



Alabama Achievement Level Descriptors

Grade 6 – Mathematics

The descriptions below provide a brief summary of typical performance for each level. The skills identified in each descriptor represent, but are not all-inclusive of, the skills a student should be able to demonstrate at each achievement level.

	Level 1: Emerging Learner	Level 2: Developing Learner	Level 3: Proficient Learner	Level 4: Distinguished Learner
Ratios and Proportional Relationships	<ul style="list-style-type: none"> ▪ Uses ratio and rate reasoning given a visual model, such as a tape diagram, only. ▪ Plots coordinate pairs in Quadrant 1 from data in a table. ▪ Identifies the graph of a proportional relationship given the table of the same relationship. ▪ Uses a ratio of the form $a:b$ to describe simple relationships between quantities. 	<ul style="list-style-type: none"> ▪ Describes some ratio relationships using ratio language. ▪ Determines unit rates to solve problems. ▪ Calculates simple percents presented as fractions with denominators of 10, 25, or 100. ▪ Uses ratio reasoning to solve problems using a limited number of strategies including visual models. ▪ Uses ratio and rate reasoning to solve mathematical problems, using visual models, graphs, tables, or equations. 	<ul style="list-style-type: none"> ▪ Recognizes the concept of a ratio, and uses ratio language to describe a ratio relationship between two quantities. ▪ Recognizes the concept of a unit rate a/b associated with a ratio $a:b$ with $b \neq 0$, and uses rate language in the context of a ratio relationship. ▪ Solves problems involving percents and calculates the percent of a quantity. ▪ Uses ratio and rate reasoning to solve real-world and mathematical problems, using visual models, graphs, tables, or equations. ▪ Uses ratio reasoning to convert measurements. ▪ Reasons about equivalent ratios with tables. ▪ Solves unit rate problems both mathematical and real-world. 	<ul style="list-style-type: none"> ▪ Uses ratio and rate language and reasoning to solve real-world problems using and connecting a variety of representations and strategies to solve these problems. ▪ Uses ratio reasoning to convert measurements, justifying conclusions and explaining the process involved.



Alabama Achievement Level Descriptors

Grade 6 – Mathematics

The descriptions below provide a brief summary of typical performance for each level. The skills identified in each descriptor represent, but are not all-inclusive of, the skills a student should be able to demonstrate at each achievement level.

	Level 1: Emerging Learner	Level 2: Developing Learner	Level 3: Proficient Learner	Level 4: Distinguished Learner
Ratios and Proportional Relationships			<ul style="list-style-type: none">▪ Rewrites ratios representing rates in equivalent forms in order to understand a real-world problem, including converting rates to unit rates or converting the units of measure for a given rate.	



Alabama Achievement Level Descriptors

Grade 6 – Mathematics

The descriptions below provide a brief summary of typical performance for each level. The skills identified in each descriptor represent, but are not all-inclusive of, the skills a student should be able to demonstrate at each achievement level.

	Level 1: Emerging Learner	Level 2: Developing Learner	Level 3: Proficient Learner	Level 4: Distinguished Learner
The Number System	<ul style="list-style-type: none"> ▪ Recognizes when a given number is a factor or multiple of another number. ▪ Computes quotients of fractions with visual models only. ▪ Adds and subtracts nonnegative multi-digit decimals. 	<ul style="list-style-type: none"> ▪ Uses integers to describe some quantities that have opposite values or directions and can be represented on a number line. ▪ Plots ordered pairs on a coordinate plane with some fluency. ▪ Determines the absolute value of an integer without describing it as a distance. 	<ul style="list-style-type: none"> ▪ Computes and interprets quotients of fractions in mathematical and word problems. ▪ Fluently divides multi-digit numbers. ▪ Adds, subtracts, multiplies, and divides multi-digit decimals with the standard algorithm. ▪ Uses the distributive property to express a sum of two whole numbers 1–100 with a common factor. ▪ Solves problems involving the GCF of two numbers. ▪ Recognizes that positive and negative numbers are used together to describe quantities having opposite directions. ▪ Recognizes common factors of numbers and uses them to determine when expressions are equivalent. 	<ul style="list-style-type: none"> ▪ Compares and interprets absolute values of rational numbers. ▪ Distinguishes comparisons of absolute value from statements about order. ▪ Explains how the properties of numbers extend to negative whole numbers. ▪ Uses the relationship between points with the same first or second coordinate to draw conclusions. ▪ Identifies patterns and generalizes about characteristics of positive and negative numbers. ▪ Identifies patterns and generalizes about the characteristics of points in the coordinate plane when the coordinates only differ by the signs. ▪ Justifies each step in division calculations.



