Grade 6
Mathematics Objectives

Number System

1. Reads, writes in numerals, writes in expanded notation, and orders Arabic whole numbers through hundred trillions: *less than*, *greater than*, *before*, *after*, *between*, *equal to*, *least to greatest*, and *greatest to least*, including the use of <, >, and =
2. Rounds any whole number through hundred trillions to any place (SMP 6)
3. Identifies all of the factors of any whole number through 100 (6.NS.4)
4. Finds the greatest common factor (GCF) of any two whole numbers through 100 (6.NS.4)
5. Uses the distributive property to express a sum of two whole numbers (1–100) with a common factor as a multiple of a sum of two whole numbers with no common factor (e.g., expresses 36 + 8 as 4(9 + 2)) (6.NS.4)
6. Gives and explains the *prime factorization* of any whole number through 100 (SMP 6)
7. Identifies prime and composite numbers through 100
8. Finds the least common multiple (LCM) of any two whole numbers through 100 (6.NS.4)
9. Reads, writes, and orders any fractions and/or mixed numbers with like or unlike denominators through 100: *less than*, *greater than*, *before*, *after*, *between*, *equal to*, *least to greatest*, and *greatest to least*, including the use of <, >, and = (SMP 6)
10. Rounds any fraction or mixed number to the nearest whole number
11. Finds the least common denominator (LCD) of any two or more fractions with denominators through 100
12. Reads, writes in numerals, writes in expanded notation, and orders decimals and mixed decimals through millionths: *less than*, *greater than*, *before*, *after*, *between*, *equal to*, *least to greatest*, and *greatest to least*, including the use of <, >, and = (SMP 6)
13. Rounds any decimal or mixed decimal to any decimal place or to the nearest whole number
14. Explains a percent of a quantity as a rate per 100 (e.g., 30% of a quantity means 30/100 times the quantity) (6.RP.3c) (SMP 6)
15. Recognizes that positive and negative numbers describe quantities having opposite directions or values (e.g., temperatures above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charges) (6.NS.5)
16. Uses positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of zero in each situation (e.g., 0°, at sea level) (6.NS.5)
17. Explains that opposite signs of numbers indicate locations on opposite sides of 0 on the number line and that the opposite of the opposite of a number is the number itself (e.g., $-(-3) = 3$), with 0 as its own opposite (6.NS.6a) (SMP 6)
18. Identifies counting numbers, whole numbers, integers, fractions, mixed numbers, decimals, and mixed decimals as *rational numbers*
19. Finds and positions rational numbers on a horizontal or vertical number line diagram (6.NS.6c)

Grade 6—Mathematics Objectives
Proposed March 23, 2018—North Slope Borough School District
Prepared by Policy Studies in Education

1

20. Interprets statements of inequality as statements about the relative position of two rational numbers on a number line (e.g., –3 > –7 as a statement indicating that –3 is located to the right of –7 on a number line oriented from left to right) (6.NS.7a) (SMP 6)
21. Writes, interprets, and explains statements of order for rational numbers in real-world contexts (e.g., –3° > –7° as a statement indicating –3° is warmer than –7°) (6.NS.7b) (SMP 6)
22. Defines the *absolute value* of a rational number as its distance from 0 on a number line and uses the symbol for absolute value (6.NS.7c) (SMP 6)
23. Interprets absolute value as magnitude for a positive or negative quantity in a real-world situation (e.g., an absolute value of 30 for an account balance of –30 dollars as indicating the size of the debt in dollars) (6.NS.7c) (SMP 6)
24. Distinguishes comparisons of absolute value from statements about order (e.g., an account balance less than –30 dollars as representing a debt greater than 30 dollars) (6.NS.7d) (SMP 6)
25. Uses numbers through 100 in Iñupiaq orally in everyday tasks (ILF B.I.cb.1.1) (ACS A.5) (ACS D.5)
26. Compares and contrasts the formation of and the word names for Arabic numerals and Kaktovik numerals through 100 (ILF B.I.cb.1.1) (ACS A.5) (ACS D.5)
27. Compares and contrasts the formation of and the word names for Arabic numerals in the hundreds with Kaktovik numerals in the 100s (based on *tallimakipiaq*), in the 200s (based on *qulikipiaq*), and in the 300s (based on *akimiakipiaq*) (ILF B.I.cb.1.1) (ACS A.5) (ACS D.5)
28. Compares and contrasts the formation of and the word names for Arabic numerals in the millions, billions, and trillions with Kaktovik numerals created to represent very large numbers, which were not used traditionally in the Iñupiaq culture (ACS D.5)

