision Accelerated Grade 7** **SE/TE:** 277-282, 331-334, 343-348, 349-354, 355-360, 391-394, 613-618, 621-626, 637-642, 643-648, 649-650
b. Solve word problems leading to inequalities of the form $px + q > r$ or $px + q < r$, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. *For example, as a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions.*	**enVision Accelerated Grade 7** **SE/TE:** 363-368, 369-374, 379-384, 385-390, 391-394
8.EE.7 Solve linear equations in one variable.	**enVision Accelerated Grade 7** **SE/TE:** 403-408, 409-414, 415-420, 421-428, 465-466
a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).	**enVision Accelerated Grade 7** **SE/TE:** 421-428, 465-466
b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.	**enVision Accelerated Grade 7** **SE/TE:** 403-408, 409-414, 415-420, 465-466

A Correlation of enVision Mathematics
to the Ohio Middle School Compacted Mathematics Standards

Ohio Middle School Compacted Mathematics Standards Year 1	enVision Mathematics enVision Accelerated Grade 7, ©2021 Algebra 1, ©2018
8.EE.8 Analyze and solve pairs of simultaneous linear equations graphically.	**enVision Algebra 1** **SE/TE:** 143-149, 151, 154, 162
a. Understand that the solution to a pair of linear equations in two variables corresponds to the point(s) of intersection of their graphs, because the point(s) of intersection satisfy both equations simultaneously.	**enVision Algebra 1** **SE/TE:** 143-149, 151, 154, 162
b. Use graphs to find or estimate the solution to a pair of two simultaneous linear equations in two variables. Equations should include all three solution types: one solution, no solution, and infinitely many solutions. Solve simple cases by inspection. *For example, 3x + 2y = 5 and 3x + 2y = 6 have no solution because 3x + 2y cannot simultaneously be 5 and 6.*	**enVision Algebra 1** **SE/TE:** 143-149, 151, 154, 162
c. Solve real-world and mathematical problems leading to pairs of linear equations in two variables. *For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.* (Limit solutions to those that can be addressed by graphing.)	**enVision Algebra 1** **SE/TE:** 143-149, 150-156, 157-163
A.SSE.1 (linear) Interpret expressions that represent a quantity in terms of its context.	**enVision Algebra 1** **SE/TE:** 11-14, 25, 30-31, 39, 46, 101, 154, 189, 209, 219, 242, 259, 263, 271, 277, 290, 302, 325, 372, 378
A.APR.1 (linear) Understand that polynomials form a system analogous to the integers, namely, that they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.	**enVision Algebra 1** **SE/TE:** 261-262, 264, 265-266, 267, 268, 269-270, 271, 272, 273-274, 275-276, 277, 278, 279-280, 445-446

A Correlation of enVision Mathematics
to the Ohio Middle School Compacted Mathematics Standards

Ohio Middle School Compacted Mathematics Standards Year 1	enVision Mathematics enVision Accelerated Grade 7, ©2021 Algebra 1, ©2018
A.CED.1a (linear) Create equations and inequalities in one variable and use them to solve problems. Include equations and inequalities arising from linear, quadratic, simple rational, and exponential functions. **a.** Focus on applying linear and simple exponential expressions.	**enVision Algebra 1** **SE/TE:** 12-17, 20-23, 25, 30-35, 37-42, 43-49, 71, 231-235, 238
A.CED.2a (linear) Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. **a.** Focus on applying linear and simple exponential expressions.	**enVision Algebra 1** **SE/TE:** 58, 60, 61-62, 63, 64, 65, 66, 67-68, 72, 76, 78, 79, 80, 81-82, 121, 122, 231-235, 238
A.REI.1 Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.	**enVision Algebra 1** **SE/TE:** 11-14, 18-22, 43-44, 377-379, 384-387
A.REI.3 Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.	**enVision Algebra 1** **SE/TE:** 11-17, 18-23, 24-29, 30-35, 37-42
A.REI.10 (linear) Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).	**enVision Algebra 1** **SE/TE:** 57-61, 64, 66-68, 70-73, 77, 80-82, 143-149, 151, 154, 162
A.REI.12 Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.	**enVision Algebra 1** **SE/TE:** 164-169, 171-176

A Correlation of enVision Mathematics
to the Ohio Middle School Compacted Mathematics Standards

