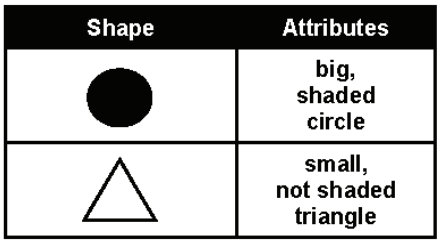
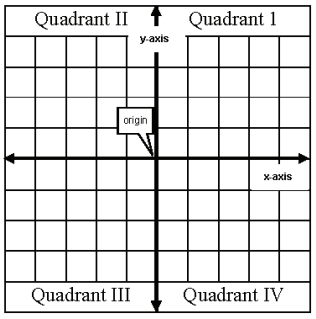
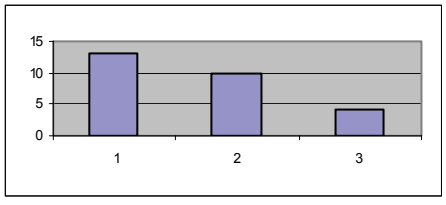
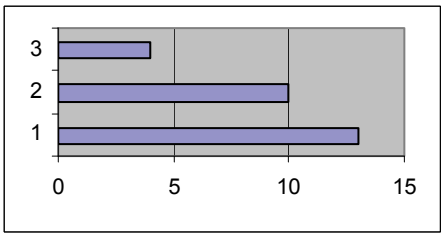
Mathematics Glossary

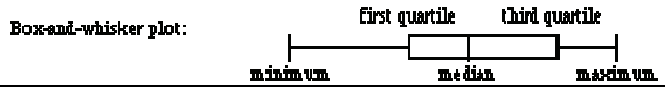
A Mathematics Toolkit, including curriculum guidance materials and resources is located on the Department's Web site. Please see:

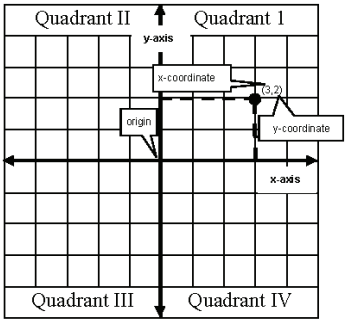
- Mathematics Toolkit for Grades Prekindergarten–8
  http://www.p12.nysed.gov/ciai/mst/math/toolkit.html
- Mathematics Toolkit Grades 9–12:
  http://www.p12.nysed.gov/ciai/mst/math/toolkit.html#grade

Term	Definition
Add	The combining of two or more quantities to find a sum.
Algebraic (or Numeric) equations or inequalities **(also referred to as sentence)**	Equation: mathematical sentence (numeric/algebraic) where the left side of the equal sign has the same value as the right side. Example: 6 + 4 = 10 Inequality: mathematical sentence (numeric/algebraic) built from expressions using one or more of the symbols ≠, >, <, ≥, and/or ≤. Example: $x - 3 \geq 4$ **Note regarding equations or inequalities:** An equation or inequality is made up of two or more expressions. It must be presented, written, shown, etc., in a horizontal format. **Examples:** $4 + x = 10$; $a + b = c + d$; $2 + 3 < 7$; $4 - 1 < 1 + 1$; $5 + 5 = n$; $4 \leq n \leq 7$ • A verbal sentence is given in words, for example, "the sum of eight and a number equals twenty-eight." • A written sentence is given in words and/or numbers, for example, "8 plus some number is 28." • An algebraic sentence is the translation of a verbal expression into numbers and/or variables (letters) and operation symbol(s); for example, "$8 + n = 28$" is the algebraic expression of the verbal and written expressions given above. Note: A variable can be used on either side of the equality/inequality sign. Examples: $5 - x = 2$ or $2 = 5 - x$ or $5 - 2 = x$ • A numeric sentence is a mathematical combination made from mathematical symbols. Examples: $5 + 5 = 10$; $1 + 1 = 0 + 2$; $(6 - 1) \times 3 \neq 25$; $30 + 30 + 30 < 40 + 2$ **Note regarding translating:** The student must show/select the numeric/algebraic equation (sentence). For the translated equation to be considered correct, it must be horizontal. **Note regarding evaluating, solving, or simplifying:** The equation must be presented horizontally; however, the student may solve the equation by putting it into a vertical (working) format before indicating the answer. For further information, see *Evaluate/Solve an expression (numeric/algebraic) and equation (numeric/algebraic) (also referred to as "find the value")* or *Simplify an expression (numeric/algebraic) and equation (numeric/algebraic).*

