

Performance Descriptors
Alabama Reading and Mathematics Test

Mathematics
Grade 4

Level IV (Exceeds Standards)

Fourth-grade students performing at Level IV demonstrate a thorough knowledge of number sense by comparing and ordering decimals and writing money amounts in words and dollar-and-cent notation. These students rename improper fractions and mixed numbers, add and subtract fractions, round whole numbers and decimals, and recognize equivalent forms of common fractions and decimals. These students consistently solve word problems that involve addition, subtraction, multiplication, and division of whole numbers. Students performing at Level IV write number sentences for word problems and complete addition and subtraction number sentences with a missing addend or subtrahend. These students identify triangles, quadrilaterals, pentagons, hexagons, or octagons based on their characteristics and find locations on a map or grid using ordered pairs. They calculate elapsed time and measure length, width, weight, and capacity using both metric and customary units as well as temperature in degrees Fahrenheit and Celsius. Fourth-grade students at Level IV represent categorical data using tables, graphs, and line plots; determine if outcomes of simple events are likely, unlikely, certain, equally likely, or impossible; and represent numerical data using tables and graphs.

Level III (Meets Standards)

Fourth-grade students performing at Level III demonstrate a fundamental knowledge of number sense by comparing and ordering decimals and writing money amounts in words and dollar-and-cent notation. These students often rename improper fractions and mixed numbers, add and subtract fractions with common denominators, round whole numbers and decimals, and recognize equivalent forms of common fractions and decimals. These students frequently solve word problems that involve addition, subtraction, multiplication, and division of whole numbers. Students performing at Level III write number sentences for word problems and complete addition and subtraction number sentences with a missing addend or subtrahend. These students identify geometric shapes based on their characteristics and find locations on a map or grid using ordered pairs. They usually calculate elapsed time and measure length, width, weight, and capacity using both metric and customary units as well as temperature in degrees Fahrenheit and Celsius. Fourth-grade students at Level III represent categorical data using tables and graphs; determine if outcomes of simple events are likely, unlikely, certain, equally likely, or impossible; and represent numerical data using tables and graphs.

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Mathematics
Grade 4

Level II (Partially Meets Standards)

Fourth-grade students performing at Level II demonstrate a limited knowledge of number sense by ordering whole numbers and writing money amounts. These students sometimes rename improper fractions, add and subtract fractions with common denominators, round whole numbers, and recognize equivalent forms of common fractions. These students sometimes solve word problems and occasionally complete addition and subtraction number sentences with a missing addend or subtrahend. These students may identify basic geometric shapes based on their characteristics, sometimes calculate elapsed time, and measure using customary units. Fourth-grade students at Level II determine if outcomes of simple events are likely or unlikely, and inconsistently represent numerical data using tables and graphs.

Level I (Does not Meet Standards)

Fourth-grade students performing at Level I demonstrate little or no ability to use the mathematics skills and abilities required in Level II.

Performance Descriptors
Alabama Reading and Mathematics Test

Mathematics
Grade 6

Level IV (Exceeds Standards)

Sixth-grade students performing at Level IV demonstrate thorough computational accuracy and fluency when adding, subtracting, multiplying, and dividing fractions and solving one or multi-step routine and/or non-routine problems with decimals, percents, fractions, and proportions. These students solve more complex problems using numeric and geometric patterns and identify and compare two-dimensional and three-dimensional figures based on attributes, properties, and component parts. They classify and construct acute, obtuse, and right angles and calculate perimeter and area of parallelograms and rectangles. Students at Level IV use proportional reasoning to determine distances on a scale drawing and can convert units of length, weight, or capacity within the same system or between customary or metric systems. Students performing at Level IV interpret and represent information using bar graphs, line graphs, and circle graphs as well as determine probability of events using fractions or percents.

Level III (Meets Standards)

Sixth-grade students performing at Level III demonstrate fundamental computational fluency by adding, subtracting, multiplying, and dividing fractions and by solving one-step routine problems involving decimals, percents, fractions, and proportions. They solve problems using simple numeric and geometric patterns and can often identify two-dimensional and three-dimensional figures based on attributes, properties, and component parts as well as plot coordinates on grids, graphs, and maps. They classify angles as acute, obtuse, right, or straight; calculate perimeter and area of parallelograms and rectangles; and determine the distance between two points on a scale drawing. These students convert customary or metric units of length, weight, or capacity that require one step. They interpret information from graphs and determine the probability of a simple event when expressed as a fraction.

Level II (Partially Meets Standards)

Sixth-grade readers performing at Level II demonstrate limited computational fluency when adding, subtracting, multiplying, and dividing decimals. They solve simple problems using numeric and geometric patterns and sometimes identify two-dimensional figures and determine locations on a map or grid. Students at this level classify angles as acute, obtuse, right, or straight and calculate the perimeter of rectangles. These students determine the distance between two points to the nearest inch and can compare units of customary length, weight, and capacity. They read information from bar graphs and determine if the probability of an event is likely or unlikely.

Level I (Does not Meet Standards)

Sixth-grade students performing at Level I demonstrate little or no ability to use the mathematics skills and abilities required in Level II.

Performance Descriptors
Alabama Reading and Mathematics Test

Mathematics
Grade 8

Level IV (Exceeds Standards)

Eighth-grade students performing at Level IV demonstrate a thorough ability to apply various strategies and operations to solve problems with real numbers, simplify expressions containing natural number exponents, and use order of operations to evaluate and simplify algebraic expressions. These students are consistently able to graph linear relations by plotting points or using the slope and y-intercept; solve problems involving linear functions; and solve multi-step linear equations, including the use of the distributive property. They consistently solve problems using the Pythagorean Theorem and can compare quadrilaterals, triangles, and solids using their properties and characteristics. Students at Level IV determine the measures of special angle pairs, including adjacent, vertical, supplementary, and complementary angles; find the perimeter and area of regular and irregular plane figures; calculate the surface area and volume of rectangular prisms, cylinders, and pyramids; and determine the lengths of missing sides and measures of angles in similar and congruent figures. Students performing at Level IV interpret data from populations and determine the theoretical probability of an event.

Level III (Meets Standards)

Eighth-grade students performing at Level III demonstrate a fundamental ability to apply various strategies and operations to solve problems with real numbers, simplify expressions containing natural number exponents, and use order of operations to evaluate and simplify algebraic expressions. These students are able to graph linear relations by plotting points; solve problems involving linear functions, and solve multi-step linear equations. They solve problems using the Pythagorean Theorem and can compare some quadrilaterals, triangles, and solids using their properties and characteristics. Students at Level III determine the measures of special angle pairs; find the perimeter and area of regular and irregular plan figures; calculate the surface area and volume of rectangular prisms, cylinders, and pyramids; and determine the lengths of missing sides and measures of angles in similar figures. Students performing at Level III interpret data from populations and determine the theoretical probability of an event.

Performance Descriptors
Alabama Reading and Mathematics Test

Mathematics
Grade 8

Level II (Partially Meets Standards)

Eighth-grade students performing at Level II demonstrate a limited ability to apply various strategies and operations to solve problems with real numbers, simplify expressions, and use order of operations to simplify algebraic expressions. These students are sometimes able to graph linear relations by plotting points and solve problems involving linear functions. They may solve problems using the Pythagorean Theorem and occasionally determine the measures of special angle pairs. Students performing at Level II may interpret data from populations

Level I (Does not Meet Standards)

Eighth-grade students performing at Level I demonstrate little or no ability to use the mathematics skills and abilities required in Level II.