Ohio Middle School Compacted Mathematics Standards Year 1	enVision Mathematics enVision Accelerated Grade 7, ©2021 Algebra 1, ©2018
Linear Functions	
8.F.1 Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. Function notation is not required in Grade 8.	**enVision Algebra 1** **SE/TE:** 89, 91-96, 100-101
8.F.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.	**enVision Algebra 1** **SE/TE:** 105, 228, 248, 249, 331-332, 347
8.F.3 Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function $A = s^2$ giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line.	**enVision Algebra 1** **SE/TE:** 57-62, 95-101, 102-108, 227, 229
8.F.4 Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.	**enVision Algebra 1** **SE/TE:** 57-62, 63-68, 69-74, 75, 95-101, 102-108, 109, 118-125, 126-134
8.F.5 Describe qualitatively the functional relationship between two quantities by analyzing a graph, e.g., where the function is increasing or decreasing, linear or nonlinear. Sketch a graph that exhibits the qualitative features of a function that has been described verbally.	**enVision Algebra 1** **SE/TE:** 57, 61-62, 70, 72, 323-324, 326, 327-328, 329, 330-331, 333, 358, 359, 367, 387, 426, 429

A Correlation of enVision Mathematics
to the Ohio Middle School Compacted Mathematics Standards

Ohio Middle School Compacted Mathematics Standards Year 1	enVision Mathematics enVision Accelerated Grade 7, ©2021 Algebra 1, ©2018
F.IF.1 Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then f(x) denotes the output of f corresponding to the input x. The graph of f is the graph of the equation y = f(x).	**enVision Algebra 1** **SE/TE:** 89, 91-96, 100-101
F.IF.2 (linear) Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.	**enVision Algebra 1** **SE/TE:** 95-101, 183-189, 191-196, 197-202, 224-230, 336-343, 411-417, 418-424
F.IF.3 (linear) Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. For example, the Fibonacci sequence is defined recursively by f(0) = f(1) = 1, f(n + 1) = f(n) + f(n − 1) for n ≥ 1.	**enVision Algebra 1** **SE/TE:** 110-111, 112, 115, 243
F.IF.4b (linear) For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include the following: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity. **b.** Focus on linear, quadratic, and exponential functions.	**enVision Algebra 1** **SE/TE:** 57, 59, 60, 70-72, 73, 224-225, 228-230, 315, 317, 319, 320, 329-333, 334-335, 340-341
F.IF.5b (linear) Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function. **b.** Focus on linear, quadratic, and exponential functions.	**enVision Algebra 1** **SE/TE:** 89-94, 95-101, 102-108, 118-125, 126-134, 183-189, 191-196, 197-202, 203-209, 224-230, 246-251, 315-321, 357-362, 425-431

A Correlation of enVision Mathematics
to the Ohio Middle School Compacted Mathematics Standards

Ohio Middle School Compacted Mathematics Standards Year 1	enVision Mathematics enVision Accelerated Grade 7, ©2021 Algebra 1, ©2018
F.IF.7a Graph functions expressed symbolically and indicate key features of the graph, by hand in simple cases and using technology for more complicated cases. Include applications and how key features relate to characteristics of a situation, making selection of a particular type of function model appropriate. **a.** Graph linear functions and indicate intercepts.	**enVision Algebra 1** **SE/TE:** 57, 61-62, 70, 72, 323-324, 326, 327-328, 329, 330-331, 333, 358, 359, 367, 387, 426, 429
F.IF.9b (linear) Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum. **b.** Focus on linear, quadratic, and exponential functions.	**enVision Algebra 1** **SE/TE:** 105, 228, 248, 249, 331-332, 347
F.BF.1a.i (linear) Write a function that describes a relationship between two quantities. **a.** Determine an explicit expression, a recursive process, or steps for calculation from context. **i.** Focus on linear and exponential functions.	**enVision Algebra 1** **SE/TE:** 95-101, 102-108, 109, 110-117, 118-125, 126-134, 224-230, 231-238, 239-245, 246-251
F.BF.2 (arithmetic) Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.	**enVision Algebra 1** **SE/TE:** 111-117, 239-245
F.LE.5 (linear) Interpret the parameters in a linear or exponential function in terms of a context.	**enVision Algebra 1** **SE/TE:** 95-101, 102-108, 109, 110-117, 118-125, 126-134, 224-230, 231-238, 239-245, 246-251

A Correlation of enVision Mathematics
to the Ohio Middle School Compacted Mathematics Standards

