

Pacing Guides for Acuity Readiness Form B Grade 8- Mathematics

Grade	Domain	Cluster	Cluster	Standard	DOK
Grade 07	7.EE Expressions and Equations	Use properties of operations to generate equivalent expressions	Use properties of operations to generate equivalent expressions	7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	Level 2 - Using Fundamental Concepts and Procedures
Grade 07	7.EE Expressions and Equations	Solve real-life and mathematical problems using numerical and algebraic expressions and equations	Solve real-life and mathematical problems using numerical and algebraic expressions and equations	7.EE.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making \$25 an hour gets a 10% raise, she will make an additional $\frac{1}{10}$ of her salary an hour, or \$2.50, for a new salary of \$27.50. If you want to place a towel bar $9\frac{3}{4}$ inches long in the center of a door that is $27\frac{1}{2}$ inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.	Level 2 - Using Fundamental Concepts and Procedures
Grade 07	7.G Geometry	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume	7.G.4 Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.	Level 2 - Using Fundamental Concepts and Procedures
Grade 07	7.G Geometry	Draw, construct, and describe geometrical figures and describe the relationships between them	Draw, construct, and describe geometrical figures and describe the relationships between them	7.G.1 Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.	Level 2 - Using Fundamental Concepts and Procedures
Grade 07	7.G Geometry	Draw, construct, and describe geometrical figures and describe the relationships between them	Draw, construct, and describe geometrical figures and describe the relationships between them	7.G.2 Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.	Level 2 - Using Fundamental Concepts and Procedures
Grade 07	7.G Geometry	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume	Solve real-life and mathematical problems involving angle measure, area, surface area, and volume	7.G.6 Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	Level 2 - Using Fundamental Concepts and Procedures
Grade 07	7.NS The Number System	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers	7.NS.2 Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.	7.NS.2.c Apply properties of operations as strategies to multiply and divide rational numbers.	Level 2 - Using Fundamental Concepts and Procedures
Grade 07	7.NS The Number System	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers	Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers	7.NS.3 Solve real-world and mathematical problems involving the four operations with rational numbers.	Level 2 - Using Fundamental Concepts and Procedures

Grade 07	7.RP Ratios and Proportional Relationships	Analyze proportional relationships and use them to solve real-world and mathematical problems	7.RP.2 Recognize and represent proportional relationships between quantities.	7.RP.2.a Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.	Level 1 - Recall
Grade 07	7.SP Statistics and Probability	Use random sampling to draw inferences about a population	Use random sampling to draw inferences about a population	7.SP.2 Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be.	~
Grade 07	7.SP Statistics and Probability	Investigate chance processes and develop, use, and evaluate probability models	7.SP.7 Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy	7.SP.7.b Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies?	~
Grade 08	8.EE Expressions and Equations	Understand the connections between proportional relationships, lines, and linear equations	Understand the connections between proportional relationships, lines, and linear equations	8.EE.5 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.	Level 2 - Using Fundamental Concepts and Procedures
Grade 08	8.EE Expressions and Equations	Analyze and solve linear equations and pairs of simultaneous linear equations	8.EE.7 Solve linear equations in one variable.	8.EE.7.a Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers).	Level 2 - Using Fundamental Concepts and Procedures
Grade 08	8.EE Expressions and Equations	Analyze and solve linear equations and pairs of simultaneous linear equations	8.EE.8 Analyze and solve pairs of simultaneous linear equations.	8.EE.8.b Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. For example, $3x + 2y = 5$ and $3x + 2y = 6$ have no solution because $3x + 2y$ cannot simultaneously be 5 and 6.	Level 2 - Using Fundamental Concepts and Procedures
Grade 08	8.F Functions	Define, evaluate, and compare functions	Define, evaluate, and compare functions	8.F.1 Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.	~

Grade 08	8.F Functions	Define, evaluate, and compare functions	Define, evaluate, and compare functions	8.F.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.	Level 2 - Using Fundamental Concepts and Procedures
Grade 08	8.F Functions	Define, evaluate, and compare functions	Define, evaluate, and compare functions	8.F.3 Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. For example, the function $A = s^2$ giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line.	Level 1 - Recognizing and Recalling
Grade 08	8.F Functions	Use functions to model relationships between quantities	Use functions to model relationships between quantities	8.F.4 Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.	Level 1 - Recognizing and Recalling
Grade 08	8.F Functions	Use functions to model relationships between quantities	Use functions to model relationships between quantities	8.F.5 Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.	Level 2 - Using Fundamental Concepts and Procedures
Grade 08	8.G Geometry	Understand congruence and similarity using physical models, transparencies, or geometry software	8.G.1 Verify experimentally the properties of rotations, reflections, and translations:	8.G.1.a Lines are taken to lines, and line segments to line segments of the same length.	Level 1 - Recognizing and Recalling
Grade 08	8.G Geometry	Understand congruence and similarity using physical models, transparencies, or geometry software	8.G.1 Verify experimentally the properties of rotations, reflections, and translations:	8.G.1.c Parallel lines are taken to parallel lines.	Level 1 - Recognizing and Recalling
Grade 08	8.G Geometry	Understand congruence and similarity using physical models, transparencies, or geometry software	Understand congruence and similarity using physical models, transparencies, or geometry software	8.G.3 Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	Level 2 - Using Fundamental Concepts and Procedures
Grade 08	8.G Geometry	Understand and apply the Pythagorean Theorem	Understand and apply the Pythagorean Theorem	8.G.7 Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.	Level 2 - Using Fundamental Concepts and Procedures
Grade 08	8.G Geometry	Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres	Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres	8.G.9 Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.	Level 2 - Using Fundamental Concepts and Procedures

Grade 08	8.SP Statistics and Probability	Investigate patterns of association in bivariate data	Investigate patterns of association in bivariate data	8.SP.1 Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.	Level 2 - Using Fundamental Concepts and Procedures
Grade 08	8.SP Statistics and Probability	Investigate patterns of association in bivariate data	Investigate patterns of association in bivariate data	8.SP.4 Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?	Level 2 - Using Fundamental Concepts and Procedures