Computation

1. Adds any combination of two or more whole numbers with any number of digits (SMP 6)
2. Adds any combination of two or more whole numbers that are easy to manipulate in his or her head (SMP 4) (SMP 6)
3. Adds with numbers 0 through 5, using Kaktovik numerals (ILF B.I.cb.1.1) (ACS A.5) (ACS D.5)
4. Subtracts any combination of two whole numbers with any number of digits (SMP 6)
5. Subtracts any combination of two whole numbers that are easy to manipulate in his or her head (SMP 4) (SMP 6)
6. Subtracts with numbers 0 through 5, using Kaktovik numerals (ILF B.I.cb.1.1) (ACS A.5) (ACS D.5)
7. Multiplies any combination of two or more whole numbers with any number of digits fluently (6.NS.2) (SMP 6)
8. Multiplies any two or more whole numbers that are easy to manipulate in his or her head (SMP 4) (SMP 6)
9. Divides any combination of two whole numbers with any number of digits fluently, expressing the remainder as a whole number, decimal, or simplified fraction and justifying that choice based on the context of the problem (6.NS.2) (SMP 6)

Grade 6—Mathematics Objectives
Proposed March 23, 2018—North Slope Borough School District
Prepared by Policy Studies in Education

2

10. Divides any whole numbers that are easy to manipulate in his or her head (SMP 4) (SMP 6)
11. Adds any combination of decimals, whole numbers, and/or mixed decimals fluently (6.NS.3) (SMP 6)
12. Subtracts any combination of decimals, whole numbers, and/or mixed decimals fluently (6.NS.3) (SMP 6)
13. Multiplies any combination of decimals, whole numbers, and/or mixed decimals fluently (6.NS.3) (SMP 6)
14. Multiplies by powers of 10 by shifting the decimal point an appropriate number of places to the right (SMP 6)
15. Divides any combination of decimals, whole numbers, and/or mixed decimals fluently, expressing the remainder as a *terminating decimal* or *repeating decimal* or rounding to a designated place (6.NS.3) (SMP 6)
16. Divides by powers of 10 by shifting the decimal point an appropriate number of places to the left (SMP 6)
17. Adds any combination of fractions, whole numbers, and/or mixed numbers with like and unlike denominators (SMP 6)
18. Subtracts any combination of fractions, whole numbers, and/or mixed numbers with like and unlike denominators (SMP 6)
19. Multiplies any combination of fractions, whole numbers, and/or mixed numbers with like and unlike denominators (SMP 6)
20. Uses the cancellation method as a short cut when multiplying fractions
21. Divides fractions and interprets the quotients, using visual fraction models and equations to represent the problem (6.NS.1) (SMP 5) (SMP 6)
22. Expresses answers in simplest form in all computation problems involving fractions and/or mixed numbers (SMP 6)
23. Solves mathematical problems finding the percent, given a whole and a part (SMP 6)
24. Solves mathematical problems finding the part, given a whole and a percent (SMP 6)
25. Solves mathematical problems finding the whole, given a part and a percent (6.RP.3c) (SMP 6)
26. Solves real-world problems involving figuring sales tax, given the tax rate and the amount of the purchase (SMP 4)
27. Squares or cubes any number, given the exponential form, and knows perfect squares through 144 by heart
28. Has the habit of using estimation to check the reasonableness of results of computations with whole numbers, decimals, mixed decimals, fractions, and/or mixed numbers (SMP 4) (SMP 5) (SMP 7)
29. Performs arithmetic operations in the conventional order, including problems involving whole number exponents and parentheses (*order of operations*) (6.EE.2c) (SMP 2) (SMP 6)
30. Translates results from calculators into solutions that fit the problem (e.g., the number of 17-passenger buses needed to carry 113 people is not 6.647058824, but rather 7) (SMP 5)
31. Uses a calculator to solve problems and to check the accuracy of his or her computations, as appropriate (SMP 5)

Grade 6—Mathematics Objectives
Proposed March 23, 2018—North Slope Borough School District
Prepared by Policy Studies in Education