Ohio Middle School Compacted Mathematics Standards Year 1	enVision Mathematics enVision Accelerated Grade 7, ©2021 Algebra 1, ©2018
Angles	
7.G.2 Draw (freehand, with ruler and protractor, and with technology) geometric figures with given conditions.	**enVision Accelerated Grade 7** **SE/TE:** 593-598, 599-606, 649-650
a. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.	**enVision Accelerated Grade 7** **SE/TE:** 593-598, 599-606, 649-650
b. Focus on constructing quadrilaterals with given conditions noticing types and properties of resulting quadrilaterals and whether it is possible to construct different quadrilaterals using the same conditions.	**enVision Accelerated Grade 7** **SE/TE:** 593-598, 599-606, 649-650
7.G.5 Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure.	**enVision Accelerated Grade 7** **SE/TE:** 607-612, 649-650
8.G.5 Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. *For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.*	**enVision Accelerated Grade 7** **SE/TE:** 607-612, 711-717, 719-724
Area, Surface Area, and Volume	
7.G.3 Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids.	**enVision Accelerated Grade 7** **SE/TE:** 631-636, 649-650
7.G.4 Work with circles.	**enVision Accelerated Grade 7** **SE/TE:** 613-618, 621-626, 649-650

A Correlation of enVision Mathematics
to the Ohio Middle School Compacted Mathematics Standards

Ohio Middle School Compacted Mathematics Standards Year 1	enVision Mathematics enVision Accelerated Grade 7, ©2021 Algebra 1, ©2018
a. Explore and understand the relationships among the circumference, diameter, area, and radius of a circle.	**enVision Accelerated Grade 7** **SE/TE:** 613-618, 621-626, 649-650
b. Know and use the formulas for the area and circumference of a circle and use them to solve real-world and mathematical problems.	**enVision Accelerated Grade 7** **SE/TE:** 613-618, 621-626, 649-650
7.G.6 Solve real-world and mathematical problems involving area, volume, and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	**enVision Accelerated Grade 7** **SE/TE:** 637-642, 643-648, 649-650
8.G.9 Solve real-world and mathematical problems involving volumes of cones, cylinders, and spheres.	**enVision Accelerated Grade 7** **SE/TE:** 787-792, 793-798, 801-806, 807-812, 817-820
A.CED.4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.	**enVision Algebra 1** **SE/TE:** 24-29
Univariate Statistics	
7.SP.1 Understand that statistics can be used to gain information about a population by examining a sample of the population.	**enVision Accelerated Grade 7** **SE/TE:** 479-486, 487-494, 513-516
a. Differentiate between a sample and a population.	**enVision Accelerated Grade 7** **SE/TE:** 479-486, 487-494, 513-516
b. Understand that conclusions and generalizations about a population are valid only if the sample is representative of that population. Develop an informal understanding of bias.	**enVision Accelerated Grade 7** **SE/TE:** 479-486, 487-494, 513-516

A Correlation of enVision Mathematics
to the Ohio Middle School Compacted Mathematics Standards

Ohio Middle School Compacted Mathematics Standards Year 1	enVision Mathematics enVision Accelerated Grade 7, ©2021 Algebra 1, ©2018
7.SP.2 Broaden statistical reasoning by using the GAISE model:	**enVision Algebra 1** **SE/TE:** 465-471, 472-477, 480, 482-486, 491-494 For related content, also see **enVision Accelerated Grade 7** **SE/TE:** 497-502,503-508, 487-494, 513-516
a. Formulate Questions: Recognize and formulate a statistical question as one that anticipates variability and can be answered with quantitative data. For example, “How do the heights of seventh graders compare to the heights of eighth graders?” (GAISE Model, step 1)	**enVision Algebra 1** **SE/TE:** 465-471, 472-477, 480, 482-486, 491-494 For related content, also see **enVision Accelerated Grade 7** **SE/TE:** 487-494, 497-502, 503-508, 513-516
b. Collect Data: Design and use a plan to collect appropriate data to answer a statistical question. (GAISE Model, step 2)	**enVision Algebra 1** **SE/TE:** 465-471, 472-477, 480, 482-486, 491-494 For related content, also see **enVision Accelerated Grade 7** **SE/TE:** 487-494, 497-502, 503-508, 513-516
c. Analyze Data: Select appropriate graphical methods and numerical measures to analyze data by displaying variability within a group, comparing individual to individual, and comparing individual to group. (GAISE Model, step 3)	**enVision Algebra 1** **SE/TE:** 465-471, 472-477, 480, 482-486, 491-494 For related content, also see **enVision Accelerated Grade 7** **SE/TE:** 487-494, 497-502, 503-508, 513-516
d. Interpret Results: Draw logical conclusions and make generalizations from the data based on the original question. (GAISE Model, step 4)	**enVision Algebra 1** **SE/TE:** 465, 472-473, 476 For related content, also see: **enVision Accelerated Grade 7** **SE/TE:** 487-494, 497-502, 503-508, 513-516
7.SP.3 Describe and analyze distributions.	**enVision Accelerated Grade 7** Grade 7 **SE/TE:** 497-502, 503-508, 513-516
a. Summarize quantitative data sets in relation to their context by using mean absolute deviation[G] (MAD), interpreting mean as a balance point.	**enVision Accelerated Grade 7** **SE/TE:** 497-502, 503-508, 513-516