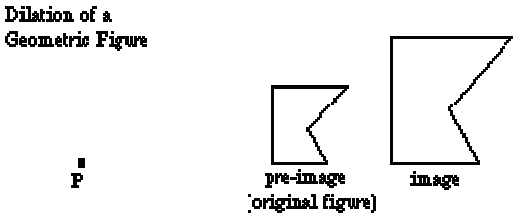
Term	Definition
Algebraic (or Numeric) expression **(also referred to as phrase)**	Mathematical expression (numeric/algebraic): one mathematical symbol or a group of symbols representing a number or quantity. It may include numbers, variables, constants, operators, and grouping symbols. One side of an equation is also an expression. Generally, an expression does not contain an equality symbol (=) except when comparing or evaluating/find the value/solving/simplifying. **Note regarding expressions:** An expression must be presented, written, shown, etc., in a horizontal format. **Examples:** 25 + 5; 10 – 6; 7 + 1 + 1; $8x + 4$; $3m + 4b$; 5×5; 2 + 8 – 4; 10 – 3 – (2 + 4) • A verbal expression is given in words, for example, "the sum of ten and a number." • A written expression is given in words and/or numbers, for example, "some number plus 10." • An algebraic expression is the translation of a verbal expression into numbers and/or variables (letters) and operation symbol(s); for example, "x + 10" is the algebraic expression of the verbal and written expressions given above. • A numeric expression is a mathematical combination made from mathematical symbols. Examples: – 6 + 4; 3×4; $(10 + 10) \times 3$; 1 + 1 + 1 **Note regarding translating:** The student must show/select the numeric/algebraic expression (phrase). For the translated expression to be considered correct, it must be horizontal and does not include an = sign. Also, the student only needs to translate the verbal/written expression; the student does not need to solve it. **Note regarding translating verbal or written expressions (phrases) into algebraic expressions given word problems:** One of the steps of solving a word problem is deciding on the plan—deciding the correct operation and which numbers and/or variables to use— thus, translating the words into mathematical expressions. In this case, the student does not need to solve the problem, just develop the plan to solve by showing/selecting the appropriate expression in horizontal format. The expression does not include an = sign to be considered correct. **Note regarding evaluating, solving, or simplifying:** The expression must be presented horizontally; however, the student may put it into a vertical (working) format before indicating the answer. For further information, see *Evaluate/Solve an expression (numeric/algebraic) and equation (numeric/algebraic) (also referred to as "find the value")* or *Simplify an expression (numeric/algebraic) and equation (numeric/algebraic)*.
Analog clock	A clock, usually with a round face, twelve numbers, and two hands (one pointing to the hour and the other pointing to the minute).
Angle	The union of two rays and their common endpoint.

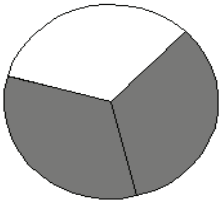
Term	Definition
Angles (acute, obtuse, right, and straight)	A pair of rays sharing a common end point. Three types of angles are: Acute: An angle measuring less than 90 degrees. Obtuse: An angle measuring more than 90 degrees Right: An angle measuring 90 degrees Straight: An angle measuring 180 degrees
Area	The extent of a 2-dimensional surface enclosed within a boundary. For rectangles area is found by multiplying the length by the width. It is also acceptable to find area by adding the total number of unit squares (defined in Unit Square) that cover the region.
Array	A set of objects or numbers arranged in order, commonly in rows and columns.
Attribute	A characteristic of an object. Example: sorting by color when playing a sorting game Example: 
Axes on a graph	*x*-axis: the horizontal line on the coordinate plan that intersects at the origin with the *y*-axis. *y*-axis: the vertical line on the coordinate plane that intersects at the origin with the *x*-axis. Example: 
Bar graph	A graph that uses horizontal or vertical bars to represent numbers in a set of data. Examples:  
Base 10 Blocks	Blocks which show the base 10 number system. Include single unit cubes, rods of 10, plates of 100, and cubes of 1000.

