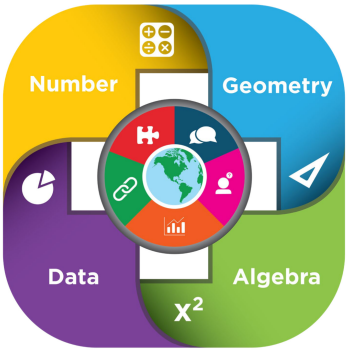
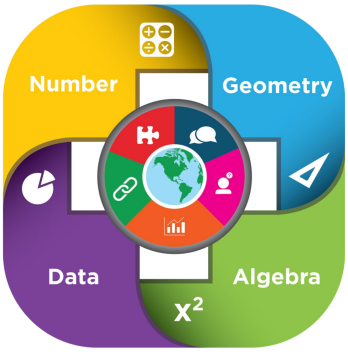


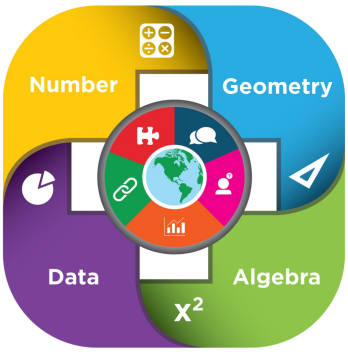
Kindergarten Math Glossary

Term	Definition
analog clock	a clock in which the hours, minutes, and sometimes seconds are indicated by hands on a dial
circle	all points in a plane equidistant from the center
compose	put together
decompose	take apart
making 10	combinations of numbers that add up to ten
subitizing	to identify the number of things in a set by quickly looking at them, not by counting them
using 10	use properties of place value (tens and ones)



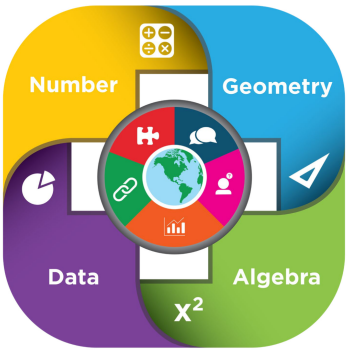
1st Grade Math Glossary

Term	Definition
analog clock	a clock in which the hours, minutes, and sometimes seconds are indicated by hands on a dial
circle	all points in a plane equidistant from the center
compose	put together
concrete model	a real, physical object (counters, etc)
counting back	start the counting sequence at any number and count down
counting on	start the counting sequence at any number and count up
decompose	take apart
operation	an action performed on some set of quantities (addition, subtraction, multiplication, division, raising to a power, and taking a root)
partition	splitting equally
subitizing	to identify the number of things in a set by quickly looking at them, not by counting them
using 10	use properties of place value (tens and ones)



2nd Grade Math Glossary

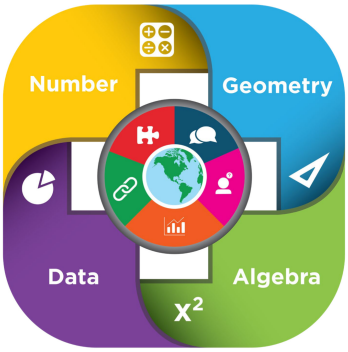
Term	Definition
analog clock	a clock in which the hours, minutes, and sometimes seconds are indicated by hands on a dial
circle	all points in a plane equidistant from the center
concrete model	a real, physical object
decompose	take apart
generate data	collect or create data
line plot	a graph that displays data as points or check marks above a number line, showing the frequency of each value
number line	a line on which numbers are marked at intervals
operation	an action performed on some set of quantities (addition, subtraction, multiplication, division, raising to a power, and taking a root)
partition	splitting equally
repeated addition	the process of adding equal groups
scaled bar graphs	a bar graph that uses a scale of one or more
scaled picture graphs	a picture graph that uses a scale of one or more
subitizing	to identify the number of things in a set by quickly looking at them, not by counting them
using 10	use properties of place value (tens and ones)