3

Problem Solving, Reasoning, and Communication

1. Solves real-world problems involving division of fractions by fractions, using visual fraction models and equations to represent the problem (6.NS.1) (SMP 4)
2. Solves addition, subtraction, multiplication, and division real-world problems involving whole numbers, fractions, mixed numbers, decimals, and/or mixed decimals (SMP 4)
3. Solves multi-step real-world problems involving more than one operation (addition, subtraction, multiplication, and/or division), with whole numbers, fractions, mixed numbers, decimals, and/or mixed decimals (SMP 4) (SMP 8)
4. Determines relevant, irrelevant, and/or missing information in a given word problem (SMP 1)
5. Explains the possible effect of a chosen estimation strategy on the answer to a word problem, including whether and why the particular strategy will result in an *overestimate* or *underestimate* (SMP 1) (SMP 5) (SMP 6)
6. Chooses the most appropriate method for solving a problem from a variety of problem-solving strategies and justifies that choice (SMP 1) (SMP 8)
7. Predicts the missing number in a number pattern after skipping a given number of steps in the pattern (e.g., *The first row of bricks has 25 bricks. The second row has 36. The third row has 48. How many bricks will the eighth row have?*) (SMP 7)
8. Extends any pattern involving simultaneous change and uses symbolic notation to represent the pattern (SMP 2) (SMP 7)
9. Analyzes the number patterns in Pascal's triangle and the Fibonacci sequence (SMP 7)
10. Creates his or her own patterns involving simultaneous change and presents them in lists, tables, graphs, and/or words, using symbolic notation to represent the pattern (SMP 2) (SMP 7)
11. Uses both alternative and traditional methods to solve problems (SMP 8)
12. Explains a variety of mathematical concepts in writing (SMP 6)
13. Works cooperatively with others to solve mathematical problems
14. Shares his or her approaches to solving mathematical problems with peers and teachers (SMP 6)
15. Challenges both teachers' and students' mathematical arguments and conclusions, when appropriate, and seeks to improve them (SMP 3)
16. Describes careers that require workers to have a strong mathematical background
17. Believes that mathematical knowledge and skills (e.g., measurement, computation, statistics) are useful in other school subjects

Measurement

1. Uses ratio reasoning to convert measurement units between given measurement systems (e.g., converting kilometers in the metric system to miles in the customary system) (6.RP.3d) (SMP 6)
2. Solves real-world problems involving elapsed time across worldwide time zones, given maps or sufficient information about the time zones (e.g., *If a plane leaves Phoenix at 11:00 a.m. and flies for 5 hours to Anchorage, at what time does it arrive?*) (SMP 4)
3. Converts within customary units of length (inches, feet, yards, and miles), weight (ounces, pounds, and tons), and volume (fluid ounces, cups, pints, quarts, and

Grade 6—Mathematics Objectives
Proposed March 23, 2018—North Slope Borough School District
Prepared by Policy Studies in Education

4

gallons) and uses these conversions in solving multi-step real-world problems (SMP 2) (SMP 4) (SMP 6)

4. Estimates and measures in customary units of length (inches, feet, yards, and miles), weight (ounces, pounds, and tons), and volume (fluid ounces, cups, pints, quarts, and gallons), using appropriate tools (SMP 4) (SMP 5) (SMP 6)
5. Converts any metric units of length, weight, and volume, from thousandths to thousands—*milli* (1/1,000), *centi* (1/100), *deci* (1/10), *deca* (10), *hecto* (100), and *kilo* (1,000) (SMP 6)
6. Uses commonly used metric units of length (mm, cm, m, and km), weight (g, kg, and metric tons), and volume (ml and L) in solving multi-step real-world problems, converting when necessary (SMP 2) (SMP 4) (SMP 6) (SMP 8)
7. Estimates and measures in commonly used metric units of length (mm, cm, m, and km), weight (g, kg, and metric tons), and volume (ml and L), using appropriate tools (SMP 4) (SMP 5) (SMP 6)
8. Identifies the degree of accuracy needed for a measurement in a given situation (SMP 6)
9. Debates the pros and cons of each system of measurement: body measurement used in the traditional Iñupiaq culture, customary measurement used in most of the U.S., and metric measurement used in most of the rest of the world (ILF N.E.s.3.1) (ACS B.1) (ACS D.5) (SMP 3)