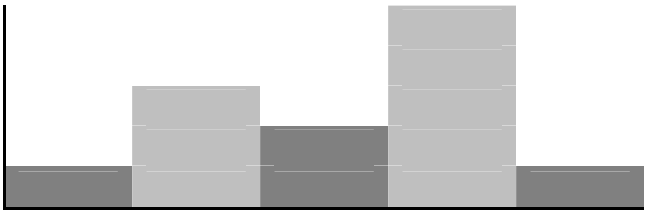
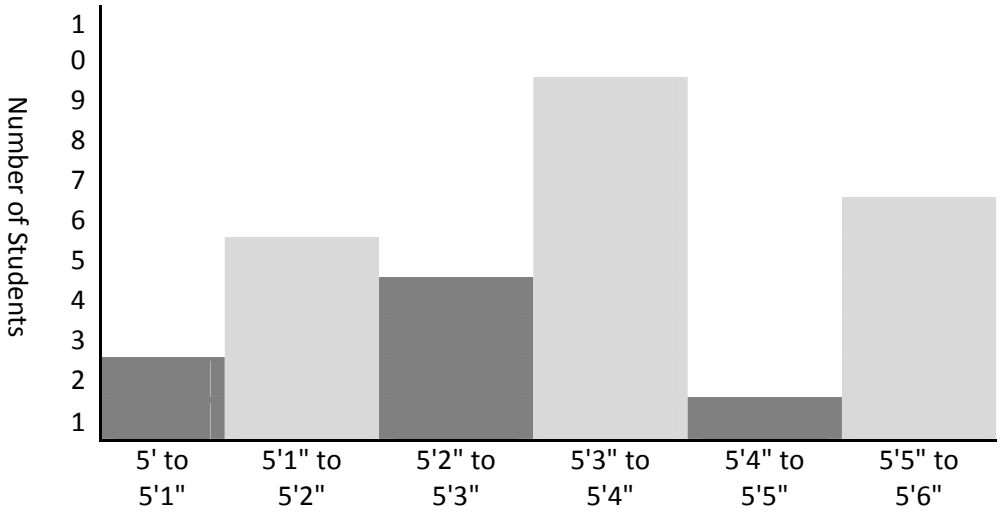
Term	Definition
Biased data	Data gathered from a sample that is not representative of the entire population that is being sampled. **Note regarding biased and unbiased data:** If the sample is representative of the entire population being sampled, that data is unbiased. It is important to note that bias, or the lack thereof in a set of data, results from how the data was collected, and not from the data itself.
Box and Whisker Plot (Box Plot)	A diagram showing the distribution of a set of data. Displays the minimum, maximum, median, and upper and lower quartiles of data. 
Capacity	The maximum amount a container can hold (volume).
Chart	A tool for providing graphical, tabular, or diagrammatical information; generally, it contains data displayed in a visual representation. It is often also called a graph. See *Graph* or *Table*. Examples: a pie chart, a column chart, a bar chart, a line chart
Circle	A collection of points connected in a plane that are all the same distance from a fixed point.
Common factors	Numbers that are factors of two or more numbers. Example: The factors of 12 are 1, 2, 3, 4, 6, and 12. The factors of 10 are 1, 2, 5, and 10. The common factors of 12 and 10 are 1 and 2.
Commutative principle (addition or multiplication)	The principle that states that numbers may be added or multiplied in any order. This term is also referred to as commutative property, law, or rule.
Commutative property of addition	The property that states the sum stays the same when the order of the addends is changed. Example: 6 + 4 = 4 + 6
Compare	To examine two or more objects, numbers, etc. in order to note similarities and differences.
Compare numbers	Given two numbers, determine if one number is greater than, less than, or equal to the other number.
Complementary angles	A pair of angles whose measures have a sum of 90°.
Concrete object	See *Manipulative*.
Congruent angles	Angles that have the same measure. If one angle is placed on top of another, they are congruent if they fit exactly.
Congruent figures	Figures that have the same shape and same size. Example: 
Congruent sides of a triangle	The sides of a triangle that are equal in length.

Term	Definition
Contrast	To compare in order to show unlikeliness or differences.
Conversion	The process of changing into a different form or property. An example is performing a conversion from inches to feet.
Coordinate system	A system that uses coordinates (*x*, *y*) to establish position.
Coordinates	An ordered pair of numbers that identifies an exact location of a point or object on a grid, coordinate plane, or map (written as *x*, *y*). Example:  The coordinates of the point on the graph are (3, 2).
Customary units of length (not inclusive)	Miles, yards, meters, feet, inches, centimeters
Customary units of liquid capacity (not inclusive)	Cups, milliliters, pints, liters, quarts, gallons, cubic inches, cubic yards
Customary units of mass (not inclusive)	Tons, pounds, kilograms, grams, ounces.
Data	Information that has been collected, such as from a survey. For further information, see *Qualitative Data* or *Quantitative Data*.