3rd Grade Math Glossary

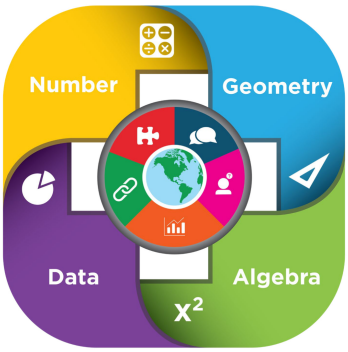
Term	Definition
analog clock	a clock in which the hours, minutes, and sometimes seconds are indicated by hands on a dial
associative property of multiplication	the product stays the same when the grouping of factors is changed. (a*b)*c=a*(b*c), where a, b, and c stand for any real numbers, ex (6*4)*2=6*(4*2)
concrete model	a real, physical object
denominator	the number or expression written below the line in a fraction, tells the number of equal parts into which a whole is divided
distributive property	a*(b+c)=(a*b)+(a*c) and a*(b-c)=(a*b)-(a*c), where a, b, and c stand for any real numbers, ex. 6*(4+3)=(6*4)+(6*3)
horizontal	parallel to or in the plane of the horizon
identity property of multiplication	multiplying a number by 1 gives a product identical to the given number, ex. 8x1=8 and 1x8=8
line plot	a graph that displays data as points or check marks above a number line, showing the frequency of each value
number line	a line on which numbers are marked at intervals
numerator	the number or expression written above the line in a fraction
operation	an action performed on some set of quantities (addition, subtraction, multiplication, division, raising to a power, and taking a root)
partition	splitting equally
polygon	a closed, plane figure formed by line segments that

	meet only at their endpoints
repeated addition	the process of adding equal groups
scaled bar graphs	a bar graph that uses a scale of one or more
scaled picture graphs	a picture graph that uses a scale of one or more
zero property	the product of any number and 0 is 0, ex. 8*0=0 and 0*8=0



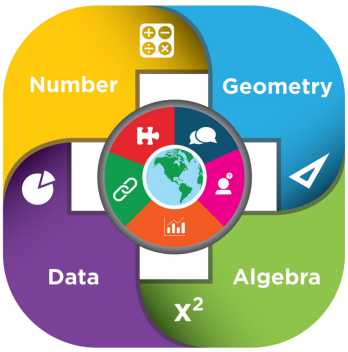
4th Grade Math Glossary

Term	Definition
circle	all points in a plane equidistant from the center
conversion	the act or process of changing something into a different state or form
decimal	a number written using base ten and containing a decimal point
denominator	the number or expression written below the line in a fraction, tells the number of equal parts into which a whole is divided
dividend	a quantity to be divided
divisor	the quantity that divides a dividend
horizontal	parallel to or in the plane of the horizon
identity property of multiplication	multiplying a number by 1 gives a product identical to the given number, ex. 8x1=8 and 1x8=8
line plot	a graph that displays data as points or check marks above a number line, showing the frequency of each value
mixed number	a number with an integer part and a fraction part
number line	a line on which numbers are marked at intervals
numerator	the number or expression written above the line in a fraction
operation	an action performed on some set of quantities (addition, subtraction, multiplication, division, raising to a power, and taking a root)



5th Grade Math Glossary

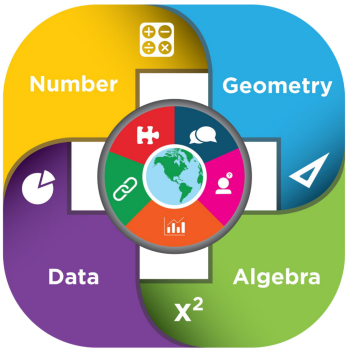
Term	Definition
concrete model	a real, physical object
conversion	the act or process of changing something into a different state or form
decimal	a number written using base ten and containing a decimal point
denominator	the number or expression written below the line in a fraction, tells the number of equal parts into which a whole is divided
divisor	the quantity that divides the dividend
edge	the line segment where two faces of a solid figure meet
line plot	a graph that displays data as points or check marks above a number line, showing the frequency of each value
mixed number	a number with an integer part and a fraction part
number line	a line on which numbers are marked at intervals
numerator	the number or expression written above the line in a fraction
operation	an action performed on some set of quantities (addition, subtraction, multiplication, division, raising to a power, and taking a root)
origin	the intersection of the x- and y-axes in a coordinate plane, described by the ordered pair (0,0)