Ohio Middle School Compacted Mathematics Standards Year 1	enVision Mathematics enVision Accelerated Grade 7, ©2021 Algebra 1, ©2018
b. Informally assess the degree of visual overlap of two numerical data distributions with roughly equal variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. *For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on a dot plot[G] (line plot), the separation between the two distributions of heights is noticeable.*	**enVision Accelerated Grade 7** **SE/TE:** 503-508, 513-516
S.ID.1 Represent data with plots on the real number line (dot plots[G], histograms, and box plots) in the context of real-world applications using the GAISE model.	**enVision Algebra 1** **SE/TE:** 465-471, 472-477, 480, 482-486, 491-494
S.ID.2 In the context of real-world applications by using the GAISE model, use statistics appropriate to the shape of the data distribution to compare center (median and mean) and spread (mean absolute deviation[G], interquartile range[G], and standard deviation) of two or more different data sets.	**enVision Algebra 1** **SE/TE:** 472-479, 480-486, 487-494, 495-500
S.ID.3 In the context of real-world applications by using the GAISE model, interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).	**enVision Algebra 1** **SE/TE:** 465, 472-473, 476
Probability	
7.SP.5 Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event; a probability around 1/2 indicates an event that is neither unlikely nor likely; and a probability near 1 indicates a likely event.	**enVision Accelerated Grade 7** **SE/TE:** 525-530, 573-574

Ohio Middle School Compacted Mathematics Standards Year 1	enVision Mathematics enVision Accelerated Grade 7, ©2021 Algebra 1, ©2018
7.SP.6 Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.	**enVision Accelerated Grade 7** **SE/TE:** 531-536, 537-542, 573-574
7.SP.7 Develop a probability model[G] and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.	**enVision Accelerated Grade 7** **SE/TE:** 537-542, 543-548, 573-574
a. Develop a uniform probability model[G] by assigning equal probability to all outcomes, and use the model to determine probabilities of events. *For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected.*	**enVision Accelerated Grade 7** **SE/TE:** 537-542, 543-548, 573-574
b. Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. *For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?*	**enVision Accelerated Grade 7** **SE/TE:** 543-548, 573-574
7.SP.8 Find probabilities of compound events using organized lists, tables, tree diagrams, and simulations.	**enVision Accelerated Grade 7** **SE/TE:** 555-560, 561-566, 567-572, 573-574
a. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space[G] for which the compound event occurs.	**enVision Accelerated Grade 7** **SE/TE:** 561-566, 573-574

Ohio Middle School Compacted Mathematics Standards Year 1	enVision Mathematics enVision Accelerated Grade 7, ©2021 Algebra 1, ©2018
b. Represent sample spaces for compound events using methods such as organized lists, tables, and tree diagrams. For an event described in everyday language, e.g., "rolling double sixes," identify the outcomes in the sample space which compose the event.	**enVision Accelerated Grade 7** **SE/TE:** 555-560, 573-574
c. Design and use a simulation to generate frequencies for compound events. *For example, use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?*	**enVision Accelerated Grade 7** **SE/TE:** 567-572, 573-574
8.SP.4 Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. *For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?*	**enVision Algebra 1** **SE/TE:** 495-500
S.ID.5 Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.	**enVision Algebra 1** **SE/TE:** 495, 496, 497, 498, 499-500

A Correlation of enVision Mathematics
to the Ohio Middle School Compacted Standards

Ohio Middle School Compacted Mathematics Standards Year 2	enVision Mathematics enVision Accelerated Grade 7, ©2021 Algebra 1, ©2018
Integer Operations	
A.APR.1 Understand that polynomials form a system analogous to the integers, namely, that they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.	**enVision Algebra 1** **SE/TE:** 261-262, 264-266, 267-274, 275-280, 445-446
Linear Expressions, Equations, and Inequalities	
A.CED.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.	**enVision Algebra 1** **SE/TE:** 32, 37, 39, 40, 69, 397
A.CED.4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.	**enVision Algebra 1** **SE/TE:** 24-29
A.REI.5 Verify that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.	**enVision Algebra 1** **SE/TE:** 157-163
A.REI.6 Solve systems of linear equations algebraically and graphically.	**enVision Algebra 1** **SE/TE:** 143-147, 148-149, 151-153
Linear Functions	
F.BF.4a Find inverse functions. **a.** Informally determine the input of a function when the output is known.	**enVision Algebra 1** **SE/TE:** 451-456
F.LE.5 Interpret the parameters in a linear or exponential function in terms of a context.	**enVision Algebra 1** **SE/TE:** 98, 100-101