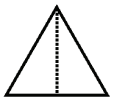
Term	Definition
Decimal	A linear array of digits that represents a real number with every decimal place indicating a multiple of a negative power of 10. For example, the decimal $0.1 = {}^{1}/_{10}$, $0.12 = {}^{12}/_{100}$, $0.003 = {}^{3}/_{1000}$. Also called decimal fraction; a number written using the base 10. **Note regarding place value of decimals:** The number 0.123 has 1 in the tenths place, 2 in the hundredths place, and 3 in the thousandths place. **Note regarding reading/writing decimals (in non-money contexts):** The number 49.8 is read/written as forty-nine and eight tenths; 9.1 is read/written as nine and one tenth; 5.23 is read/written as five and twenty-three hundredths; 14.72 is read/written as fourteen and seventy-two hundredths; 2.918 is read/written as two and nine hundred eighteen thousandths; 0.5 is read/written as five tenths; 0.13 is read/written as thirteen hundredths; 0.483 is read/written as four hundred eighty-three thousandths. Note: When using a whole number and a decimal, the word "and" is important because its usage denotes that a decimal is present. Also, using the word "and" and place value designation is important for mathematics AGLIs. **Note regarding reading/writing decimals (in money contexts):** 6.11 as money is $6.11 and is read/written as six dollars and eleven cents; 30.8 as money is $30.80 and is read/written as thirty dollars and eighty cents; 0.45 as money is $0.45 and is read/written as forty-five cents. **Note regarding comparing decimals:** Start with the tenths place, then go on to the hundredths place, etc. If one decimal has a higher number in the tenths place, it is larger than a decimal with fewer tenths. If the tenths are equal, compare the hundredths, then the thousandths, etc., until one decimal is larger or there are no more places to compare. For example, comparing 0.5 (5/10) and 0.05 (5/100) could be thought of in fractional terms with 0.5 being 50/100 and 0.05 being (5/100), making it clear 0.5 is greater than 0.05. The same method of comparison applies to comparing money to the hundredths place. For example, a comparison of $0.20 (20/100) and $0.02 (2/100) would be $0.20 > $0.02; a comparison of $0.55 (55/100) and $0.60 (60/100) would be $0.55 < $0.60; a comparison of $0.75 (75/100) and $0.77 (77/100) would be $0.75 < $0.77. **Note regarding ordering decimals in ascending or descending order:** To arrange decimals in ascending order, for example, start with 3.15 and 5.2; the number 5.184 would come between them; the number 3.1 would come before them; and the number 5.28 would come after them. The same concept applies to when ordering decimals in money to the hundredths place. To arrange money in ascending order, for example, start with $0.75 and $1.00; the money amount $0.80 would come between them; the money amount $0.50 would come before them; and the money amount $1.01 would come after them. **Extensions Note:** When working on decimals to the hundredths place in the context of money, item amounts need to include cents and not just whole number costs. Whole numbers may be used for items, but need to show/include 0.00 for the cents' decimal representation.

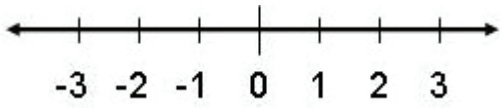
Term	Definition
Denomination	As related to money, the value of currency amounts. The most common denominations are $1, $5, and $10 bills. Today, our government also prints $20, $50, and $100 bills. Example: If you have a $5 bill and a $1 bill, the two bills are different denominations.
Denominator	The bottom number of a fraction which represents the number of parts the whole is divided into. In the fraction ¼, the 4 is the denominator.
Digital clock	A clock that gives the time using numbers. Example: 3:30
Dilation	A transformation in which all distances are lengthened by a common factor. Example: 
Divide	Separating a number into equal groups.
Equation	See *Algebraic (or Numeric) equations or inequalities (also referred to as sentence)*.
Equilateral triangle	A triangle whose three sides are all congruent (equal in length).
Equivalent	Equal in value or able to be placed in a one-to-one correspondence.
Evaluate	To figure out or compute. For example: To evaluate 3+4*x*=7 would be to figure out the value of *x*.
Evaluate/Solve an expression (numeric/algebraic) and equation (numeric/algebraic) **(also referred to as "find the value")**	To find a numerical value for an expression, to 'work it out.' **Note regarding presentation of expression/equation:** An expression/equation must present horizontally, but the student may rewrite it/represent it vertically (in a working format) to solve it.
Factor	One of two or more numbers that are multiplied together to get another number. Example: 3 and 4 are factors of 12 because $3 \times 4 = 12$
First quadrant	The quadrant located in the upper right portion of the coordinate plane. In the first quadrant, both the *x*- and *y*-coordinates are positive numbers.

Term	Definition
Fraction	A number in the form $\frac{a}{b}$ or a/b where *a* is called the numerator and *b* is called the denominator. A fraction names a part of a whole or a part of a collection. Example: The shaded portion represents $\frac{2}{3}$ of the circle.  In the fraction, 2 is the numerator and 3 is the denominator.
Frequency chart	A table that lists the categories of data and shows the number of times each category occurs. Some ways a frequency chart can be presented are with tally or tick marks (see example below), numbers, bars, X's. Example: PETS / NUMBER OF STUDENTS Cats | | | | Dogs 𝍸 | | | Rabbits | |
Function	A mathematical relationship between two values in which the second value depends upon the first value.
Function table	A table used to represent the relationship between two values.
Geometric Properties/Attributes	Geometric features or characteristics (i.e., shape, color, size, etc.)
Geometric shape (figure)	Any set of points on a plane or in space; can be two- or three-dimensional. Figures typically include triangles, quadrilaterals, any other polygons, circles, ovals, spheres, prisms, pyramids, cones, cylinders, and polyhedra. The term "figure" also includes any point, line, segment, ray, angle, curve, region, plane, surface, solid, etc. (e.g., a heart is a simple closed curve). Note: Geometric shapes can be represented by real-world examples, e.g., a DVD can represent a circle, a window can represent a rectangle.
Given Term	A specific part of an algebraic expression and can be either a number, variable, or product of both. For example determine the value of y in the equation; 6y = 12. The given term is y.
Graph	A diagram or drawing used to record information. Examples: bar graph, pictograph, pie graph, scatter plot