6th Grade Math Glossary

Term	Definition
central tendency	a value intended to indicate the typical value in a collection of data (mean, median, mode)
certain event	an event that will definitely happen, has a probability of 1.
circle	all points in a plane equidistant from the center
concrete model	a concrete model is a real, physical object
constant of proportionality	the constant factor by which a proportion increases or decreases; in a direction proportion, y=kx, and in an indirect proportion, y=k/x, where k does not equal 0, k is the constant of proportionality (also called constant of variation)
decimal	a number written using base ten and containing a decimal point
distributive property	a*(b+c)=(a*b)+(a*c) and a*(b-c)=(a*b)-(a*c), where a, b, and c stand for any real numbers. 6*(4+3)=(6*4)+(6*3)
impossible event	an event with a probability of zero
mixed number	a number with an integer part and a fraction part
net	a two-dimensional pattern that can be folded to form a three-dimensional solid
number line	a line on which numbers are marked at intervals
operation	an action performed on some set of quantities (addition, subtraction, multiplication, division, raising to a power, and taking a root)
origin	the intersection of the x- and y-axes in a coordinate plane, described by the ordered pair (0,0)
Percent (%)	a ratio that compares a number to 100; the word percent

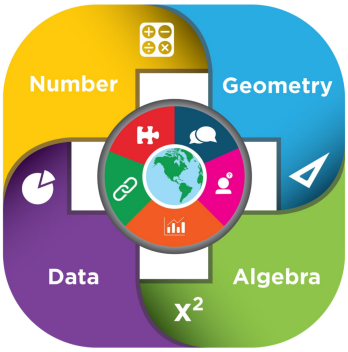
	means per hundred or out of 100, ex. 59% of 100 is 59 and 59% of 200 is 118
percentage	a number that is a given percent of another number, ex. if 85% of 3000 is 2550, the percentage is 2550
possible outcomes	all of the outcomes that can occur
simple event	an experimental outcome that cannot be broken down any further
substitution property of equality	for all real numbers a and b, if a=b, then a can be replaced by b in any equation or expression
surface area	the sum of the areas of the faces and any curved surfaces of a solid
unit rate	a rate in which the second part is one unit, ex. 60 miles per hour, or 60 miles:1 hour



7th Grade Math Glossary

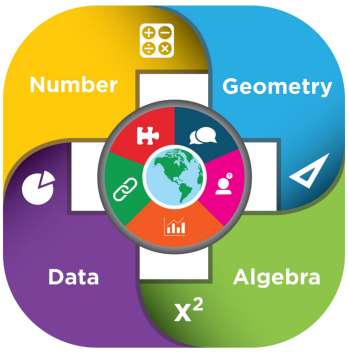
Term	Definition
adjacent angles	any two non-overlapping angles with a side in common
associative property of addition	the sum stays the same when the grouping of addends is changed, (a+b)+c=a+(b+c), where a, b, and c stand for any real numbers, ex. (6+4)+2=6+(4+2)
associative property of multiplication	the product stays the same when the grouping of factors is changed, (a*b)*c=a*(b*c), where a, b, and c stand for any real numbers, ex. (6*4)*2=6*(4*2)
circle	all points in a plane equidistant from the center
complementary angles	two angles with measures whose sum is 90 degrees
composite figure	a figure that can be decomposed into two or more figures
decimal	a number written using base ten and containing a decimal point
distributive property	a*(b+c)=(a*b)+(a*c) and a*(b-c)=(a*b)-(a*c), where a, b, and c stand for any real numbers. 6*(4+3)=(6*4)+(6*3)
horizontal	parallel to or in the plane of the horizon
identity property of multiplication	multiplying a number by 1 gives a product identical to the given number, 8x1=8 and 1x8=8
inverse property of addition	for any real number, a+(-a)=0 and -a+a=0
inverse property of multiplication	for any real number except 0, a*a/1=1 and 1/a*a=1
linear pair	two adjacent angles whose noncommon sides are opposite rays