Alabama Achievement Level Descriptors

Grade 6 – Mathematics

The descriptions below provide a brief summary of typical performance for each level. The skills identified in each descriptor represent, but are not all-inclusive of, the skills a student should be able to demonstrate at each achievement level.

	Level 1: Emerging Learner	Level 2: Developing Learner	Level 3: Proficient Learner	Level 4: Distinguished Learner
The Number System			<ul style="list-style-type: none"> ▪ Determines the absolute value of an integer and Recognizes absolute value as a distance. ▪ Graphs points in all four quadrants of the coordinate plane to solve mathematical and real-world problems. ▪ Uses negative numbers to describe quantities. ▪ Writes, interprets, and explains statements of order for rational numbers in real-world contexts. ▪ Recognizes integers to represent real life situations. ▪ Uses a number line to model positive and negative numbers and absolute value. 	<ul style="list-style-type: none"> ▪ Reasons abstractly using positive and negative numbers to solve a problem.



Alabama Achievement Level Descriptors

Grade 6 – Mathematics

The descriptions below provide a brief summary of typical performance for each level. The skills identified in each descriptor represent, but are not all-inclusive of, the skills a student should be able to demonstrate at each achievement level.

	Level 1: Emerging Learner	Level 2: Developing Learner	Level 3: Proficient Learner	Level 4: Distinguished Learner
Expressions and Equations	<ul style="list-style-type: none"> ▪ Writes or expands a single term numerical expression involving whole-number bases and exponents. ▪ Identifies an expression that matches a written statement, with numbers and with letters standing for numbers, using correct mathematical terms. ▪ Evaluates expressions at specific values of their variables. ▪ Uses repeated reasoning to solve expressions using whole number exponents. ▪ Uses substitution to determine whether a given number makes an equation true. ▪ Uses variables to represent numbers and write expressions with one operation. 	<ul style="list-style-type: none"> ▪ Writes multi-term numerical expressions involving whole-number exponents. ▪ Writes expressions from written statements that represent an operation (including with letters that represent numbers). ▪ Recognizes one or more parts of an expression as single entities. ▪ Solves simple equations or inequalities, using substitution to determine whether a given number in a specified set makes an equation or inequality true. ▪ Identifies when two expressions are equivalent. ▪ Uses variables to represent numbers, and write expressions and single-step equations to solve mathematical problems. 	<ul style="list-style-type: none"> ▪ Writes and evaluates numerical and algebraic expressions involving whole-number exponents. ▪ Identifies parts of expressions using mathematical terminology. ▪ Applies the distributive property to create equivalent expressions and identifies equivalent expressions. ▪ Solves equations and inequalities and uses substitution to confirm solutions. ▪ Solves real-world and mathematical problems by writing equations and inequalities. ▪ Represents solutions to inequalities on a number line. 	<ul style="list-style-type: none"> ▪ Explains solutions to one-step equations and inequalities. ▪ Describes the structure of expressions using operational language. ▪ Analyzes the relationship between dependent and independent variables using graphs and tables, and relates these to the equation.



Alabama Achievement Level Descriptors

Grade 6 – Mathematics

The descriptions below provide a brief summary of typical performance for each level. The skills identified in each descriptor represent, but are not all-inclusive of, the skills a student should be able to demonstrate at each achievement level.