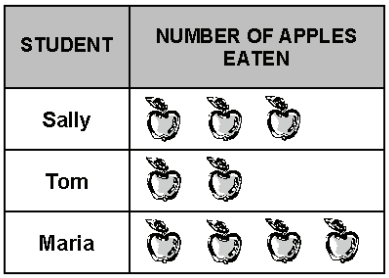
<table>
<tr><th>Term</th><th>Definition</th></tr>
<tr><td>Greater than, Less than, Equal to</td><td>Relationships between numbers.
Greater than: More
Less than: Not as many
Equal to: the same as</td></tr>
<tr><td>Histogram</td><td>A type of bar graph that represents frequency distributions for certain ranges or distributions. An example of a histogram would be the number of students (represented on the y-axis) that fall height categories (that are shown on the x-axis). The heights would be shown in ranges: 5’ to 5’1”; 5’1” to 5’2”; 5’2” t0 5’3”; etc.) The bars of the histogram are connected because they show that the distribution of the data is linked. The histogram below shows us that there are 2 students with heights between 5’ and 5’1”; 5 students between 5’1” and 5’2”; 4 students between 5’2” and 5’3”; 9 students between 5’3” and 5’4”; 1 student between 5’4” and 5’5”; and 6 students between 5’5” and 5’6”.
 
Student Height
 

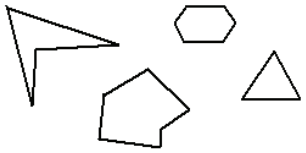
Heights</td></tr>
<tr><td>Hundreds chart</td><td>A 10 × 10 grid filled in with the numbers from 1 to 100.
Example:
<table><tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr><tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20…</td></tr><tr><td>91</td><td>92</td><td>93</td><td>94</td><td>95</td><td>96</td><td>97</td><td>98</td><td>99</td><td>100</td></tr></table></td></tr>
</table>

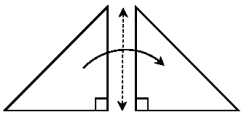
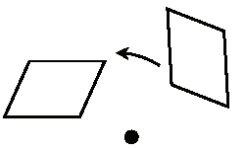
Term	Definition
Image of a transformation	The figure that results after one or more transformations.
Improper fraction	A fraction where the numerator is greater than the denominator. Example: $\frac{3}{2}$
Integer	The set of numbers containing zero, all natural numbers, and the negatives of all natural numbers. Example: …, –4, –3, –2, –1, 0, 1, 2, 3, 4, … are integers.
Interpret	To give or provide the meaning of, or to explain.
Irrational numbers	Written as decimals; irrational numbers neither repeat nor terminate. Examples: π; $\sqrt{3}$; 0.15115111511115111115…
Isosceles triangle	A triangle with at least two sides that are congruent (equal in length). Note: An equilateral triangle is also an isosceles triangle.
Length	Distance from one end to the other; how long something is. Height can be considered length.
Line	The straight path connecting two points and then extending beyond those points infinity in both directions.
Line segment	All points between two given points (including the given points themselves). Example: line segment $\overline{AB}$ 
Line symmetry	Figures that match exactly when folded in half have line symmetry. Example:  The dotted line denotes the line symmetry of this triangle.
Linear	A relationship that can be represented by a straight line.
List	A series of names or other items written or printed together in a meaningful grouping or sequence so as to constitute a record.
Manipulative (Concrete object)	It can be considered a strategy. A manipulative can be a physical object (such as a counting block, token.), or a non-three-dimensional object (such as a sticker, tally mark, a printed image or picture, Touch Math dot or point). A non-three-dimensional manipulative can be made tactile to allow the student to use it.