number line	a line on which numbers are marked at intervals
operation	an action performed on some set of quantities (addition, subtraction, multiplication, division, raising to a power, and taking a root)
percent (%)	a ratio that compares a number to 100; the word percent means per hundred or out of 100, ex. 59% of 100 is 59 and 59% of 200 is 118
percent change	a way to describe a change in a quantity by expressing it as a percent of the original quantity; percent change = amount of change/original amount x 100
percent decrease	the absolute value of the percent change when an amount goes down; percent decrease = amount of decrease/original amount x 100
percent increase	the percent change when an amount goes up; percent increase = amount of increase/original amount x 100
percentage	a number that is a given percent of another number, if 85% of 3000 is 2550, the percentage is 2550
pi	a constant representing the ratio of the circumference of a circle to its diameter, common approximations for pi are 22/7 and 3.14
polygon	a closed, plane figure formed by line segments that meet only at their endpoints
random	by chance, with no outcome any more likely than another
random sample	a sample in which every person, object or event in the population has an equal chance of being selected for the sample
supplementary angles	two angles with measures whose sum is 180 degrees
surface area	the sum of the areas of the faces and any curved surfaces of a solid
vertical	perpendicular to the horizon
vertical angles	the non-adjacent angles formed by intersecting lines, which are congruent, sometimes called opposite angles
zero property	the product of any number and 0 is 0, ex. 8*0=0 and 0*8=0



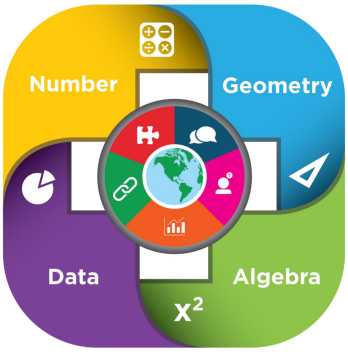
8th Grade Math Glossary

Term	Definition
alternate exterior angles	when a transversal intersects two lines, alternate interior angles are on opposite sides of the transversal and on the outside of the given lines
alternate interior angles	when a transversal intersects two lines, alternate interior angles are on opposite sides of the transversal and on the inside of the given lines
bivariate	a data set in which two variables are measured and recorded for each subject
corresponding angles	when a transversal intersects two lines, corresponding angles are on the same side of the transversal and on the same side of the given lines
cube root	a number whose cube is equal to a given number
number line	a line on which numbers are marked at intervals
operation	an action performed on some set of quantities (addition, subtraction, multiplication, division, raising to a power, and taking a root)
origin	the intersection of the x- and y-axes in a coordinate plane, described by the ordered pair (0,0)
transversal	a line that intersects two or more other lines at different points



HS Algebra Math Glossary

Term	Definition
asymptote	a line to which the graph of a curve gets increasingly closer but never touches or crosses
circle	all points in a plane equidistant from the center
continuity	*see continuous graph*
continuous graph	a graph in which there are not gaps, jumps or holes
extraneous solutions	solutions to a transformed equation that are not solutions to the original equation or problem
limit	a number such that the value of a given function remains arbitrarily close to this number when the independent variable is sufficiently close to a specified point or is sufficiently large
logarithm	an exponent, the number of times a factor is used to produce another number
operation	an action performed on some set of quantities (addition, subtraction, multiplication, division, raising to a power, and taking a root)
origin	the intersection of the x- and y-axes in a coordinate plane, described by the ordered pair (0,0)
pi	a constant representing the ratio of the circumference of a circle to its diameter, common approximations are 22/7 and 3.14
piece-wise	denoting that a function has a specified property, as smoothness or continuity, on each of a finite number of pieces into which its domain is divided
random	by chance, with no outcome more likely than another



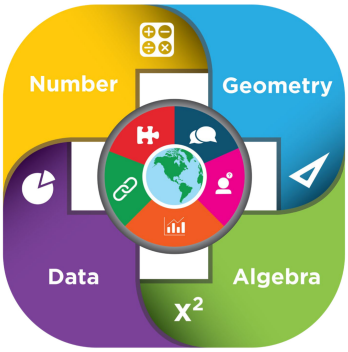
HS Geometry Math Glossary

Term	Definition
acute triangle	a triangle whose interior angles each measure less than 90 degrees
arc	a continuous part of a circle; the measure of an arc is the measure of the angle formed by two radii with endpoints at the endpoints of the arc (arc AB is the shorter of the two curves connecting point A with point B)
arc length	the length of an arc, or portion of a circle
biconditional statement	a logical statement containing the phrase If and only if; both the statement and its converse are true (p if and only if q)
center	the point that is equidistant from all points on a circle
central angle	an angle whose vertex is the center of a circle and whose sides are radii of the circle
chord	a segment whose endpoints are on a circle
circle	all points in a plane equidistant from the center
composition of transformations	the combination of two or more transformations resulting in the creation of a single image, ex. glide reflection is the result of a translation and a reflection
conditional	*see conditional statement*
conditional statement	a logical statement consisting of two parts, an hypothesis and a conclusion (if p, then q)
construction	an accurate image of a figure made using only a straight edge and a compass
contrapositive	when the hypothesis and conclusion are both reversed

