Correlations to Holt, Rinehart, and Winston, Algebra 2

Correlated Lesson	Unit	Activity	Description
**Exploring Algebra 1 with The Geometer's Sketchpad**			
1.1	5	Points Lining Up in the Plane	Find points that satisfy algebraic rules and write rules to describe sets of points.
1.2	5	The Slope of a Line	Explore the relationship between the slope of a line and the points that determine the line.
1.2	5	The Slope Game	Construct and play a game involving lines and slope measurements.
1.2	5	More Slope Games	Acquire an intuitive feel for slope by playing four different games involving slopes.
1.2	5	How Slope Is Measured	Connect an intuitive sense of slope to specific calculations based on coordinates.
1.2	6	The Slope-Intercept Form of a Line	Plot points determined by $y = mx + b$ and construct the resulting line and families of lines. This activity is also available in the **Supplemental Activities** folder using the form $y = a + bx$.
1.2	6	The Standard Form of a Line	Explore the effects of a, b, and c on the graph of a line expressed in the form $ax + by = c$.
1.3	5	Slopes of Parallel and Perpendicular Lines	Experiment and draw conclusions about the slopes of parallel and perpendicular lines.
1.3	6	The Slope-Intercept Form of a Line	Plot points determined by $y = mx + b$ and construct the resulting line and families of lines. This activity is also available in the **Supplemental Activities** folder using the form $y = a + bx$.
1.3	6	The Point-Slope Form of a Line	Examine the effect of each constant on the graph of an equation in the form $y = m(x - h) + k$. This activity is also available in the **Supplemental Activities** folder using the form $y = y_1 + b(x - x_1)$.
1.3	6	The Standard Form of a Line	Explore the effects of a, b, and c on the graph of a line expressed in the form $ax + by = c$.
1.4	2	Ratio and Proportion	Explore ratios and proportions involving side lengths of rectangles.
1.4	2	Proportions in Similar Triangles	Use ratio and proportion in triangles to determine inaccessible distances.
1.4	2	Rates and Ratios	Work with a Sketchpad pasta machine to better understand rates and ratios.
1.4	6	Direct Variation	Build a geometric model to study direct variation.
1.4	6	Inverse Variation	Plot (x, y) points representing an inverse relationship, and then plot a family of curves.
1.5	6	Lines of Fit	Approximate a line of best fit to a number of data points, and use the line to make an estimate.
1.6	1	Exploring Properties of Operations	Verify or disprove various properties, some common and some obscure.
1.6	3	Equivalent Expressions	Compare expressions to determine which are equivalent.
1.6	3	Equivalent Expressions: The Border Problem	Invent a variety of equivalent expressions for a real-world problem.
Legend: Expl = Exploration			

Correlated Lesson	Unit	Activity	Description
Exploring Algebra 1 with The Geometer's Sketchpad			
1.6	4	Approximating Solutions to Equations	Substitute many values quickly and easily to find approximate solutions.
1.6	4	Undoing Operations	Use inverse operations in a visual model to undo an algebraic expression.
1.6	4	Solving Linear Equations by Balancing	Manipulate a balance model and use it to solve equations.
1.6	4	Solving Linear Equations by Undoing	Use a visual model and inverse operations to solve equations.
1.6	4	Solving Linear Equations by Jumping	Use distances and rates to write and solve equations of the form $a + bx = c + dx$.
1.7	4	Properties of Inequality	Investigate arithmetic properties of inequality using a visual model.
1.7	4	Solving Inequalities by Substitution	Substitute many values quickly to find the solution set of an inequality.
1.7	4	Solving Inequalities by Balancing	Use a balance model to solve equations.
1.7	4	Solving Compound Inequalities	Substitute many values quickly to solve compound inequalities.
1.8	4	Properties of Inequality	Investigate arithmetic properties of inequality using a visual model.
1.8	4	Solving Inequalities by Substitution	Substitute many values quickly to find the solution set of an inequality.
1.8	4	Solving Inequalities by Balancing	Use a balance model to solve equations.
2.1	1	The Commutative Property	Use a dynamic model to determine which algebraic operations are commutative.
2.1	1	The Associative Property	Use a dynamic model to determine which algebraic operations are associative.
2.1	1	Identity Elements and Inverses	Determine which operations have identity elements and inverses and which do not.
2.1	1	Exploring Properties of Operations	Verify or disprove various properties, some common and some obscure.
2.1	3	Order of Operations	Explore how mathematical communication requires agreement on certain rules.
2.1	3	The Distributive Property: A Painting Dilemma	A Student Activities Committee project leads to a mathematical principle.
2.1	3	The Distributive Property	A visual model brings the distributive property to life.
2.2	2	Exponents	Learn principles of exponents by experimenting with repeated multiplication.
2.2	2	Zero and Negative Exponents	Use a visual model to understand the behavior of negative exponents.
2.3	1	Mystery Machines	Figure out where 0 and 1 are located on these machines, or what operations they perform.
2.3	5	Points Lining Up in the Plane	Find points that satisfy algebraic rules and write rules to describe sets of points.
Legend: Expl = Exploration			