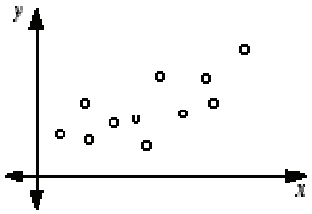
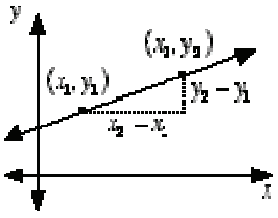
Term	Definition
Mass	The quantity of matter in an object, often confused with weight. An object's mass does not depend on gravity (for example, an object having a mass of 3 kg on Earth, would still have a mass of 3 kg in space). An object's weight combines the object's mass and the gravitational force acting upon the object (for example, an object weighing 100 lbs on Earth would weigh 0 lbs in space).
Measurement	The process of assigning a number to a physical property. Types of measurement include length, weight, area, volume, time, etc.
Metric units of length	Kilometers, meters, centimeters, and millimeters.
Metric units of liquid	Kiloliters, liters, centiliters, and milliliters.
Metric units of mass	Kilograms and grams.
Mixed number	A whole number together with a proper fraction. Example: $3\frac{1}{2}$.
Multiplicand	A number that is to be multiplied in a multiplication problem. Example: In $5 \times 2 = 10$, 5 is the multiplicand.
Multiplier	The number of times a multiplicand is added to itself in a multiplication problem. Example: In $6 \times 8 = 48$, 8 is the multiplier.
Multiply	The processes by which a number is added to itself a specified number of times. For example, 6x4 is 6 added to itself 4 times.
Non-integer Rational Number	Rational non-whole numbers. For example, fractions, decimals, and percentages.
Non-standard units of measure (not inclusive)	Paper clips, footsteps, lengths of string.
Non-traditional Shape/Figure	Shapes that include crescents, pizza pieces, flags, etc.
Number line	A line representing the set of all real numbers. The number line is typically marked showing integer values. Example: 
Numeral	A symbol for a number. Example: 3 is the numeral for three.
Numerator	The top portion of a fraction representing the number of parts of the whole. For example, in the fraction 3/4, the 3 is the numerator.

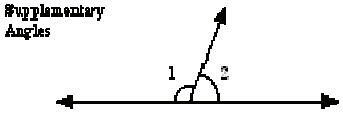
Term	Definition
Numeric equation (sentence)	See *Algebraic (or Numeric) equations or inequalities.*
Numeric expression (phrase)	See *Algebraic (or Numeric) expression.*
Operation	Addition, subtraction, multiplication, and division.
Order numbers	Given a list of three or more numbers, put the numbers in order from least to greatest or from greatest to least.
Order of operations	The standard order of operations is as follows: Carry out all exponents and roots from left to right. Carry out all multiplication and division from left to right. Carry out all addition and subtraction from left to right. Parentheses are used to indicate that operations are to be done in a different order than the one given above. When parentheses appear, carry out the operation(s) within each pair of parentheses (from the inside out, if multiple levels of parentheses are used) and then follow the order of operations given above. Examples: $4 + 6 \div 2 - 1 + 7 \times 2 \rightarrow 4 + 3 - 1 + 14 \rightarrow 40$ $(4 + 6) \div 2 - [(1 + 7) \times 2] \rightarrow 10 \div 2 - [8 \times 2] \rightarrow 5 - 16 \rightarrow -11$
Ordinal numbers	Numbers that show place or position (first, second, third…to tenth). Example: The first person in line
Parallel lines	Lines that are in the same plane and never intersect.
Pattern (Duplicate)	To copy a specified pattern exactly as given.
Pattern (Extend)	To continue and lengthen a pattern.
Pattern (Fill in missing element)	A pattern with a missing element somewhere in/near the middle of the pattern. Note: A missing element to be filled in needs to occur in/near the middle and not at the very end or very beginning of the pattern.
Pattern (Growing)	Patterns that involve a progression from step to step. Patterns can grow larger or smaller. Example: ● ●● ●●● ●●●● Step 1 Step 2 Step 3 Step 4 This pattern is growing by one in each step.
Pattern (Number)	A pattern of numbers arranged according to a rule.
Pattern (Repeating)	A pattern with a cyclic structure (e.g., [A, B] pattern [blue-red, blue-red] or [A, B, C] pattern [blue-red-green, blue-red-green]). Note: The pattern should be shown or demonstrated at least twice to be considered a pattern.

Term	Definition
Pattern (Shape)	A pattern of geometric shapes arranged according to a rule. Notes: Geometric shapes can be represented by real-world examples; e.g., a DVD disc can represent a circle, a window can represent a rectangle. The pattern should be shown or demonstrated at least twice to be considered a pattern. Example: ▲●●▲●●
Percent	An amount that represents part of 100. Example: 25% means $\frac{25}{100}$
Perimeter	The sum of the lengths of the sides of a polygon or the distance around an object.
Perpendicular	Lines that intersect at a 90 degree angle.
Pictograph	A record of data collected that consists of categories of data and uses pictures or symbols to represent the frequency that each category occurred. Example: 
Pictorial Representation	A method used to display information in the form of a picture.
Pie graph (pie chart/sector graph)	A graph using a divided circle in which each section includes part of the total.
Place value of whole numbers	Each digit is a specific place value. Example: In the number 3,819,274, 3 equals the number of millions, 8 equals the number of hundred thousands, 1 equals the number of ten thousands, 9 equals the number of thousands, 2 equals the number of hundreds, 7 equals the number of tens, and 4 equals the number of ones.

