

Alabama Algebra 1 Course of Study Correlated to *Glencoe Algebra 1*

Course of Study	Lesson References
Number and Operations	
<p>1. Simplify numerical expressions using properties of real numbers and order of operations, including those involving square roots, radical form, or decimal approximations.</p> <ul style="list-style-type: none"> Applying the laws of exponents to simplify expressions, including those containing zero and negative integral exponents 	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-7, 11-1, 11-2, 11-3
Algebra	
<p>2. Analyze linear functions from their equations, slopes, and intercepts.</p> <ul style="list-style-type: none"> Finding the slope of a line from its equation or by applying the slope formula Determining the equations of linear functions given two points, a point and the slope, tables of values, graphs, or ordered pairs Graphing two-variable linear equations and inequalities on the Cartesian plane 	1-8, 4-5, 4-5B, 4-6, 5-1, 5-2, 5-3A, 5-3, 5-3B, 5-4, 5-5, 5-6, 5-7, 5-7B, 6-1, 6-2A, 6-2, 6-3, 6-5, 6-6, 6-6B
<p>3. Determine characteristics of a relation, including its domain, range, and whether it is a function, when given graphs, tables of values, mappings, or sets of ordered pairs.</p> <ul style="list-style-type: none"> Finding the range of a function when given its domain 	4-3A, 4-3, 4-4, 4-5, 4-5B, 4-6
<p>4. Represent graphically common relations, including $x = \text{constant}$, $y = \text{constant}$, $y = x$, $y = \sqrt{\quad}$, $y = x^2$, and $y = \left \quad \right$.</p> <ul style="list-style-type: none"> Identifying situations that are modeled by common relations, including $x = \text{constant}$, $y = \text{constant}$, $y = x$, $y = \sqrt{\quad}$, $y = x^2$, and $y = \left \quad \right$. 	4-3, 4-4, 4-5, 4-5B, 4-6, 5-3A, 5-3, 5-3B, 5-6, 6-5, 10-1, 10-1B, 10-2, 10-3, 10-3B, 10-4, 10-5, 10-6, 11-3, 12-9
<p>5. Perform operations of addition, subtraction, and multiplication on polynomial expressions.</p> <ul style="list-style-type: none"> Dividing by a monomial 	8-1, 8-2, 8-4A, 8-4, 8-5A, 8-5, 8-6, 8-7A, 8-7, 8-8
<p>6. Factor binomials, trinomials, and other polynomials using GCF, difference of squares, perfect square trinomials, and grouping.</p>	9-1, 9-2A, 9-2, 9-3A, 9-3, 9-4, 9-5, 9-6
<p>7. Solve multi-step equations and inequalities including linear, radical, absolute value, and literal equations.</p> <ul style="list-style-type: none"> Writing the solution of an equation or inequality in set notation Graphing the solution of an equation or inequality Modeling real-world problems by developing and solving equations and inequalities, including those involving direct and inverse variation 	3-1, 3-2A, 3-2, 3-3, 3-4A, 3-4, 3-5, 3-8, 4-3, 4-4, 4-5, 4-5B, 4-8, 5-2, 5-3A, 5-3, 5-3B, 5-4, 5-5, 5-6, 5-7, 5-7B, 6-1, 6-2A, 6-3, 6-4, 6-5, 6-6, 6-6B

<p>8. Solve systems of linear equations and inequalities in two variables graphically or algebraically.</p> <ul style="list-style-type: none"> Modeling real-world problems by developing and solving systems of linear equations and inequalities 	7-1A, 7-1, 7-1B, 7-2, 7-3, 7-4, 7-5
<p>9. Solve quadratic equations using the zero product property.</p> <ul style="list-style-type: none"> Approximating solutions graphically and numerically 	10-1, 10-1B, 10-2, 10-3, 10-3B, 10-4, 10-4B
Geometry	
<p>10. Calculate length, midpoint, and slope of a line segment when given coordinates of its endpoints on the Cartesian plane.</p> <ul style="list-style-type: none"> Deriving the distance, midpoint, and slope formulas. 	5-1, 5-2, 11-5
Measurement	
<p>11. Solve problems algebraically that involve area and perimeter of a polygon, area and circumference of a circle, and volume and surface area of right circular cylinders or right rectangular prisms.</p> <ul style="list-style-type: none"> Applying formulas to solve word problems 	8-1B, 8-6
Data Analysis and Probability	
<p>12. Compare various methods of data reporting, including scatterplots, stem-and-leaf plots, box-and-whisker plots, and line graphs, to make inferences or predictions.</p> <ul style="list-style-type: none"> Determining effects of linear transformations of data Determining effects of outliers Evaluating the appropriateness of the design of a survey 	1-9, 1-9B, 2-5, 3-9, 3-9B, 5-7, 5-7B, 13-1, 13-2, 13-3, 13-3B, 13-4, 13-5, 13-5B
<p>13. Identify characteristics of a data set, including measurement or categorical and univariate or bivariate.</p>	13-4
<p>14. Use a scatterplot and its line of best fit or a specific line graph to determine the relationship existing between two sets of data, including positive, negative, or no relationship.</p>	5-7, 5-7B
<p>15. Estimate probabilities given data in lists or graphs.</p> <ul style="list-style-type: none"> Comparing theoretical and experimental probabilities 	14-3, 14-4, 14-5