A Correlation of enVision Mathematics
to the Ohio Middle School Compacted Standards

Ohio Middle School Compacted Mathematics Standards Year 2	enVision Mathematics enVision Accelerated Grade 7, ©2021 Algebra 1, ©2018
F.LE.1.b Distinguish between situations that can be modeled with linear functions and with exponential functions. **b.** Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.	**enVision Algebra 1** **SE/TE:** 62, 68, 94-96, 98-99, 101, 110-117
F.LE.2 Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).	**enVision Algebra 1** **SE/TE:** 96, 100-101, 110-111, 115, 206, 207
Transformations	
8.G.1 Verify experimentally the properties of rotations, reflections, and translations (include examples both with and without coordinates).	**enVision Accelerated Grade 7** **SE/TE:** 663-668, 669-674, 675-680, 681-686
a. Lines are taken to lines, and line segments are taken to line segments of the same length.	**enVision Accelerated Grade 7** **SE/TE:** 663-668, 669-674, 675-680
b. Angles are taken to angles of the same measure.	**enVision Accelerated Grade 7** **SE/TE:** 663-668, 669-674, 675-680
c. Parallel lines are taken to parallel lines.	**enVision Accelerated Grade 7** **SE/TE:** 663-668, 669-674, 675-680
8.G.2 Understand that a two-dimensional figure is congruent[G] to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them. (Include examples both with and without coordinates.)	**enVision Accelerated Grade 7** **SE/TE:** 691-696
8.G.3 Describe the effect of dilations[G], translations, rotations, and reflections on two-dimensional figures using coordinates.	**enVision Accelerated Grade 7** **SE/TE:** 663-668, 669-674, 675-680, 681-686, 699-704

A Correlation of enVision Mathematics
to the Ohio Middle School Compacted Standards

Ohio Middle School Compacted Mathematics Standards Year 2	enVision Mathematics enVision Accelerated Grade 7, ©2021 Algebra 1, ©2018
8.G.4 Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them. (Include examples both with and without coordinates.)	**enVision Accelerated Grade 7** **SE/TE:** 699-704, 705-710, 725-730
The Real Number System including square roots, negative exponents, and scientific notation	
8.NS.1 Know that real numbers are either rational or irrational. Understand informally that every number has a decimal expansion which is repeating, terminating, or is non-repeating and non-terminating	**enVision Accelerated Grade 7** **SE/TE:** 15-20, 47-52, 59-64, 65-70, 89-94, 95-100 **enVision Algebra 1** **SE/TE:** 5-10
8.NS.2 Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions, e.g., π^2. *For example, by truncating the decimal expansion of* $\sqrt{2}$*, show that* $\sqrt{2}$ *is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations*	**enVision Accelerated Grade 7** **SE/TE:** 95-100, 101-106, 107-112 **enVision Algebra 1** **SE/TE:** 5-10
8.EE.1 Understand, explain, and apply the properties of integer exponents to generate equivalent numerical expressions. *For example,* $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$.	**enVision Accelerated Grade 7** **SE/TE:** 121-126, 127-132 **enVision Algebra 1** **SE/TE:** 217-223
8.EE.2 Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.	**enVision Accelerated Grade 7** **SE/TE:** 113-118 **enVision Algebra 1** **SE/TE:** 217, 221, 370-375, 376-381

A Correlation of enVision Mathematics
to the Ohio Middle School Compacted Standards

Ohio Middle School Compacted Mathematics Standards Year 2	enVision Mathematics enVision Accelerated Grade 7, ©2021 Algebra 1, ©2018
8.EE.3 Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities and to express how many times as much one is than the other. *For example, estimate the population of the United States as 3 × 10^8; and the population of the world as 7 × 10^9; and determine that the world population is more than 20 times larger.*	**enVision Accelerated Grade 7** **SE/TE:** 133-138, 139-144, 145-148
8.EE.4 Perform operations with numbers expressed in scientific notation, including problems where both decimal notation and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities, e.g., use millimeters per year for seafloor spreading. Interpret scientific notation that has been generated by technology.	**enVision Accelerated Grade 7** **SE/TE:** 139-144, 145-148, 149-154
8.G.6 Analyze and justify an informal proof of the Pythagorean Theorem and its converse.	**Accelerated Grade 7** **SE/TE:** 749-754, 755-760 **enVision Algebra 1** **TE:** 376B
8.G.7 Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.	**enVision Accelerated Grade 7** **SE/TE:** 751-754, 757-760, 763-768 **enVision Algebra 1** **SE/TE:** 369, 372, 378-381
8.G.8 Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	**enVision Accelerated Grade 7** **SE/TE:** 769-774
N.Q.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.	**enVision Algebra 1** **SE/TE:** 17, 25-26, 29, 35, 40, 49, 118-125, 183, 191, 202, 238, 339, 359, 362 (#36, #39), 369 (#36, #39), 376-378, 380-381, 449-450, 453