	and negated, has the same truth value as the conditional statement (if p then q becomes if not q, then not p)
converse	when the hypothesis and conclusion are reversed (if p, then q becomes if q, then p)
cosine (cos)	in a right triangle, the ratio of the length of the leg adjacent to the reference angle to the length of the hypotenuse
deductive reasoning	applying a general rule to a specific case
detachment	*see law of detachment*
directrix	a fixed line used in the description of a curve or surface
distance	the absolute value of the difference of the coordinates of two points on a number line
equilateral	all sides having the same length
exterior angle	an angle formed by a side of a polygon and an extension of an adjacent side; at each vertex, there are two congruent exterior angles
flow chart proof	a type of proof in which a flow chart is used to show the progression of a logical argument
flow format	*see flow chart proof*
focus	the point at which the axis of a double napped right cone intersects a figure formed when a plane slices the double napped cone
horizontal	parallel to or in the plane of the horizon
inscribed angle	an angle whose vertex is on a circle and whose sides are chords of the circle
interior angle	an angle on the inside of a polygon, formed by the sides of the polygon
inverse statement	in the inverse of a conditional statement, both the hypothesis and the conclusion are negated (if p, then q becomes, if not p, then not q)
isosceles trapezoid	a trapezoid with congruent legs
isosceles triangle	a triangle with two congruent sides
kite	a quadrilateral with two distinct pairs of adjacent congruent sides

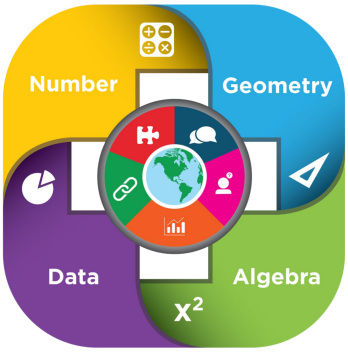
law of detachment	if a statement is true, and the hypothesis is true, then the conclusion has to be true (if p then q is true and p is true, then q is true)
law of syllogism	if p then q is true, and if q then r is true, then if p then r is true
logic	a formal structure for reasoning
logical argument	an argument tying together an hypothesis or set of hypotheses and a conclusion
midpoint	the point on a line segment that divides it into two congruent segments
obtuse triangle	a triangle with exactly one interior angle that measures more than 90 degrees
origin	the intersection of the x- and y-axes in a coordinate plane, described by the ordered pair (0,0)
paragraph format	*see paragraph proof*
paragraph proof	a type of proof written in paragraph form
point	an exact location in space
preimage	the original figure in a transformation
proof	a logical argument that shows why a statement must be true
radius	a segment or distance from the center of a circle to a point on the circle
rectangle	a parallelogram with four right angles
rhombus	a parallelogram with four congruent sides
right triangle	a right triangle has one interior angle that measures exactly 90 degrees
scalene triangle	a triangle that has no congruent sides
secant	a line that intersects a circle in two points
sector of a circle	the region bounded by two radii of the circle and the arc they intersect
sine (sin)	in a right triangle, the ratio of the length of the leg opposite the reference angle to the length of the hypotenuse

square	a parallelogram with four congruent sides and four right angles.
surface area	the sum of the areas of the faces and any curved surfaces of a solid.
syllogism	*see law of syllogism*
tangent (tan)	in a right triangle, the ratio of the length of the leg opposite the reference angle to the length of the leg adjacent to the given angle.
theorem	a mathematical statement that can be shown to be true based on postulates, definition, or other proven theorems
triangle	a polygon with three sides
two-column proof	a type of proof consisting of ordered statements in one column and the corresponding reasons in the other column
vertical	perpendicular to the horizon



