

CORE@TCA SIDE BY SIDE STANDARDS
5th / 6th / 7th Grade Essential Standards
Mathematics

Based on State Key Content Standards compiled by the Pulliam Group

Strand	Standard 5 th Grade	Standard 6 th Grade	Standard 7 th Grade
Number Sense	<p>1.2 Interpret percents as part of a hundred, find decimal and percent equivalents for common fractions, and compute a given percent of a whole number</p> <p>1.1 Determine the prime factors of all numbers through 50, and write the numbers as the product of their prime factors by using exponents to show the multiples of a factor</p> <p>1.2 Identify and represent on a number line decimals, fractions, mixed numbers and positive and negative integers</p> <p>2.1 Add, subtract, multiply and divide whole numbers and decimals</p> <p>2.2 Demonstrate proficiency with division, including division with positive decimals and long division with multi-digit divisors</p> <p>2.3 Solve simple problems, including ones arising in concrete situations, involving the addition and subtraction of fractions and mixed numbers (like and unlike denominators of 20 or less); express answers in the simplest form</p>	<p>1.0 Compare and order positive and negative fractions, decimals and mixed numbers; solve problems involving fractions, ratios, proportions, and percentages</p> <p>Compare and order positive and negative fractions, decimals, and mixed numbers, and place them on a number line</p> <p>1.1 Compare and order positive and negative fractions, decimals, and mixed numbers, and place them on a number line</p> <p>1.2 Interpret and use ratios in different contexts (e.g., batting averages) to show the relative sizes of two quantities, using appropriate notations (<i>a/b. a to b. a:b</i>)</p> <p>1.3 Use proportions to solve problems; use cross-multiplication to solve such problems</p> <p>1.4 Calculate given percentages of quantities, and solve problems involving discounts</p> <p>2.3 Solve addition, subtraction, multiplication, and division problems with positive and negative numbers</p> <p>2.4 Determine least common multiple, and greatest common divisor of whole numbers</p>	<p>1.1 <i>Read, write and compare rational numbers in scientific notation (1)</i></p> <p>1.2 <i>Add, subtract, multiply, and divide rational numbers, and take to whole number powers (3)</i></p> <p>1.3 <i>Convert fractions to decimals/percents; use in estimating, computing, and applications (2)</i></p> <p>1.4 Differentiate between rational and irrational numbers</p> <p>1.5 Know that every rational number is either a terminating or repeating decimal</p> <p>1.6 <i>Calculate the percentage of increases and decreases of a quantity (1)</i></p> <p>1.7 <i>Solve problems that involve discounts, mark-ups, commissions, and interest (operations with fractions and mixed numbers in context) (2)</i></p> <p>2.1 <i>Understand negative whole number exponents; multiply & divide exponents with a common base (1)</i></p> <p>2.2 <i>Add and subtract fractions by factoring to find common denominators (1)</i></p> <p>2.3 <i>Multiply, divide, and simplify rational numbers by using exponent rules (1)</i></p> <p>2.4 <i>Understand absolute value; determine the absolute value of real numbers (1)</i></p>
Algebra and functions	<p>1.2 Use a letter to represent an unknown number; write and evaluate simple algebraic expressions in one variable by substitution</p> <p>1.1 Identify and graph ordered pairs in the four quadrants of the coordinate plane</p> <p>1.2 Solve problems involving linear functions with integer values; write the equation, and graph the resulting ordered pair of integers on a grid</p>	<p>1.1 Understand, solve, and write simple one-variable linear equations</p> <p>1.2 Understand that rate is a measure of one quantity per unit value of another quantity</p>	<p>1.1 <i>Use variables and operations to write an expression, an equation, an inequality, or a system of equations or inequalities (2)</i></p> <p>1.2 <i>Use the order of operation to evaluate algebraic expressions such as $3(2x+5)$ (1)</i></p> <p>1.3 Simplify numerical expressions by applying properties of rational numbers</p> <p>1.5 <i>Represent quantitative relationships graphically, and interpret the meaning of a specific part of a graph in the situation represented by the graph (3)</i></p> <p>2.1 <i>Interpret positive whole-number powers as repeated multiplication and negative powers as repeated division. Simplify and evaluate expressions that include exponents (1)</i></p> <p>2.2 <i>Multiply and divide monomials (1)</i></p> <p>3.1 <i>Graph functions of the form $y=nx^2$ and $y=nx^3$ and use in solving problems (1)</i></p> <p>3.3 <i>Graph linear functions and know that the ratios is called the slope of the graph (2)</i></p> <p>3.4 <i>Plot the values of quantities whose ratios are always the same, and fit a line to the plot, and understand that the slope of the line equals the quantities (1)</i></p>