Geometry

1. Differentiates between *regular polygons* and *irregular polygons* and classifies polygons by sides and angles (SMP 6)
2. Finds the perimeters of any regular or irregular polygon (e.g., triangle, parallelogram, pentagon, hexagon, octagon), given the measures of a sufficient number, but not necessarily all, of the sides
3. Distinguishes between *congruent* and *similar* polygons (SMP 6)
4. Compares the measures of the sides and angles of polygons to determine whether polygons are similar
5. Identifies and defines *corresponding parts* of congruent or similar polygons (SMP 6)
6. Uses the symbols for *similar to* and *congruent to* and marks corresponding angles and corresponding sides of polygons to show their equivalence (SMP 6)
7. Draws his or her own sketch or makes a two-dimensional or three-dimensional model to help solve a real-world geometry problem (SMP 5)
8. Finds the area of any parallelogram in customary or metric units, using the memorized formula $A = bh$ (6.G.1) (SMP 2)
9. Explains the derivation of the formula for finding the area of right triangles and other triangles ($A = 1/2\ bh$) from the formula for the area of a parallelogram (SMP 6)
10. Finds the area of right triangles and other triangles in customary or metric units, using the memorized formula $A = 1/2bh$ (6.G.1) (SMP 2)
11. Finds the area of polygons by composing or decomposing them into recognizable polygons (e.g., rectangles, triangles), using customary or metric units and the appropriate formulas (6.G.1) (SMP 1) (SMP 2) (SMP 7)
12. Defines a *prism* by its attributes (6.G.2) (SMP 6)

Grade 6—Mathematics Objectives
Proposed March 23, 2018—North Slope Borough School District
Prepared by Policy Studies in Education

5

13. Compares and contrasts *rectangular prisms* (including *cubes*), *triangular prisms*, *rectangular pyramids*, *triangular pyramids*, *cylinders*, and *cones* (6.G.2) (SMP 6)
14. Finds the volume of right rectangular prisms, using the memorized formula $V = l \times w \times h$ or $V = Bh$ (*where B is the area of the rectangular base*) (6.G.2) (SMP 2)
15. Finds the volume of triangular prisms, using the memorized formula $V = Bh$ (*where B is the area of the triangular base*) (6.G.2) (SMP 2)
16. Finds volumes of solid figures composed of two nonoverlapping right rectangular prisms (SMP 1)
17. Solves real-world problems involving figuring perimeter, area, and volume (6.G.1) (6.G.2) (SMP 4)
18. Identifies and defines *scalene triangles* (with no sides of equal length) and *isosceles triangles* (with two sides of equal length) (SMP 6)
19. Identifies and defines *acute triangles* (with three acute angles) and *obtuse triangles* (with one obtuse angle and two acute angles) (SMP 6)
20. Classifies given triangles as scalene, isosceles, equilateral, equiangular, acute, right, and/or obtuse
21. Finds the diameter of a circle in customary or metric units, using the memorized formula $D = 2r$ (SMP 2)
22. Defines π as designating the ratio of the circumference of a circle to the diameter and as being a nonrepeating decimal that is approximately 3.14, or 22/7 (SMP 6)
23. Performs and explains in words two transformations on a basic two-dimensional shape: rotations/turns, reflections/flips, translations/slides, and/or dilations/enlargements/reductions (SMP 6)
24. Applies an understanding of lines of symmetry to working with complex two-dimensional geometric figures

Probability and Statistics

1. Makes analyses of real-world data displayed in complex picture graphs, in circle graphs, in line graphs, in bar graphs, and in double-bar bar graphs and draws reasonable conclusions (SMP 1) (SMP 3) (SMP 4)
2. Designs and makes complex picture graphs, circle graphs, line graphs, bar graphs, and double-bar bar graphs from real-world data, choosing an appropriate size for intervals and using correct titles and labels (SMP 4) (SMP 6)
3. Solves word problems using information in complex picture graphs, circle graphs, line graphs, bar graphs, and double-bar bar graphs (SMP 4)
4. *Interpolates* the line between two points or two line segments on a line graph (SMP 7)
5. Identifies information in *multiple-line line graphs*
6. Completes multiple-line line graphs when given specific information
7. Designs and makes multiple-line line graphs from real-world data, choosing an appropriate size for intervals and using correct titles and labels (SMP 4) (SMP 6)
8. Chooses which type of graph presents a given set of data most effectively: complex picture graph, circle graph, bar graph, double-bar bar graph, line graph, or multiple-line line graph (SMP 1)
9. Makes analyses of real-world data displayed in frequency tables and charts and draws reasonable conclusions (SMP 1) (SMP 3) (SMP 4) (SMP 7)
10. Recognizes a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers (e.g., "How old are the

Grade 6—Mathematics Objectives
Proposed March 23, 2018—North Slope Borough School District
Prepared by Policy Studies in Education

6

students in the school?" as being a statistical question because it anticipates variability in the students' ages) (6.SP.1) (SMP 1)