Term	Definition
Polygon	A closed figure on a flat surface that is made up of three or more line segments joined end to end. The line segments of a polygon may not cross. The name of a polygon describes the number of sides: triangle (3), quadrilateral (4), pentagon (5), hexagon (6), heptagon (7), octagon (8), nonagon (9), decagon (10), undecagon (11), dodecagon (12). Examples: 
Prime factorization	To write a number as the product of its prime factors. Example: $24 = 2 \times 2 \times 2 \times 3$
Prime numbers	Numbers that have only two factors, 1 and the number itself. Example: 13 is a prime number, since its only factors are 1 and 13, but 9 is not a prime number, since it has three factors, 1, 3, and 9.
Prism	A solid 3-dimensional object with congruent parallel bases. All other faces of a prism are rectangles or parallelograms. Prisms take their names from the shape of their base (i.e., rectangular prisms have rectangles for based, pentagonal prisms have pentagons for bases).
Probability	The likelihood or chance that an event will occur. Probabilities can be described as • Likely, if the event will most probably happen; • Certain, if the event will definitely happen; • Impossible, if the event cannot happen; or • Unlikely, if there is little chance that the event will happen. A probability can also be expressed as a fraction. Example: A spinner has three equal-sized sections labeled A, B, and C. The probability that the spinner will land on C is $\frac{1}{3}$. In this example, the numerator is 1 because only one of the sections is labeled C. The denominator is 3 because there are only three sections on the spinner.
Proper fraction	A fraction with a smaller numerator than denominator. Example: $\frac{3}{4}$
Proportion	An equation that states that two ratios are equal. Example: 6/8 = 9/12
Quadrant	See *Coordinates*.
Quadrilateral	A four-sided polygon. Quadrilaterals include rectangles, squares, parallelograms, rhombi, trapezoids, and diamonds (kites).

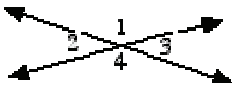
Term	Definition
Qualitative data	Data that are divided into categories rather than quantities. Examples: favorite colors, kinds of fruit, leisure activities
Quantitative data	Data that can be either counted (discrete data) or measured (continuous data). Examples of discrete data: students in a class, courses taken, jellybeans in a jar Examples of continuous data: height, amount of rainfall, temperature. Note that some data that appear in numerical form may not be quantitative. Examples: zip code, social security number, shoe size
Quantity	An exact or specified amount or measure.
Quotient	The result of dividing one number by another.
Rate	A ratio that compares quantities measured in different units (i.e., miles per hour)
Ratio	A comparison of two amounts. Ratios can be written many ways, including 3 : 4, 3 to 4, or $\frac{3}{4}$.
Ray	A part of a line. It consists of one endpoint and all the points to one side of that endpoint.
Recognize	To identify from knowledge of appearance or characteristic.
Rectangle	A four-sided polygon with all right angles; a parallelogram with four right angles.
Reflection (flip)	A transformation in which a figure is flipped over a line. Example: 
Right triangle	A triangle with one right (90 degree) angle.
Rotation (turn)	A transformation in which a figure is rotated around a fixed point. Example: 
Rounding	The process of approximating the value of a number using a nearby number to a given degree of accuracy (i.e., 17 rounded to the nearest tens place is 20)
Rule for a pattern	A sentence or equation that describes how to extend a pattern or how to find a certain term of a pattern.

Term	Definition
Sample	As a noun, a section or subset of a whole group; as a verb, to get data from part of a group and use that data to obtain information about the whole group.
Scale	The size of each interval on the axes of a graph. The sizes of the intervals on any axis must be equal. Each interval is given a number. The numbers can be consecutive or the result of skipping.
Scatter plot (Dot Plot)	A graph of paired data in which the data values are plotted as (*x*, *y*) points. Example: 
Similar shapes	Two figures that have the same shape, equal angles, and proportionate corresponding sides. Example: 
Simplify an expression (numeric/algebraic) and equation (numeric/algebraic)	Use order of operations to reduce it to a point where it is possible to evaluate/solve the expression/equation for its value. **Note regarding presentation of expression/equation:** The expression/equation must present horizontally, but the student may rewrite it/represent it vertically (in a working format) to simplify the expression/equation; the student does not need to solve it. For more information about evaluate/solve, see *Evaluate/Solve an expression (numeric/algebraic) and equation (numeric/algebraic)*.
Skip count	Count by 2's, 3's, 5's, etc., skipping the numbers in between.
Slope	The number used to indicate the steepness of a line as well as indicate if a line is positive or negative. The slope represents the rise over the run of a line. $\text{slope } m = \frac{\text{rise}}{\text{run}} = \frac{y_2 - y_1}{x_2 - x_1}$ 
Square	A rectangle with all sides congruent.
Standard units of measure	All customary and metric units of measure.