HS Number Math Glossary

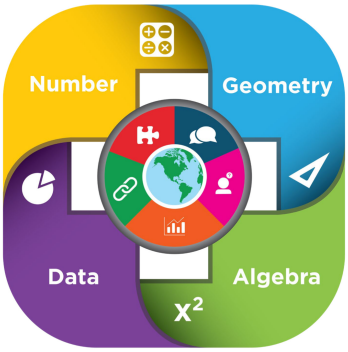
Term	Definition
matrix	a rectangular arrangement (array) of numbers
modular arithmetic	arithmetic in which numbers that are congruent modulo a given number are treated as the same
radians	real number angle measure (180 degrees = pi radians)
roundoff	round the last calculation to one more decimal place than the original data
vector	a quantity with both magnitude and direction



HS Data Math Glossary

Term	Definition
bias	a biased sample is one that is not representative of the population from which it is drawn
bivariate	a data set in which two variables are measured and recorded for each subject
circle	all points in a plane equidistant from the center
confidence interval	see level of confidence
confounding variable	occurs when an experimenter cannot tell the difference between the effects of different factors on the variable
intersect	to meet or cross
intersections	*see intersect*
level of confidence	the level of confidence is the probability that the interval estimate contains the population parameter, assuming that the estimation process is repeated a large number of times
p-values	the probability of obtaining a sample statistic with a value as extreme or more extreme than the one determined from the sample data
parameter	a measured characteristic of a population
possible outcomes	all of the outcomes that can occur
random	by chance, with no outcome any more likely than another
residuals	represents the difference between the observed y-value and the predicted y-value for a given x-value
statistic	a measured characteristic of a sample

subsets	a set consisting of elements of a given set that can be the same as the given set or smaller
unions	the union of two sets is the set of all elements in each set or both sets
univariate	a data set in which one variable is measured and recorded for each subject (experimental unit)



Academic Math Glossary

Term	Definition
analyze reasoning	look at information for patterns to determine outcomes
application	extending the mathematical skills and knowledge of students in both familiar and new contexts
attribute	characteristics
authentic problem	a mathematical problem that allows students to explore, discuss, and meaningfully construct concepts and relationships in contexts that are relevant to the learner
conceptual understanding	an integrated and functional grasp of mathematical ideas, including efficiency and connections
conjectures	conclusion formed on the basis of incomplete information
connections	associate mathematical concepts both between concepts in mathematics itself and linking mathematical concepts to other concepts in other content areas
contextual representations	to create or use a symbol, expression, objects or drawing of an idea, quality or quantity in the context of a problem
counterexamples	an example that opposes or contradicts an idea or theory
efficiency	producing desired results without wasting materials, time, or energy
entry points	different ways a teacher can approach a topic so that students, regardless of their unique blends of intelligences, experiences, and interests, can find ways to become involved with content

explain	to make something clear or understandable
fluency	the ability to flexibly apply strategies in an efficient and accurate way (does not mean automatic)
fluently	*see fluency*
geometric attribute	characteristics of geometric shapes or figures
inferences	conclusions reached on the basis of evidence and reasoning
justify	use appropriate mathematical language to give reasons for the particular approach used to solve a problem
non examples	the opposite of examples, provide an instance of contrast
number sense	the ability to see patterns and relationships between numbers, to work flexibly with operations and procedures, to recognize order and relative quantities, and to utilize estimation and mental computation
patterns	a sequence of repeating objects, shapes or numbers
perseverance	continued effort to do or achieve something despite difficulties, failure, or opposition
physical representations	to create or use objects or drawing of an idea, quality or quantity
precise mathematical language	specific language, words, symbols that are used to communicate mathematical ideas, concepts, and ideas
procedural understanding	knowing the rules and routines of mathematics
reasonable	usual or what is expected
reason quantitatively	make sense of or consider the context and values
reason abstractly	to use the context of a problem to make sense of the mathematical content
represent	to create or use a symbol, expression, objects or drawing of an idea, quality or quantity
solution	any value for a variable that makes an equation or inequality true
solution pathways	a logically connected sequence of steps used to solve a problem

strategies	ways to approach and work through problems to find a solution
symbolic representations	the use of a symbol to represent a mathematical idea, concept or quantity
value	the number assigned to a variable or the quantity that is the result of applying one or more operations
verbal representations	the language we use to communicate mathematical ideas, concepts or quantities
visual representations	a depiction of a mathematical idea, concept or quantity

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