

Mathematics EOG Achievement Level Descriptors—Grade 6

Note: To minimize redundancy, the achievement level descriptors at each level do not repeat competencies that are described for a lower achievement level. The students at the higher level can be assumed to have mastered the competencies described for the lower achievement levels.

Achievement Level I

Students performing at this level do not have sufficient mastery of knowledge and skills in this subject area to be successful at the next grade level.

Students performing at Level I lack understanding and computational accuracy. They frequently respond with inappropriate answers or procedures. They seldom use problem-solving strategies.

Level I students seldom accurately add, subtract, multiply, and divide non-negative rational numbers using order of operations. They seldom correctly compare, order, and estimate with rational numbers. They lack understanding in the use of factors, multiples, exponential and scientific notation, prime factorization and percents. Level I students seldom correctly estimate and measure weight and mass of three-dimensional figures to solve problems. They seldom estimate and measure length, perimeter, area, circumference, and angles of two-dimensional figures to solve problems.

They seldom can identify and describe the intersection and transformation of geometric figures in a coordinate plane. They lack understanding of counting strategies and seldom can solve problems by determining the probability of simple, compound, dependent, and independent events. Level I students seldom can simplify algebraic expressions as well as use one- and two-step equations and inequalities to represent relationships and solve problems.

Achievement Level II

Students performing at this level demonstrate inconsistent mastery of knowledge and skills in this subject area and are minimally prepared to be successful at the next grade level.

Students performing at Level II exhibit inconsistent performance and show limited evidence of understanding. They have difficulty applying problem-solving strategies in unfamiliar situations.

Students are not consistently able to add, subtract, multiply, and divide non-negative rational numbers using order of operations. They demonstrate limited ability in the use of factors, multiples, exponential and scientific notation, prime factorization and percents. Level II students inconsistently estimate and measure weight and mass of three-dimensional figures. They inconsistently estimate and measure length, perimeter, area, circumference, and angles of two-dimensional figures to solve problems. They inconsistently identify and describe the intersection and transformation of geometric figures in a coordinate plane. Students demonstrate limited ability with counting strategies and solve problems by determining the probability of simple, compound, dependent, and independent events. They inconsistently apply algebraic principles to simplify algebraic expressions as well as use one- and two-step equations and inequalities to represent relationships and solve problems.

Achievement Level III

Students performing at this level consistently demonstrate mastery of grade level subject matter and skills and are well prepared for the next grade level.

Students performing at Level III generally show understanding, compute accurately, and respond with appropriate answers or procedures. They use a variety of problem-solving strategies.

Students generally are able to accurately add, subtract, multiply, and divide non-negative rational numbers using order of operations. They usually demonstrate ability in the use of factors, multiples, exponential and scientific notation, prime factorization and percents. Students generally estimate and measure weight and mass of three-dimensional figures to solve problems. They generally estimate and

measure length, perimeter, area, circumference, and angles of two-dimensional figures to solve problems. Students generally identify and describe the intersection and transformation of geometric figures in a coordinate plane. They demonstrate general ability with counting strategies and solve problems by determining the probability of simple, compound, dependent, and independent events. They generally can simplify algebraic expressions as well as use one- and two-step equations and inequalities to represent relationships and solve problems.

Achievement Level IV

Students performing at this level consistently perform in a superior manner clearly beyond that required to be proficient at grade level work.

Students performing at Level IV show a high level of understanding, compute accurately, and respond consistently with appropriate answers or procedures. They demonstrate flexibility by using a variety of problem-solving strategies.

Students consistently and accurately add, subtract, multiply, and divide non-negative rational numbers using order of operations. They demonstrate fluency in the use of factors, multiples, exponential and scientific notation, prime factorization and percents. Students consistently estimate and measure weight and mass of three-dimensional figures to solve problems. They consistently estimate and measure length, perimeter, area, circumference, and angles of two-dimensional figures to solve problems. They consistently identify and describe the intersection and transformation of geometric figures in a coordinate plane. Students demonstrate fluency with counting strategies and solve problems by determining the probability of simple, compound, dependent, and independent events. They consistently are able to simplify algebraic expressions as well as use one- and two-step equations and inequalities to represent relationships and solve problems.

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Mathematics EOG Achievement Level Descriptors–Grade 7

Note: To minimize redundancy, the achievement level descriptors at each level do not repeat competencies that are described for a lower achievement level. The students at the higher level can be assumed to have mastered the competencies described for the lower achievement levels.

Achievement Level I

Students performing at this level do not have sufficient mastery of knowledge and skills in this subject area to be successful at the next grade level.

Students performing at Level I lack understanding and computational accuracy. They frequently respond with inappropriate answers or procedures. They seldom use problem-solving strategies.

Level I students show insufficient mastery of addition, subtraction, multiplication, and division of rational numbers following the order of operations. (Rational numbers may be positive, negative, or zero and include whole numbers, fractions, mixed numbers, and decimals). Students show inability to set up and solve real-world percent problems. They rarely can write and solve proportions with rational numbers, including scaling and scale drawing. Students at Level I usually can not solve problems involving the volume of rectangular prisms, triangular prisms, and cylinders. At Level I, students are not successful in creation of a box plot with understanding of measures of central tendency and the effect of outliers. They cannot write and solve functions from graphs, tables, or written descriptions in simpler problems. Students seldom are able to use linear equations or inequalities to solve authentic problems.

Achievement Level II

Students performing at this level demonstrate inconsistent mastery of knowledge and skills in this subject area and are minimally prepared to be successful at the next grade level.

Students performing at Level II exhibit inconsistent performance and show limited evidence of understanding. They have difficulty applying problem-solving strategies in unfamiliar situations.

