Nebraska

Nebraska Student-Centered Assessment System (NSCAS) Alternate Assessment

Mathematics–Grade 8

Table of Specifications

for
Students with Significant Disabilities
who take the
Statewide Alternate Assessment

Mathematics Grade 8 Alternate Assessment Table of Specifications	DOK Stage 2	DOK Stage 3	DOK Stage 4	Item Total
Number				
Numeric Relationships: Students will demonstrate, represent, and show relationships among real numbers within the base-ten number system.				
8.N.1.a Determine subsets of numbers as natural, whole, integer, rational, irrational, or real based on the definitions of these sets of numbers.				
8.N.1.a Distinguish between whole numbers, fractions, and decimals (e.g., 3/5, 4, 1.7).	0-2	0-4	0-2	0-4
8.N.1.b Represent numbers with positive and negative exponents and in scientific notation.				
8.N.1.b Represent numbers with the bases of 2, 3, 4, or 5 and positive exponents of 2 and 3 in expanded form (e.g., 4^3 = 4 × 4 × 4).	0-2	0-4	0-2	0-4
8.N.1.d Approximate, compare, and order real numbers, both rational and irrational, and locate them on the number line.				
8.N.1.d Compare and order tenths, fifths, fourths, thirds, halves, and whole numbers 1–100 using a number line.	0-2	0-4	0-2	0-4
Operations: Students will compute with exponents and roots.				
8.N.2.a Evaluate the square roots of perfect squares less than or equal to 400 and cube roots of perfect cubes less than or equal to 125.				
8.N.2.a Identify the squares of whole numbers up to 10.	0-2	0-4	0-2	0-4
8.N.2.c Evaluate numerical expressions involving absolute value.				
8.N.2.c Determine absolute value using a model (e.g., temperature below zero).	0-2	0-4	0-2	0-4
Algebra				
Algebraic Processes: Students will apply the operational properties when evaluating expressions and solving equations.				
8.A.1.a Describe single variable equations as having one solution, no solution, or infinitely many solutions.				
8.A.1.a Identify the point of intersection (solution) for intersecting lines on a coordinate plane, limited to naming the point without determining the coordinate pair.	0-2	0-4	0-2	0-4
8.A.1.b Solve multi-step equations involving rational numbers with the same variable appearing on both sides of the equation.				
8.A.1.b Use substitution to determine if a given value for a variable makes a two-step equation true.	0-2	0-4	0-2	0-4
Applications: Students will solve authentic problems involving multi-step equations.				
8.A.2.a Write multi-step single variable equations from words, tables, and authentic situations.				
8.A.2.a Identify a two-step expression that represents an authentic situation, limited to addition, subtraction, and multiplication.	0-2	0-4	0-2	0-4
8.A.2.b Determine and describe the rate of change for given situations through the use of tables and graphs.				
8.A.2.b Given a table, determine the rate of change of a proportional relationship.	0-2	0-4	0-2	0-4

8.A.2.c Graph proportional relationships and interpret the rate of change.				
8.A.2.c Given a graph of a line through the origin and a point on the line, determine another point on the line.	0-2	0-4	0-2	0-4
Geometry				
Attributes: Students will apply properties of angle relationships in triangles and with lines to determine angle measures.				
8.G.1.a Determine and use the relationships of the interior angles of a triangle to solve for missing measures.				
8.G.1.a Identify the missing angle measure in 45-45-90 triangles and 30-60-90 triangles when given two of the angles and a drawing of the triangle.	0-2	0-4	0-2	0-4
8.G.1.b Identify and apply geometric properties of parallel lines cut by a transversal and the resulting corresponding same side interior, alternate interior, and alternate exterior angles to find missing measures.				
8.G.1.b Identify any pair of congruent angles in two intersecting lines or in two parallel lines cut by a transversal, limited to locating but not naming as vertical, corresponding, alternate interior, or alternate exterior.	0-2	0-4	0-2	0-4
Coordinate Geometry: Students will determine location, orientation, and relationships on the coordinate plane.				
8.G.2.a Perform and describe positions and orientations of shapes under single transformations including rotations in multiples of 90 degrees about the origin, translations, reflections, and dilations on and off the coordinate plane.				
8.G.2.a Identify the image of a shape or letter following a reflection.	0-2	0-4	0-2	0-4
8.G.2.b Determine if two-dimensional figures are congruent or similar.				
8.G.2.b Determine if a pair of two-dimensional figures is congruent, non-congruent, similar, or non-similar.	0-2	0-4	0-2	0-4
Measurement: Students will reason with formulas and context to determine and compare length, area, and volume.				
8.G.3.c Find the distance between any two points on the coordinate plane using the Pythagorean Theorem.				
8.G.3.c Find the distance between two points on horizontal and vertical lines on a coordinate graph, limited to the first quadrant.	0-2	0-4	0-2	0-4
8.G.3.d Determine the volume of cones, cylinders, and spheres and solve authentic problems using volumes.				
8.G.3.d Identify the cone, cylinder, and sphere with the greatest volume when given three cone-shaped containers with either the same base or the same height, three cylinder-shaped containers with either the same base or the same height, or three spheres.	0-2	0-4	0-2	0-4
Analyze Data and Interpret Results: Students will represent and analyze the data and interpret the results.				
8.D.2.c Draw an informal line of best fit based on the closeness of the data points to the line.				
8.D.2.c Determine a line of best fit based on the closeness of data points to the line.	0-2	0-3	0-2	0-3
8.D.2.d Use a linear model to make predictions and interpret the rate of change and y-intercept in context.				
8.D.2.d Use a line of best fit to make a prediction.	0-2	0-3	0-2	0-3