			<p>4.1 <i>Solve two-step linear equations and inequalities in one variable over the rational number; interpret the solution, and verify the reasonableness of the solution (3)</i></p> <p>4.2 <i>Solve multi-step problems of rate, average speed, distance, and time or a variation (2)</i></p>
Measurement and Geometry	<p>1.1 Use the formula for the area of a triangle and a parallelogram</p> <p>1.2 Construct a cube and rectangular box from two-dimensional patterns, and use these patterns to compute the surface area for the objects</p> <p>1.3 Understand the concept of volume, and use the appropriate units in common measuring systems to compare the volume of rectangular solids</p> <p>2.1 Measure, identify, and draw angles, perpendicular and parallel lines, rectangles, and triangles by using appropriate tools</p> <p>2.2 Know that the sum of the angles of any triangle is 180° and the sum of the angles of a quadrilateral is 360° and use this information to solve problems</p>	<p>1.1 Understand the concept of a constant such as π</p> <p>2.3 Use the properties of complementary and supplementary angles and the sum of the angles of a triangle to solve problems involving an unknown angle</p>	<p>1.1 <i>Compare weights, capacities, measures, time, temperatures between measurement systems (2)</i></p> <p>1.2 <i>Construct and read drawings and models made to scale (1)</i></p> <p>1.3 <i>Use measures expressed as rates and products to solve problems; check answers (2)</i></p> <p>2.1 <i>Use formulas for perimeters and area of basic two-dimensional figures and surface area and volume of three-dimensional figures (3)</i></p> <p>2.2 <i>Estimate and compute the area of more complex figures by breaking them down. (2)</i></p> <p>2.3 <i>Compute the length of the perimeters, surface areas, and volume of a 3-dimensional object (1)</i></p> <p>2.4 <i>Relate changes in measurement with change of scale (1)</i></p> <p>3.2 <i>Understand and use coordinate graphs to plot simple figures (2)</i></p> <p>3.3 <i>Understand Pythagorean theorem and converse; use to find length of a side of a right triangle (2)</i></p> <p>3.4 <i>Understand conditions that indicate two figures are congruent (1)</i></p> <p>3.5 Identify elements of 3-dimensional objects, and describe how they are related in space</p>
Statistics, Data Analysis, and Probability	<p>1.4 Identify ordered pairs of data from a graph, and interpret the meaning of the data in terms of the situation depicted by the graph</p> <p>1.5 Know how to write ordered pairs correctly, for example, (x,y)</p>	<p>1.1 <i>Compute the mean, median, and mode of data sets (1)</i></p> <p>2.2 Identify different ways of selecting a sample and which method is preferred</p> <p>2.1 Analyze data displays and explain how the question may have influenced the results</p> <p>2.2 Identify data that represent sampling errors, and explain why they might be biased</p> <p>2.3 <i>Evaluate the validity of a statistical claim (1)</i></p> <p>3.1 <i>Represent all possible outcomes for compound events in an organized way (1)</i></p> <p>3.3 <i>Represent probabilities as ratios, proportions, decimals, and percents (2)</i></p> <p>3.4 <i>Understand the difference between dependent and independent events (1)</i></p>	<p>1.1 <i>Know various forms of display for data sets, and use to display a set of data (3)</i></p> <p>1.2 <i>Represent two numerical variables on a scatterplot (2)</i></p> <p>1.3 <i>Compute the minimum, lower quartile, median, upper quartile, and maximum of a data set (2)</i></p>
Mathematical Reasoning	<p>1.0 <i>Make decisions about how to solve problems (3)</i></p> <p>1.0 <i>Use strategies, skills, and concepts in finding solutions (3)</i></p>	<p>2.0 <i>Make decisions about how to solve problems (3)</i></p> <p>1.0 <i>Use strategies, skills, and concepts in finding solutions (3)</i></p>	<p>3.0 <i>Make decisions about how to solve problems (3)</i></p> <p>4.0 <i>Use strategies, skills, and concepts in finding solutions (3)</i></p> <p>5.0 <i>Students determine a solution is complete and generalize it to other situations (2)</i></p>

Italicized items represent standards on the High School Exit Exam with the number of items represented on the exam in parentheses.