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	Unit	Activity	Description
2.5	4	Undoing Operations	Use inverse operations in a visual model to undo an algebraic expression.
3.3	4	Properties of Inequality	Investigate arithmetic properties of inequality using a visual model.
3.3	4	Solving Inequalities by Substitution	Substitute many values quickly to find the solution set of an inequality.
3.3	4	Solving Inequalities by Balancing	Use a balance model to solve equations.
3.4	4	Properties of Inequality	Investigate arithmetic properties of inequality using a visual model.
3.4	4	Solving Inequalities by Substitution	Substitute many values quickly to find the solution set of an inequality.
3.5	4	Properties of Inequality	Investigate arithmetic properties of inequality using a visual model.
3.5	4	Solving Inequalities by Substitution	Substitute many values quickly to find the solution set of an inequality.
5.1	3	The Product of Two Binomials	Use tiles to model multiplication of binomials.
5.1	3	Squaring Binomials	Use dynamic algebra tiles to connect algebraic and geometric squares.
5.1	7	Graphing Quadratic Functions	Plot the graph of $y = ax^2 + bx + c$ and study the effects of changing the parameters.
5.1	7	Graphing Factored Quadratics	Graph a function in the form $f(x) = a(x - r_1)(x - r_2)$, and investigate the role of the parameters.
5.2	3	Squares and Square Roots	Explore squares and square roots using virtual dot paper.
5.2	5	The Pythagorean Theorem	Verify the Pythagorean theorem using coordinates and develop the distance formula.
5.3	3	Algebra Tiles	Model algebraic quantities with the dimensions and area of dynamic tiles.
5.3	3	The Product of Two Binomials	Use tiles to model multiplication of binomials.
5.3	3	Squaring Binomials	Use dynamic algebra tiles to connect algebraic and geometric squares.
5.4	3	Algebra Tiles	Model algebraic quantities with the dimensions and area of dynamic tiles.
5.4	3	The Product of Two Binomials	Use tiles to model multiplication of binomials.
5.4	7	Graphing Quadratic Functions	Plot the graph of $y = ax^2 + bx + c$ and study the effects of changing the parameters.
5.4	7	Factoring Trinomials	Factor trinomials using algebra tiles and investigate the role of the coefficients.
5.5 Expl	2	The Golden Rectangle and Ratio	Construct the ratio while building rectangles and spirals.
5.6	3	The Product of Two Binomials	Use tiles to model multiplication of binomials.
Legend: Expl = Exploration			

Correlated Lesson	Unit	Activity	Description
5.6	3	Squaring Binomials	Use dynamic algebra tiles to connect algebraic and geometric squares.
5.6	5	The Pythagorean Theorem	Verify the Pythagorean theorem using coordinates and develop the distance formula.
5.7	7	Modeling with Quadratic Equations: Where Are the Giant Ants?	Explore issues of scale to better understand quadratic and linear relationships.
5.8	4	Properties of Inequality	Investigate arithmetic properties of inequality using a visual model.
5.8	4	Solving Inequalities by Substitution	Substitute many values quickly to find the solution set of an inequality.
6.1	2	Exponents	Learn principles of exponents by experimenting with repeated multiplication.
6.3	2	Exponents	Learn principles of exponents by experimenting with repeated multiplication.
6.3	4	Undoing Operations	Use inverse operations in a visual model to undo an algebraic expression.
7.2	7	Graphing Factored Quadratics	Graph a function in the form $f(x) = a(x - r_1)(x - r_2)$, and investigate the role of the parameters.
8.1	6	Inverse Variation	Plot (x, y) points representing an inverse relationship, and then plot a family of curves.
8.5	4	Properties of Inequality	Investigate arithmetic properties of inequality using a visual model.
8.5	4	Solving Inequalities by Substitution	Substitute many values quickly to find the solution set of an inequality.
8.5	4	Solving Inequalities by Balancing	Use a balance model to solve equations.
8.6	3	Squares and Square Roots	Explore squares and square roots using virtual dot paper.
8.6	4	Undoing Operations	Use inverse operations in a visual model to undo an algebraic expression.
8.8	3	Squares and Square Roots	Explore squares and square roots using virtual dot paper.
8.8	4	Properties of Inequality	Investigate arithmetic properties of inequality using a visual model.
8.8	4	Solving Inequalities by Substitution	Substitute many values quickly to find the solution set of an inequality.
8.8	4	Solving Inequalities by Balancing	Use a balance model to solve equations.
9.1	3	Squares and Square Roots	Explore squares and square roots using virtual dot paper.
9.1	5	The Pythagorean Theorem	Verify the Pythagorean theorem using coordinates and develop the distance formula.
11.6	2	Length of the Koch Curve	Investigate the ratio of similarity in this self-similar curve.

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	Unit	Activity	Description	
14.2	5	The Pythagorean Theorem	Verify the Pythagorean theorem using coordinates and develop the distance formula.	
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