

Correlations to Pearson Prentice Hall, Algebra 2

Correlated Lesson	Exploring Algebra 1 with The Geometer's Sketchpad		
	Unit	Activity	Description
1.1	1	Adding Integers	Add positive and negative integers using a visual model.
1.1	1	Subtracting Integers	Subtract positive and negative integers using a visual model.
1.1	1	Raz's Magic Multiplying Machine	Explore features of multiplication with a continuous dynamic model.
1.1	1	Multiple Models of Multiplication	Look at multiplication in four very different ways.
1.1	1	Mystery Machines	Figure out where 0 and 1 are located on these machines, or what operations they perform.
1.1	1	Dividing Real Numbers	See how division works by switching a model from multiplication to division.
1.1	1	The Commutative Property	Use a dynamic model to determine which algebraic operations are commutative.
1.1	1	The Associative Property	Use a dynamic model to determine which algebraic operations are associative.
1.1	1	Identity Elements and Inverses	Determine which operations have identity elements and inverses and which do not.
1.1	1	Exploring Properties of Operations	Verify or disprove various properties, some common and some obscure.
1.1 Expl	3	Squares and Square Roots	Explore squares and square roots using virtual dot paper.
1.2	2	Exponents	Learn principles of exponents by experimenting with repeated multiplication.
1.2	3	Equivalent Expressions	Compare expressions to determine which are equivalent.
1.2	3	Equivalent Expressions: The Border Problem	Invent a variety of equivalent expressions for a real-world problem.
1.2	3	The Distributive Property: A Painting Dilemma	A Student Activities Committee project leads to a mathematical principle.
1.2	3	The Distributive Property	A visual model brings the distributive property to life.
1.4	4	Properties of Inequality	Investigate arithmetic properties of inequality using a visual model.
1.4	4	Solving Inequalities by Substitution	Substitute many values quickly to find the solution set of an inequality.
1.4	4	Solving Inequalities by Balancing	Use a balance model to solve equations.
1.4	4	Solving Compound Inequalities	Substitute many values quickly to solve compound inequalities.
1.5	4	Properties of Inequality	Investigate arithmetic properties of inequality using a visual model.

Legend: Expl = Exploration; Ext = Extension

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	Unit	Activity	Description
1.5	4	Solving Inequalities by Substitution	Substitute many values quickly to find the solution set of an inequality.
1.5	4	Solving Inequalities by Balancing	Use a balance model to solve equations.
2.1	1	Mystery Machines	Figure out where 0 and 1 are located on these machines, or what operations they perform.
2.1	5	Coordinates: The Fly on the Ceiling	Measure coordinates and plot points with the help of a fly on Descartes' ceiling.
2.1	5	The Origin: Center of the World	Work with the origin and negative coordinates, identify the quadrants, and draw figures.
2.2	5	Points Lining Up in the Plane	Find points that satisfy algebraic rules and write rules to describe sets of points.
2.2	5	The Slope of a Line	Explore the relationship between the slope of a line and the points that determine the line.
2.2	5	The Slope Game	Construct and play a game involving lines and slope measurements.
2.2	5	More Slope Games	Acquire an intuitive feel for slope by playing four different games involving slopes.
2.2	5	How Slope Is Measured	Connect an intuitive sense of slope to specific calculations based on coordinates.
2.2	5	Slopes of Parallel and Perpendicular Lines	Experiment and draw conclusions about the slopes of parallel and perpendicular lines.
2.2	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 $y = a + bx$.
2.2	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 $y = y_1 + b(x - x_1)$.
2.2	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 $ax + by = c$.
2.3	6	Direct Variation	Build a geometric model to study direct variation.
2.4	5	Points Lining Up in the Plane	Find points that satisfy algebraic rules and write rules to describe sets of points.
2.4	6	Lines of Fit	Approximate a line of best fit to a number of data points, and use the line to make an estimate.
2.7	4	Properties of Inequality	Investigate arithmetic properties of inequality using a visual model.
2.7	4	Solving Inequalities by Substitution	Substitute many values quickly to find the solution set of an inequality.
2.7	4	Solving Inequalities by Balancing	Use a balance model to solve equations.
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.

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	Unit	Activity	Description
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.
3.4	4	Solving Inequalities by Balancing	Use a balance model to solve equations.
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	Modeling with Quadratic Equations: Where Are the Giant Ants?	Explore issues of scale to better understand quadratic and linear relationships.
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.
5.3	7	Graphing Quadratic Functions	Plot the graph of $y = ax^2 + bx + c$ and study the effects of changing the parameters.
5.3	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.
5.4	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	3	Squaring Binomials	Use dynamic algebra tiles to connect algebraic and geometric squares.
5.4	7	Factoring Trinomials	Factor trinomials using algebra tiles and investigate the role of the coefficients.
5.5	2	The Golden Rectangle and Ratio	Construct the ratio while building rectangles and spirals.
5.5	3	Squares and Square Roots	Explore squares and square roots using virtual dot paper.
5.5	4	Solving Inequalities by Substitution	Substitute many values quickly to find the solution set of an inequality.
5.5	4	Solving Inequalities by Balancing	Use a balance model to solve equations.
5.5	7	Modeling with Quadratic Equations: Where Are the Giant Ants?	Explore issues of scale to better understand quadratic and linear relationships.
5.5 Ext	4	Properties of Inequality	Investigate arithmetic properties of inequality using a visual model.
5.6	3	The Product of Two Binomials	Use tiles to model multiplication of binomials.

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5.6	3	Squaring Binomials	Use dynamic algebra tiles to connect algebraic and geometric squares.
5.6	3	Squares and Square Roots	Explore squares and square roots using virtual dot paper.
5.6	5	The Pythagorean Theorem	Verify the Pythagorean theorem using coordinates and develop the distance formula.
5.7	3	Algebra Tiles	Model algebraic quantities with the dimensions and area of dynamic tiles.
6.2	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.
7.1	2	Exponents	Learn principles of exponents by experimenting with repeated multiplication.
7.1	2	Zero and Negative Exponents	Use a visual model to understand the behavior of negative exponents.
7.4	2	Exponents	Learn principles of exponents by experimenting with repeated multiplication.
7.7	4	Undoing Operations	Use inverse operations in a visual model to undo an algebraic expression.
7.8	4	Undoing Operations	Use inverse operations in a visual model to undo an algebraic expression.
8.3	4	Undoing Operations	Use inverse operations in a visual model to undo an algebraic expression.
9.1	6	Direct Variation	Build a geometric model to study direct variation.
9.1	6	Inverse Variation	Plot (x, y) points representing an inverse relationship, and then plot a family of curves.
9.2	6	Inverse Variation	Plot (x, y) points representing an inverse relationship, and then plot a family of curves.
12.5	2	Ratio and Proportion	Explore ratios and proportions involving side lengths of rectangles.
14.3	2	Proportions in Similar Triangles	Use ratio and proportion in triangles to determine inaccessible distances.
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