<table>
<tr><th>Term</th><th>Definition</th></tr>
<tr><td>Strategies
(computational strategies related to addition, subtraction, multiplication, and/or division)</td><td>Any method used to carry out a computation, whether a formal, traditional pencil-and-paper algorithm (method); an informal written or mental strategy; use of objects; or some combination of these methods, including but not limited to calculators, multiplication tables, number lines, Touch Math, manipulatives, memory strategies (double, backwards 1, number + 1, etc.), base-ten blocks, geometrically (visually using a grid or an array), tally marks, fact tables. A strategy can include instructional methods such as activities involving number puzzles, number-related games, multiple solution strategies, etc.</td></tr>
<tr><td>Subtract</td><td>The process of taking one amount from another.</td></tr>
<tr><td>Supplementary angles</td><td>A pair of angles whose measures have a sum of 180°.
Example:
 

In this diagram, angles 1 and 2 are supplementary angles, since the measure of angle 1 + the measure of angle 2 = 180°.</td></tr>
<tr><td>Surface Area</td><td>Total area of the surface of a 3-dimensional object</td></tr>
<tr><td>Symmetric</td><td>A geometric figure or graph that consists of two congruent parts.</td></tr>
<tr><td>Table</td><td>An orderly arrangement of data, especially one in which the data are arranged in columns and rows in an essentially rectangular form.</td></tr>
<tr><td>Transformation</td><td>An operation that alters the form of a figure. Transformations include translations, dilations, compressions, reflections, and rotations.</td></tr>
<tr><td>Translation (slide)</td><td>A transformation in which a figure is slid in any direction.
Example:
  </td></tr>
<tr><td>Triangle</td><td>A three-sided polygon. Triangle types include equilateral, isosceles, scalene, acute, obtuse, and right.</td></tr>
<tr><td>Two way table</td><td>Used to display the relationships between two different categories.
An example of a two way table is:

<table>
<tr><th></th><th>Likes Math class</th><th>Likes Reading class</th><th>Total</th></tr>
<tr><td>Plays Sports</td><td>10</td><td>5</td><td>15</td></tr>
<tr><td>Does not Play Sports</td><td>15</td><td>20</td><td>35</td></tr>
<tr><td>Total</td><td>25</td><td>25</td><td>50</td></tr>
</table>
</td></tr>
<tr><td>Unit fraction</td><td>A fraction with a 1 as the numerator.
Examples: $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}$</td></tr>
<tr><td>Unit of Measurement</td><td>A standard amount or quantity. Common examples are inches, feet, ounces, grams, minutes, hours, etc.</td></tr>
</table>

Term	Definition
Unit Square	One square used to measure area.
Variable	A quantity that can change or that may take on different values. The term variable also refers to a letter or symbol representing such a quantity.
Vertical angles	A pair of opposite angles formed by the intersection of two straight lines. Example:  In this diagram, angles 1 and 4 are one pair of vertical angles and angles 2 and 3 are another pair of vertical angles. Vertical angles are congruent; therefore, angle 1 is congruent to angle 4 and angle 2 is congruent to angle 3.
Visual Model	A visual representation of how to complete an operation or process. An example of a visual model is the use of a number line for addition.
Volume	The amount of cubic units it takes to fill a three-dimensional object. Example: If the dimensions of a rectangular solid are measured in inches, the volume of the box is given in cubic inches.
Weight	The weight of an object changes according to gravity as shown in the formula W = mass x gravity. For example, a person weighing 180 pounds on Earth would weigh 0 pounds in space due to the lack of gravity, even though the amount of mass did not change.
Whole number	The numbers 0, 1, 2, 3, 4, ….
Word Problem	A mathematical computation imbedded within a context.

Resources:
- www.mathwords.com
- www.amathdictionaryforkids.com
- The American Heritage® Dictionary of the English Language, Fourth Edition copyright ©2000 by Houghton Mifflin Company
- http://www.aaamath.com
- http://www.themathleague.com/
- Collins English Dictionary – Complete and Unabridged © HarperCollins Publishers 1991, 1994, 1998, 2000, 2003
- http://dictionary.reference.com/

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Resources:
- NAEP Reading for 2009 and Writing for 2011 Framework (prepublication editions, 2007) available at http://www.nagb.org/publications/frameworks.htm
- *Standards for the English Language Arts Book*, created by NCTE and IRA, published by NCTE
- *Webster's II New Collegiate Dictionary* (Houghton Mifflin Co., 2001)
- http://www.thefreedictionary.com/:
  - The American Heritage® Dictionary of the English Language, Fourth Edition copyright ©2000 by Houghton Mifflin Company
  - Collins English Dictionary – Complete and Unabridged © HarperCollins Publishers 1991, 1994, 1998, 2000, 2003
- http://www.merriam-webster.com/dictionary/
- http://dictionary.reference.com/
  - Random House Dictionary, © Random House, Inc. 2011.
- http://www.maine.gov/education/lres/pei/glossary032008.pdf
- School Improvement Maryland available at http://mdk12.org/instruction/curriculum/reading/glossary.shtml
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