11. Explains that a set of data that can be used to answer a statistical question has a *distribution*, which can be described by its center (mean, median, or mode), its spread (range), and its overall shape (6.SP.2) (SMP 6)

12. Recognizes that a *measure of center*, or *measure of central tendency*, (mean, median, or mode) for a numerical data set uses a single number to summarize all of its values, while a measure of variation (range) uses a single number to describe how its values vary (6.SP.3) (SMP 6)

13. Displays numerical data in plots on a number line, including *dot* or *line plots*, *histograms*, and *box (box-and-whisker) plots* (6.SP.4)

14. Differentiates between bar graphs and histograms (6.SP.4)

15. Defines *quartiles* and *interquartile range* and identifies them in given sets of data (6.SP.5c) (SMP 6)

16. Summarizes a numerical data set in relation to its context: reports the number of observations (occurrences); describes the nature of the attribute under investigation, including how it was measured and the unit(s) of measurement; gives quantitative measures of center (median and/or mean) and variability (interquartile range); describes any overall pattern and any *outliers*; and relates the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered (6.SP.5a) (6.SP.5b) (6.SP.5c) (6.SP.5d)

17. Solves real-world problems involving figuring a mean, median, and/or range of a set of data (SMP 4)

18. Works cooperatively in a group to design a data-based study: what questions to ask, what data to collect, what data collection methods to use, what sampling techniques and sample size to use, and what graphs and tables to use to report the results (SMP 1) (SMP 4) (SMP 6)

19. Conducts and reports on a group-designed data-based study, using graphs and tables and reporting on the mean, median, mode, and range of data, as appropriate (SMP 3) (SMP 4) (SMP 6)

20. Lists all possible outcomes in a probability problem and states the probability of each outcome when the outcomes are equally likely and not equally likely (6.SP.6)

21. Analyzes whether a game is mathematically fair or unfair by explaining the probability of all possible outcomes (6.SP.6) (SMP 1)

22. Solves real-world or mathematical problems involving combinations (e.g., *If ice cream sundaes come in 3 flavors with 2 possible toppings, how many different sundaes can be made using only one flavor of ice cream and one topping?*) (6.SP.7) (SMP 4)

23. Solves real-world or mathematical problems involving permutations (e.g., *If a teacher is arranging five students on stage for a dance performance, how many different ways can the teacher arrange the students? What are those arrangements?*) (SMP 4) (SMP 7)

Algebra

1. Defines a *ratio* as a comparison between two numbers and writes ratios as fractions, with a colon, and with the words "is to" (e.g., 4/5, 4:5, 4 is to 5) (6.RP.1) (SMP 6)

2. Writes and describes the relationship between two quantities in a real-life context, using ratio language (e.g., The ratio of wings to beaks in the bird house at the zoo

Grade 6—Mathematics Objectives
Proposed March 23, 2018—North Slope Borough School District
Prepared by Policy Studies in Education

7

was 2:1 because for every two wings there was one beak. For every vote candidate A received, candidate B received nearly three votes.) (6.RP.1) (SMP 2) (SMP 6)