SE = Student Edition TE = Teacher's Edition

Ohio Middle School Compacted Mathematics Standards Year 2	enVision Mathematics enVision Accelerated Grade 7, ©2021 Algebra 1, ©2018
N.Q.2 Define appropriate quantities for the purpose of descriptive modeling.	**enVision Algebra 1** This standard is addressed throughout the text. For example, please see the following pages (problems): **SE/TE:** 29 (#30, 31), 101 (#29, 31), 202 (#29), 238 (#27), 245 (#43), 293 (#37), 342 (#24), 369 (#35), 381 (#47), 424 (#35), 443 (#32), 471 (#24)
N.Q.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.	**enVision Algebra 1** **SE/TE:** 17 (#42), 130, 132 (#7), 134 (#25), 146, 189 (#32), 223, 341, 348 (Example 2), 359 (Example 3), 374-375, 378, 380-381, 391, 437, 456, 478 (#10)
Bivariate Data	
8.SP.1 Construct and interpret scatter plots for bivariate[G] measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering; outliers; positive, negative, or no association; and linear association and nonlinear association. (GAISE Model, steps 3 and 4)	**enVision Algebra 1** **SE/TE:** 118-125, 126-134
8.SP.2 Understand that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line. (GAISE Model, steps 3 and 4)	**enVision Algebra 1** **SE/TE:** 118-125, 126-134
8.SP.3 Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height. (GAISE Model, steps 3 and 4)	**enVision Algebra 1** **SE/TE:** 118-125, 126-134

A Correlation of enVision Mathematics
to the Ohio Middle School Compacted Standards

Ohio Middle School Compacted Mathematics Standards Year 2	enVision Mathematics enVision Accelerated Grade 7, ©2021 Algebra 1, ©2018
S.ID.6 Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.	**enVision Algebra 1** **SE/TE:** 118-125, 126-134
S.ID.7 Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.	**enVision Algebra 1** **SE/TE:** 59, 65
S.ID.8 Compute (using technology) and interpret the correlation coefficient of a linear fit.	**enVision Algebra 1** **SE/TE:** 127, 133-134
Exponential and Quadratic Expressions, and Equations (Revisiting some linear functions and incorporating a few other function types when relevant.)	
A.SSE.1 Interpret expressions that represent a quantity in terms of its context.	**enVision Algebra 1** **SE/TE:** 11-13, 25, 30-31, 39, 46, 101, 154, 189, 209, 219, 242, 259, 263, 271, 277, 290, 302, 325, 372, 378
A.SSE.2 Use the structure of an expression to identify ways to rewrite it. For example, to factor $3x(x - 5) + 2(x - 5)$, students should recognize that the "$x - 5$" is common to both expressions being added, so it simplifies to $(3x + 2)(x - 5)$; or see $x^4 - y^4$ as $(x^2)^2 - (y^2)^2$, thus recognizing it as a difference of squares that can be factored as $(x^2 - y^2)(x^2 + y^2)$.	**enVision Algebra 1** **SE/TE:** 11-17, 24-29, 37-42, 57-62, 63-68, 69-74, 76-82, 95-101, 102-108, 143-149, 224-230, 246-251, 259-266, 287-293, 295-300, 301-306, 315-321, 322-328, 329-335, 344-350
A.SSE.3a Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression. **a.** Factor a quadratic expression to reveal the zeros of the function it defines.	**enVision Algebra 1** **SE/TE:** 287-293, 295-300, 301-306, 363-369
A.SSE.3b Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression. **b.** Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.	**enVision Algebra 1** **SE/TE:** 385-388, 426, 430-431

A Correlation of enVision Mathematics
to the Ohio Middle School Compacted Standards