	Level 1: Emerging Learner	Level 2: Developing Learner	Level 3: Proficient Learner	Level 4: Distinguished Learner
Expressions and Equations	<ul style="list-style-type: none">Solves simple equations in the form $x + p = q$ and $px = q$ (with nonnegative whole numbers).	<ul style="list-style-type: none">Solves some one-step equations with whole number coefficients and constants.	<ul style="list-style-type: none">Recognizes independent and dependent variables in an equation that represents a real-life situation and uses graphs and tables to analyze the relationship between these variables.	



Alabama Achievement Level Descriptors

Grade 6 – Mathematics

The descriptions below provide a brief summary of typical performance for each level. The skills identified in each descriptor represent, but are not all-inclusive of, the skills a student should be able to demonstrate at each achievement level.

	Level 1: Emerging Learner	Level 2: Developing Learner	Level 3: Proficient Learner	Level 4: Distinguished Learner
Geometry	<ul style="list-style-type: none"> ▪ Identifies locations of coordinates in all four quadrants of the coordinate plane. ▪ Solves mathematical problems involving area of polygons by composing into rectangles. ▪ Identifies polygons in the coordinate plane when given the vertices of the polygon. 	<ul style="list-style-type: none"> ▪ Finds the volume of a right rectangular prism that is packed with unit cubes. ▪ Identifies nets of common three-dimensional figures. 	<ul style="list-style-type: none"> ▪ Solves mathematical and real-world problems involving the area of triangles and quadrilaterals, by composing into rectangles or decomposing into triangles or other shapes. ▪ Calculates the volume of a right rectangular prism with fractional side lengths by either packing it with unit cubes or applying the formula and shows that it is the same with either method. ▪ Solves real-world and mathematical problems involving polygons in the coordinate plane. ▪ Calculates surface area when given a net. ▪ Determines measurements of polygons in the coordinate plane. ▪ Identifies nets of three-dimensional figures. 	<ul style="list-style-type: none"> ▪ Determines the area of trapezoids by composition of rectangles and triangles in order to solve problems and explains and justifies the process. ▪ Uses understanding of coordinate systems to describe and interpret the location between points on the coordinate plane. ▪ Determines the volume of rectangular prisms in order to solve problems.



Alabama Achievement Level Descriptors

Grade 6 – Mathematics

The descriptions below provide a brief summary of typical performance for each level. The skills identified in each descriptor represent, but are not all-inclusive of, the skills a student should be able to demonstrate at each achievement level.

	Level 1: Emerging Learner	Level 2: Developing Learner	Level 3: Proficient Learner	Level 4: Distinguished Learner
Statistics and Probability	<ul style="list-style-type: none"> ▪ Identifies the measure of center, spread, and overall shape from a graph display. ▪ Finds the range of a data set. ▪ Makes sense of a data set by finding the mean. ▪ Displays data in dot plots. 	<ul style="list-style-type: none"> ▪ Recognizes and determines the mean, median, and/or mode; finds the range. ▪ Recognizes histograms and box plots that represent distributions. ▪ Answers basic questions from a model, such as histogram or box plot, that represents a set of data. 	<ul style="list-style-type: none"> ▪ Recognizes a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. ▪ Recognizes that a set of data collected to answer a statistical question has a distribution, which can be described by its center, spread, and overall shape. ▪ Recognizes the difference between measures of center and measures of variation. ▪ Determines the mean, median, mode, interquartile range, and absolute deviation of a set of data and describes any striking deviations from the pattern of data. ▪ Summarizes numerical data sets. ▪ Creates histograms, dot plots, and box plots using a set of data. 	<ul style="list-style-type: none"> ▪ Analyzes how added data points would affect the measure of center in a numerical data set and justifies conclusions. ▪ Interprets and compares the mean and median of a univariate distribution. ▪ Analyzes and creates box plots to represent data sets. ▪ Represents and analyzes sets of data using various model representations and justifies conclusions.