3. Recognizes the multiplicative nature of ratios and defines *equivalent ratios* (SMP 6)
4. Makes tables of equivalent ratios, finds missing values in the tables, and uses tables to compare ratios (6.RP.3a) (SMP 4)
5. Plots pairs of values in ratios on the coordinate plane (6.RP.3a)
6. Solves and uses ratios involving more than two numbers (e.g., expanding recipes, as in 2 cups to 1 cup to 1/4 cup; mixing chemicals, as in 4 parts to 3 parts to 1 part)
7. Uses ratios and ratio reasoning to solve real-world problems (e.g., by using tables of equivalent ratios, tape diagrams, double number line diagrams, equations) (6.RP.3) (SMP 2)
8. Explains the concept of a unit rate and uses rate language in the context of describing a ratio relationship (e.g., The recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar. We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger.) (6.RP.2) (SMP 6)
9. Solves unit rate problems, including those involving unit pricing and constant speed (e.g., *If it took 7 hours to mow 4 lawns, then, at that rate, how many lawns could be mowed in 35 hours? At what rate were lawns being mowed?*) (6.RP.3b) (SMP 2)
10. Explains that the signs of numbers in ordered pairs indicate locations in the four quadrants of the coordinate plane (6.NS.6b)
11. Recognizes that, when two ordered pairs differ only by signs, the locations of the points are related as reflections across one or both axes (6.NS.6b)
12. Finds and positions ordered pairs of integers and other rational numbers (including fractions and decimals) in any quadrant of the coordinate plane (6.NS.6c)
13. Solves real-world and mathematical problems by graphing points in any of the four quadrants of the coordinate plane, including the use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate (6.NS.8) (SMP 2) (SMP 4)
14. Solves real-world and mathematical problems by drawing polygons in the coordinate plane, given coordinates for the vertices in any of the four quadrants of the coordinate plane, and by determining the length of a side joining the coordinates of vertices with the same first coordinate or the same second coordinate (6.G.3) (SMP 2) (SMP 4)
15. Writes and evaluates numerical expressions involving whole-number exponents, including powers of 10 and products of numbers with exponents (e.g., $7^3 = 7 \cdot 7 \cdot 7$) (6.EE.1)
16. Writes expressions that record operations with numbers and with letters standing for numbers (e.g., expresses the calculation "subtract y from 5" as $5 - y$) (6.EE.2a) (SMP 1)
17. Identifies parts of an expression, using mathematical terms (including *sum*, *term*, *product*, *factor*, *quotient*, *coefficient*) and viewing one or more parts of an expression as a single entity (e.g., describes the expression $2(8 + 7)$ as a product of two factors, viewing $(8 + 7)$ as both a single entity and a sum of two terms) (6.EE.2b) (SMP 1) (SMP 6)
18. Uses the distributive, commutative, identity, and inverse properties with integers and variables to write equivalent expressions, including using models such as manipulatives and graph paper (e.g., applying the distributive property to the expression $3(2 + x)$ to produce the equivalent expression $6 + 3x$) (6.EE.3) (SMP 1) (SMP 2)

Grade 6—Mathematics Objectives
Proposed March 23, 2018—North Slope Borough School District
Prepared by Policy Studies in Education

8

19. Recognizes that two expressions are equivalent, regardless of what values are substituted into them, and gives examples (e.g., $y + y + y$ and $3y$ are equivalent, regardless of what number is substituted for y) (6.EE.4) (SMP 1)
20. Evaluates formulas used in real-world problems (6.EE.2c) (SMP 2) (SMP 4)
21. Recognizes that solving an equation or inequality is a process of answering a question: Which values from a specified set, if any, make the equation or inequality true? (6.EE.5) (SMP 1)
22. Uses variables to represent numbers and write expressions when solving a real-world or mathematical problem and recognizes that a variable can represent an unknown number or any number in a specified set (6.EE.6) (SMP 1) (SMP 2)
23. Uses substitution to determine whether a given number in a specified set makes an equation or inequality true (e.g., *Does 5 make 3x > 7 true?*) (6.EE.5) (SMP 2) (SMP 6)
24. Solves real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$, when p, q, and x are all nonnegative rational numbers (6.EE.7) (SMP 2) (SMP 4) (SMP 6)
25. Writes an inequality of the form $x > c$ or $x < c$ to represent a constraint or condition in a real-world or mathematical problem and recognizes that these inequalities have an infinite number of solutions (6.EE.8) (SMP 2) (SMP 4) (SMP 6)
26. Represents solutions of inequalities on a number line (6.EE.8) (SMP 4) (SMP 6)
27. Solves real-world and mathematical problems by writing and solving inequalities with nonnegative rational numbers, using $<$, $>$, $\leq$, and $\geq$ and supplying a set of numbers as the solution (e.g., if $50 \cdot n \leq 1{,}050$, then n = the set of all numbers through 21) (SMP 2) (SMP 4) (SMP 6)
28. Uses variables to represent two quantities in a real-world problem that change in relationship to one another and writes an equation to express one quantity, thought of as the dependent variable, in terms of the other quantity, thought of as the independent variable (6.EE.9) (SMP 1) (SMP 2) (SMP 4)
29. Analyzes the relationship in an equation between the dependent and independent variables, using graphs and tables, and relates these to the equation (e.g., in a problem involving motion at constant speed, lists and graphs ordered pairs of distances and times and writes the equation $d = 65t$ to represent the relationship between time and distance) (6.EE.9) (SMP 1) (SMP 2) (SMP 4)
30. Writes equivalent equations when two variables are used (e.g., if $227 + n = y$, then $y - n = 227$; if $550 \div x = y$, then $xy = 550$) (SMP 2)

Grade 6—Mathematics Objectives
Proposed March 23, 2018—North Slope Borough School District
Prepared by Policy Studies in Education

9