

Nebraska



Nebraska Student-Centered Assessment System (NSCAS) Alternate Assessment

Mathematics–High School Table of Specifications

for
Students with Significant Disabilities who take
the
Statewide Alternate Assessment

Mathematics High School Alternate Assessment Table of Specifications				
	DOK Stage 2	DOK Stage 3	DOK Stage 4	Item Total
Number				
Estimation and Technology: Students will use estimation strategies and technology to reason, to solve problems, and to make connections within mathematics and across disciplines.				
HS.N.1.a Select, apply, and explain the method of computation when problem solving using real numbers (e.g., models, mental computation, paper-pencil, technology).				
HS.N.1.a Identify an operation that leads to a solution in a word problem.	0-2	0-3	0-2	0-3
HS.N.1.b Determine if the context of a problem calls for an approximation or an exact value.				
HS.N.1.b Determine if the context of a problem calls for an approximation or an exact value.	0-2	0-3	0-2	0-3
HS.N.1.f Convert equivalent rates (e.g., miles per hour to feet per second).				
HS.N.1.f Use knowledge of equivalent rates to convert equivalent values with money (e.g., two dimes and a nickel is equal to one quarter).	0-2	0-3	0-2	0-3
Sets and Operations: Students will use number sets and operations to reason and to solve problems.				
HS.N.2.a Extend the properties of exponents to rational numbers.				
HS.N.2.a Rewrite a repeated multiplication problem as an exponential expression with a whole number base and a whole number exponent (e.g., $3 \times 3 \times 3 \times 3 = 3^4$).	0-2	0-3	0-2	0-3
HS.N.2.d Compute with subsets of the complex number system including imaginary, rational, irrational, integers, whole, and natural numbers.				
HS.N.2.d Add and subtract two-digit numbers with regrouping.	0-2	0-3	0-2	0-3
Algebra				
Algebraic Relationships: Students will demonstrate and represent relationships with functions.				
HS.A.1.b Analyze a relation to determine if it is a function given mapping diagrams, function notation (e.g., $f(x)=x^2$), a table, or a graph.				
HS.A.1.b Given a linear function represented with a table, identify the graph of the linear function.	0-2	0-4	0-2	0-4
HS.A.1.c Classify a function given its mapping diagram, function notation, table, or graph as a linear, quadratic, absolute value, exponential, or other function.				
HS.A.1.c Identify a linear function from a graph.	0-2	0-4	0-2	0-4
HS.A.1.d Analyze a function's domain and range to determine if it is one-to-one and has an inverse function both algebraically and graphically.				
HS.A.1.d Identify the domain and range of a function when given an input-output table.	0-2	0-4	0-2	0-4
HS.A.1.e Define, interpret, and analyze linear, quadratic, absolute value, and exponential functions using the points of interest of the functions and graphing technology.				
HS.A.1.e Given a graph of a linear function, determine the coordinate pair where $x = 0$.	0-2	0-4	0-2	0-4