Ohio Middle School Compacted Mathematics Standards Year 2	enVision Mathematics enVision Accelerated Grade 7, ©2021 Algebra 1, ©2018
A.SSE.3c Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented by the expression. **c.** Use the properties of exponents to transform expressions for exponential functions. For example, 8^t can be written as 2^{3t}.	**Accelerated Grade 7** **SE/TE:** 121-126, 127-132 **enVision Algebra 1** **SE/TE:** 216, 231-238, 249
A.APR.1 Understand that polynomials form a system analogous to the integers, namely, that they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials. **a.** Focus on polynomial expressions that simplify to forms that are linear or quadratic.	**enVision Algebra 1** **SE/TE:** 261-262, 264, 265-266, 267, 268, 269-270, 271, 272, 273-274, 275-276, 277, 278, 279-280, 445-446
A.CED.1a Create equations and inequalities in one variable and use them to solve problems. Include equations and inequalities arising from linear, quadratic, simple rational, and exponential functions. **a.** Focus on applying linear and simple exponential expressions.	**enVision Algebra 1** **SE/TE:** 12, 13, 14, 15, 16-17, 20, 20-21, 22-23, 25, 30-35, 37-42, 43-49, 71, 231-235, 238
A.CED.1b Create equations and inequalities in one variable and use them to solve problems. Include equations and inequalities arising from linear, quadratic, simple rational, and exponential functions. **b.** Focus on applying simple quadratic expressions.	**enVision Algebra 1** **SE/TE:** 363-369, 370-375, 376-381, 382-388, 389-395, 397-402
A.CED.2a Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. **a.** Focus on applying linear and simple exponential expressions.	**enVision Algebra 1** **SE/TE:** 58, 60, 61-62, 63, 64, 65, 66, 67-68, 72, 76, 78, 79, 80, 81-82, 121, 122, 231-235, 238
A.CED.2b Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. **b.** Focus on applying simple quadratic expressions.	**enVision Algebra 1** **SE/TE:** 317, 325-326, 327-328, 332, 385, 386-388, 391

A Correlation of enVision Mathematics
to the Ohio Middle School Compacted Standards

Ohio Middle School Compacted Mathematics Standards Year 2	enVision Mathematics enVision Accelerated Grade 7, ©2021 Algebra 1, ©2018
A.CED.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.	**enVision Algebra 1** **SE/TE:** 32, 37, 39, 40, 69, 397
A.CED.4a Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. **a.** Focus on formulas in which the variable of interest is linear or square. For example, rearrange Ohm's law V = IR to highlight resistance R, or rearrange the formula for the area of a circle A = $(\pi)r^2$ to highlight radius r.	**enVision Algebra 1** **SE/TE:** 24, 25, 26, 27, 28-29
A.REI.1 Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.	**enVision Accelerated Grade 7** **SE/TE:** 404-407, 409-413, 416-420, 423-424, 426-427 **enVision Algebra 1** **SE/TE:** 11-16, 18-22, 36, 382, 384, 386 **TE:** 11A, 17B, 23B
A.REI.4a Solve quadratic equations in one variable. **a.** Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x - p)^2 = q$ that has the same solutions.	**enVision Algebra 1** **SE/TE:** 382-388, 389-395
A.REI.4b Solve quadratic equations in one variable. **b.** Solve quadratic equations as appropriate to the initial form of the equation by inspection, e.g., for $x^2 = 49$; taking square roots; completing the square; applying the quadratic formula; or utilizing the Zero-Product Property after factoring.	**enVision Algebra 1** **SE/TE:** 363, 364-365, 367, 368-369, 376, 379, 380-381, 382-383, 384, 385, 386, 387-388, 389-390, 392, 393, 394-395

SE = Student Edition TE = Teacher's Edition

Ohio Middle School Compacted Mathematics Standards Year 2	enVision Mathematics enVision Accelerated Grade 7, ©2021 Algebra 1, ©2018
A.REI.7 Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. For example, find the points of intersection between the line y = −3x and the circle $x^2 + y^2 = 3$.\	**enVision Algebra 1** **SE/TE:** 397, 398, 400, 401-402
A.REI.10 Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).	**enVision Algebra 1** **SE/TE:** 89-90, 96-101, 246
A.REI.11 Explain why the x-coordinates of the points where the graphs of the equation y = f(x) and y = g(x) intersect are the solutions of the equation f(x) = g(x); find the solutions approximately, e.g., using technology to graph the functions, making tables of values, or finding successive approximations.	**enVision Algebra 1** **SE/TE:** 357-362, 397-402 **TE:** 362A-362B, 402A-402B
Exponential and Quadratic Functions (Revisiting some linear functions and incorporating a few other function types when relevant.)	
F.IF.2 Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.	**enVision Algebra 1** **SE/TE:** 95-101, 183-189, 191-196, 197-202, 224-230, 336-343, 411-417, 418-424
F.IF.3 Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers. For example, the Fibonacci sequence is defined recursively by f(0) = f(1) = 1, f(n + 1) = f(n) + f(n − 1) for n ≥ 1.	**enVision Algebra 1** **SE/TE:** 110-111, 112, 115, 243
F.IF.4b For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include the following: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity. **b.** Focus on linear, quadratic, and exponential functions.	**enVision Algebra 1** **SE/TE:** 57, 59, 60, 70-72, 73, 224-225, 228-230, 315, 317, 319, 320, 329-333, 334-335, 340-341