Level II students demonstrate inconsistent ability with addition, subtraction, multiplication, and division of rational numbers following the order of operations. (Rational numbers may be positive, negative, or zero and include whole numbers, fractions, mixed numbers, and decimals). Students have difficulty with the set up and solution of real-world percent problems. They are inconsistent in ability to write and solve proportions with rational numbers, including scaling and scale drawing. Students at Level II can sometimes solve problems involving the volume of rectangular prisms, triangular prisms, and cylinders. At Level II, students are partially successful in creation of a box plot with understanding of measures of central tendency and the effect of outliers. They write and solve functions from graphs, tables, or written descriptions in simpler problems. Students can sometimes use linear equations or inequalities to solve authentic problems.

Achievement Level III

Students performing at this level consistently demonstrate mastery of grade level subject matter and skills and are well prepared for the next grade level.

Students performing at Level III generally show understanding, compute accurately, and respond with appropriate answers or procedures. They use a variety of problem-solving strategies.

Level III students demonstrate consistent ability with addition, subtraction, multiplication, and division of rational numbers following the order of operations. (Rational numbers may be positive, negative, or zero and include whole numbers, fractions, mixed numbers, and decimals). Students also show consistent ability to set up and solve real-world percent problems. They demonstrate consistent ability to write and solve proportions with rational numbers, including scaling and scale drawing. Students are able to solve problems involving the volume of rectangular prisms, triangular prisms, and cylinders. At Level III,

students are usually successful in creation of a box plot with understanding of measures of central tendency and the effect of outliers. They write and solve functions from graphs, tables, or written descriptions with consistent success. Students use linear equations or inequalities to solve authentic problems.

Achievement Level IV

Students performing at this level consistently perform in a superior manner clearly beyond that required to be proficient at grade level work.

Students performing at Level IV show a high level of understanding, compute accurately, and respond consistently with appropriate answers or procedures. They demonstrate flexibility by using a variety of problem-solving strategies.

Level IV students demonstrate fluency with addition, subtraction, multiplication, and division of rational numbers using order of operations. (Rational numbers may be positive, negative, or zero and include whole numbers, fractions, mixed numbers, and decimals). Students show a high level of success to set up and solve real-world percent problems. Level IV students are very successful at writing and solving proportions with rational numbers, including scaling and scale drawing. They solve multi-step surface area and volume problems including composite figures. Students consistently and accurately create a box plot from data, showing understanding of all central tendencies and the effect of outliers. They write and solve functions from graphs, tables, or written descriptions with a high level of success. Students very effectively use linear equations or inequalities to solve authentic problems.

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Mathematics EOG Achievement Level Descriptors—Grade 8

Note: To minimize redundancy, the achievement level descriptors at each level do not repeat competencies that are described for a lower achievement level. The students at the higher level can be assumed to have mastered the competencies described for the lower achievement levels.

Achievement Level I

Students performing at this level do not have sufficient mastery of knowledge and skills in this subject area to be successful at the next grade level.

Students performing at Level I lack understanding and computational accuracy. They frequently respond with inappropriate answers or procedures. They seldom use problem-solving strategies.

Level I students show lack of understanding of real numbers, including irrational numbers. They rarely are able to use indirect measurements or to use the Pythagorean Theorem to solve problems. Level I students are seldom successful at organizing and interpreting data, using scatterplots and approximating a line of best fit. Students at Level I demonstrate a lack of understanding of functions and are unable to convert functions between forms and interpret slope and intercepts. They can seldom use linear equations and inequalities to solve problems or translate between words, tables, and graphs.

Achievement Level II

Students performing at this level demonstrate inconsistent mastery of knowledge and skills in this subject area and are minimally prepared to be successful at the next grade level.

Students performing at Level II exhibit inconsistent performance and show limited evidence of understanding. They have difficulty applying problem-solving strategies in unfamiliar situations.

Level II students show an inconsistent level of understanding of real numbers, including irrational numbers. They have difficulty using indirect measurements and using the Pythagorean Theorem to solve problems. Level II students show limited evidence of ability at organizing and interpreting data, using scatterplots and approximating a line of best fit. Students at Level II demonstrate a limited understanding of functions and are inconsistent in converting functions between forms and interpreting slope and intercepts. They have difficulty using linear equations and inequalities to solve problems, translating between words, tables, and graphs.

Achievement Level III

Students performing at this level consistently demonstrate mastery of grade level subject matter and skills and are well prepared for the next grade level.

Students performing at Level III generally show understanding, compute accurately, and respond with appropriate answers or procedures. They use a variety of problem-solving strategies.

Level III students consistently show a proficient level of understanding of real numbers including irrational numbers. They generally are correct in use of indirect measurements. Students are usually successful at using the Pythagorean Theorem to solve problems. Level III students are often successful at organizing and interpreting data, using scatterplots and approximating a line of best fit. Students at Level III demonstrate an understanding of functions and can usually convert functions between forms and interpret slope and intercepts. They are generally successful at using linear equations and inequalities to solve problems, translating between words, tables, and graphs.

Achievement Level IV

Students performing at this level consistently perform in a superior manner clearly beyond that required to be proficient at grade level work.

Students performing at Level IV show a high level of understanding, compute accurately, and respond consistently with appropriate answers or procedures. They demonstrate flexibility by using a variety of problem-solving strategies.

Level IV students consistently show a high level of understanding of real numbers, including irrational numbers. They correctly and accurately use indirect measurements. Students are consistently successful at using the Pythagorean Theorem to solve problems. Level IV students are highly successful at organizing and interpreting data, using scatterplots and approximating a line of best fit. Students at Level IV demonstrate a high level understanding of functions and are successful converting functions between forms and interpreting slope and intercepts. They are highly successful at using linear equations and inequalities to solve problems, translating between words, tables, and graphs.

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