Algebraic Processes: Students will apply the operational properties when evaluating rational expressions and solving linear and quadratic equations, and inequalities.				
HS.A.2.a Analyze and explain the properties used in solving equations, inequalities, systems of linear equations, systems of linear inequalities, and literal equations.				
HS.A.2.a Identify the ordered pair of the graphical solution to a system of two linear equations.	0-2	0-4	0-2	0-4
HS.A.2.b Generate expressions in equivalent forms by using algebraic properties to make different characteristics or features visible.				
HS.A.2.b Given a graph of a linear function, determine the coordinate pair where $y = 0$.	0-2	0-4	0-2	0-4
HS.A.2.d Calculate the slope (rate of change) of a line given coordinate points, a graph, or a table of values.				
HS.A.2.d Given an x-y table of values, determine if the graph of the values forms a horizontal line or a vertical line.	0-2	0-4	0-2	0-4
HS.A.2.f Given a line, write the equation of a line that is parallel or perpendicular to it.				
HS.A.2.f Distinguish between parallel, perpendicular, and intersecting lines on a coordinate grid.	0-2	0-4	0-2	0-4
Geometry				
Attributes: Students will identify and describe geometric attributes, apply properties and theorems, and create two-dimensional shapes.				
HS.G.1.b Describe symmetries of a figure in terms of rigid motions that map a figure onto itself and make inferences about symmetric figures (e.g., unknown side lengths or angle measures) in problems both with and without coordinates.				
HS.G.1.b Identify corresponding angles by position when congruent triangles and similar triangles have the same orientation.	0-2	0-4	0-2	0-4
HS.G.1.d Identify and apply right triangle relationships including converse of the Pythagorean Theorem.				
HS.G.1.d Identify the legs and the hypotenuse of a right triangle.	0-2	0-4	0-2	0-4
HS.G.1.h Compare/contrast the properties of quadrilaterals: parallelograms, rectangles, rhombi, squares, kites, trapezoids, and isosceles trapezoids.				
HS.G.1.h Identify all four-sided polygons as quadrilaterals, and distinguish between parallelograms, rectangles, squares, and kites.	0-2	0-4	0-2	0-4
HS.G.1.i Use slope and the distance formula to determine the type of quadrilateral.				
HS.G.1.i Identify the quadrilateral on the coordinate grid as a parallelogram, rectangle, square, or kite.	0-2	0-4	0-2	0-4
Indicator HS.G.1.j Identify, describe, apply, and reason through properties of central angles, inscribed angles, angles formed by intersecting chords, secants, and/or tangents to find the measures of angles related to the circle, arc lengths, and areas of sectors.				
HS.G.1.j Differentiate between a chord, radius, diameter, and arc of a circle, and identify the arc length as one-fourth, one-half, or three-fourths of the circle.	0-2	0-4	0-2	0-4

Attributes: Students will identify and describe geometric attributes, apply properties and theorems and create three-dimensional shapes.				
HS.G.2.c Determine surface area and volume of pyramids, as well as solids that are composites of pyramids, prisms, spheres, cylinders, and cones, using formulas and appropriate units.				
HS.G.2.c Find the area of one face of a rectangular prism.	0-2	0-4	0-2	0-4
Logic & Proof: Students will use geometric definitions and theorems to reason abstractly and quantitatively.				
HS.G.4.d Use coordinate geometry to prove triangles are right, acute, obtuse, isosceles, equilateral, or scalene.				
HS.G.4.d Identify isosceles, equilateral, or scalene triangles on and off a coordinate grid.	0-2	0-4	0-2	0-4
Data				
Data Collection and Statistical Methods: Students will formulate statistical investigative questions, collect data, and organize data.				
HS.D.1.a Formulate multi-variable statistical investigative questions and determine how data can be collected and analyzed to provide an answer.				
HS.D.1.a Determine more than one method to collect data to answer an investigative question.	0-2	0-3	0-2	0-3
HS.D.1.b Apply an appropriate data collection plan when collecting primary data for the statistical investigative question of interest.				
HS.D.1.b Follow a plan to collect data for an investigative question of interest.	0-2	0-3	0-2	0-3
HS.D.1.c Use appropriate technology, including spreadsheet-based logic, to organize data for analysis				
HS.D.1.c Use appropriate technology to organize data collected for an investigative question of interest.	0-2	0-3	0-2	0-3
HS.D.1.d Distinguish between surveys, observational studies, and experiments.				
HS.D.1.d Identify the difference between a survey, an experiment, and/or an observational study.	0-2	0-3	0-2	0-3
Analyze Data & Interpret Results: Students will represent and analyze the data and interpret the results.				
HS.D.2.e Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data and recognize possible associations and trends in the data.				
HS.D.2.e Interpret categorical data for two categories in a two-way frequency table.	0-2	0-3	0-2	0-3
HS.D.2.f Represent data on two quantitative variables on a scatter plot and describe how the variables are related.				
HS.D.2.f Given a scatter plot with a clear trend, determine if there is a positive or negative association.	0-2	0-3	0-2	0-3
Probability: Students will interpret and apply concepts of probability.				
HS.D.3.d Determine whether or not events are mutually exclusive (disjoint) and calculate their probabilities in either case.				
HS.D.3.d Identify a pair of mutually exclusive outcomes.	0-2	0-3	0-2	0-3