A Correlation of enVision Mathematics
to the Ohio Middle School Compacted Standards

Ohio Middle School Compacted Mathematics Standards Year 2	enVision Mathematics enVision Accelerated Grade 7, ©2021 Algebra 1, ©2018
F.IF.5b Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function. **b.** Focus on linear, quadratic, and exponential functions.	**enVision Algebra 1** **SE/TE:** 89-94, 95-101, 102-108, 118-125, 126-134, 183-189, 191-196, 197-202, 203-209, 224-230, 246-251, 315-321, 357-362, 425-431
F.IF.7b Graph functions expressed symbolically and indicate key features of the graph, by hand in simple cases and using technology for more complicated cases. Include applications and how key features relate to characteristics of a situation, making selection of a particular type of function model appropriate. **b.** Graph quadratic functions and indicate intercepts, maxima, and minima.	**enVision Algebra 1** **SE/TE:** 323-324, 324, 326, 327-328, 329, 330-331, 333, 337, 357-358, 359, 367, 387-388, 426, 429
F.IF.7e Graph functions expressed symbolically and indicate key features of the graph, by hand in simple cases and using technology for more complicated cases. Include applications and how key features relate to characteristics of a situation, making selection of a particular type of function model appropriate. **e.** Graph simple exponential functions, indicating intercepts and end behavior.	**enVision Algebra 1** **SE/TE:** 224-225, 228-230
F.IF.8a Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. **a.** Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.	**enVision Algebra 1** **SE/TE:** 363-369, 382-388

A Correlation of enVision Mathematics
to the Ohio Middle School Compacted Standards

Ohio Middle School Compacted Mathematics Standards Year 2	enVision Mathematics enVision Accelerated Grade 7, ©2021 Algebra 1, ©2018
F.IF.8b Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. **b.** Use the properties of exponents to interpret expressions for exponential functions. For example, identify percent rate of change[G] in functions such as $y = (1.02)^t$, and $y = (0.97)^t$ and classify them as representing exponential growth or decay.	**enVision Accelerated Grade 7** **SE/TE:** 121, 123, 125-126, 127-128, 132 **enVision Algebra 1** **SE/TE:** 216, 219, 231-238
F.IF.9b Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum. **b.** Focus on linear, quadratic, and exponential functions.	**enVision Algebra 1** **SE/TE:** 105, 228, 248, 249, 318, 331-332
F.BF.1a Write a function that describes a relationship between two quantities. **a.** Determine an explicit expression, a recursive process, or steps for calculation from context.	**enVision Algebra 1** **SE/TE:** 110-117, 239-245
F.BF.2 Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.	**enVision Algebra 1** **SE/TE:** 111, 112, 113, 114, 115, 116-117, 240, 242, 243, 244-245
F.BF.3a Identify the effect on the graph of replacing f(x) by f(x) + k, kf(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them. **a.** Focus on transformations of graphs of quadratic functions, except for f(kx)	**enVision Algebra 1** **SE/TE:** 316, 322-324

A Correlation of enVision Mathematics
to the Ohio Middle School Compacted Standards

Ohio Middle School Compacted Mathematics Standards Year 2	enVision Mathematics enVision Accelerated Grade 7, ©2021 Algebra 1, ©2018
F.BF.4a Find inverse functions. **a.** Informally determine the input of a function when the output is known.	**enVision Algebra 1** **SE/TE:** 451-456
F.LE.1a Distinguish between situations that can be modeled with linear functions and with exponential functions. **a.** Show that linear functions grow by equal differences over equal intervals and that exponential functions grow by equal factors over equal intervals.	**enVision Algebra 1** **SE/TE:** 110-117, 239-245, 344-350
F.LE.1b Distinguish between situations that can be modeled with linear functions and with exponential functions. **b.** Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.	**enVision Algebra 1** **SE/TE:** 62, 68, 94-96, 98-99, 101, 110-117
F.LE.1c Distinguish between situations that can be modeled with linear functions and with exponential functions. **c.** Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.	**enVision Algebra 1** **SE/TE:** 231-238
F.LE.2 Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).	**enVision Algebra 1** **SE/TE:** 96, 100-101, 110-111, 115, 206, 207
F.LE.3 Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly or quadratically.	**enVision Algebra 1** **SE/TE:** 227, 347, 348
F.LE.5 Interpret the parameters in a linear or exponential function in terms of a context.	**enVision Algebra 1** **SE/TE:** 98, 100-101