

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
K	2-dimensional	Lying flat
K	3-dimensional	solid shapes; having points or sides that are not all on one plane
K	above	On top of/over; indicates location of an object
K	add/addition	To bring two or more numbers (or things) together to make a new total
K	addend	Any of the numbers that are added together
K	alike	same size, quantity, or amount
K	analyze	Examining parts to understand how they work together
K	and	to combine; put together two or more quantities
K	array	A set of objects arranged in rows and columns.
K	attribute	A character that something has such as color, weight, height
K	behind	in back of; indicates location of an object.
K	below	under; indicates location of an object.
K	beside	next to; indicates location of an object.
K	between	The space that separates two things
K	bigger	Larger in size.
K	capacity	The amount that something can hold
K	category	a particular type of thing within a larger group; class. A kind of something.
K	circle	A 2-dimensional shape made by drawing a curve that is always the same distance from a center
K	classify	to sort into categories or to arrange into groups by attribute
K	compare	To find how things are different or the same
K	compose	to form or join parts to make a whole
K	cone	A solid 3 dimensional object that has a circular base and one vertex
K	corner	The place where two lines meet
K	count	To say numbers in order
K	cube	Box shaped solid object that has 6 identical square faces
K	curve	a line that is rounded
K	cylinder	A solid object with 2 identical flat ends that are circular and 1 curved side
K	data	A collection of facts, such as values or measurements
K	day	The 24 hour period from midnight to the next midnight; there are 24 hours in a day.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
K	decompose	To separate into parts or elements (e.g., geometric figures or numbers).
K	difference	The result when one number is subtracted from another
K	different/difference	Not the same; unlike
K	digit	Any of the symbols 0,1,2,3,4,5,6,7,8,9
K	dime	A coin with a value of ten cents.
K	eight	one more than seven; one less than nine
K	eighteen	1 ten and 8 ones
K	eleven	1 ten and 1 one
K	equal/equivalent	Exactly the same amount or value (=)
K	equation	Says two things are the same, using math symbols
K	expression	Numbers, symbols grouped together to show the value of something
K	fewer	Not as many
K	fifteen	1 ten and 5 ones.
K	fifth	The number five in a position or order of things.
K	first	Coming before all others
K	five	One more than four; one less than six.
K	flat	Not curved or bumping
K	forward	To move ahead.
K	four	One more than three; one less than five.
K	fourteen	1 ten and 4 ones.
K	fourth	The number four in a position or order of things.
K	graph	A chart that shows mathematical information
K	greater than	more than another
K	half	One of two equal parts of a whole
K	heavier	Weighing more than something else
K	height	A measure of how tall something is
K	hexagon	A six-sided polygon.
K	in front of	before; indicates location of an object.
K	inch	A measure of length
K	larger	bigger

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
K	length	How long something is from end to end
K	less	smaller; not as many
K	less than	Smaller than another
K	lighter	Having a weight that is less than another or a shade of color that is not as dark as another
K	line	A long thin mark made by a pen, pencil, etc.
K	location	Where something is
K	longer/longest	Having a length that is greater than another
K	match	To pick two or more of the same thing
K	measure	To find a number that shows the size or amount of something
K	minus	A symbol used to show subtraction; to take away a quantity from another
K	more	Larger amount than something else
K	most	The largest (biggest) group
K	next to	beside; indicates location of an object
K	nine	one more than eight; one less than ten
K	nineteen	1 ten and 9 ones
K	number	A number is a count or measurement
K	number line	A line on which each point represents a number
K	numeral	A symbol used to represent a number
K	object	Something that can be seen and touched
K	one hundred	10 sets of 10; 100
K	order	Arrangement according to size, amount or value
K	pattern	Things that are arranged following a rule or rules
K	penny	A coin with a value of 1 cent
K	place value	The value of where the digit is in the number, such as units, tens, hundreds, etc.
K	plus	The symbol (+); shows addition; to add or combine.
K	problem	A question that needs a solution
K	quantity	How many there are of something
K	rectangle	A parallelogram with four right angles.
K	roll	to move something by turning it over and over

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
K	row	An arrangement of figures, side by side
K	rule	Rule is the procedure that a count must follow
K	same	alike in size, quantity, or amount.
K	second	number two in a position or order of things
K	sequence	A set of numbers or objects arranged according to a specific rule or pattern.
K	seven	one more than six; one less than eight
K	seventeen	1 ten and 7 ones
K	shape	The form of an object - how it is laid out in space (not what it is made of, or where it is)
K	shorter	The smaller of two heights
K	side	A line segment that forms a shape on a 2-dimensional figure
K	similar	Having the same shape but not necessarily the same size
K	six	one more than five; one less than seven
K	sixteen	1 ten and 6 ones
K	size	How big something is
K	slide	To move something without turning it or lifting it from a surface.
K	smaller	Having a size that is less than that of another object.
K	solid	A shape that is not flat; an object that has three dimensions. (i.e. Height, length, and width.)
K	sort	To group or organize according to shared attributes.
K	sphere	A 3-dimensional figure that is completely round; a ball
K	square	A 4-sided polygon (a flat shape with straight sides) where all sides have equal length and every angle is a right angle (90°)
K	stack	to put one object on top of another
K	subtract/subtraction	To take one number away from another
K	sum	The result of adding two or more numbers
K	symbol	A mark or sign used instead of words
K	take away	to subtract
K	taller/tallest	Having more height than others
K	ten	one more than nine; one less than eleven

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
K	tens	Place value-the digit next to ones
K	third	the number three in a position or order of things
K	thirteen	1 ten and 3 ones
K	three	one more than two; one less than four
K	triangle	A 3-sided polygon
K	twelve	1 ten and 2 ones
K	twenty	two sets of 10
K	two	one more than one; one less than three
K	vertex/vertices	A corner point of a geometric figure.
K	week	seven days
K	weight	How heavy something is or how much mass it has
K	zero	none; a number indicating the absence of all

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
1	2-dimensional	Lying flat
1	3-dimensional	solid shapes; having points or sides that are not all on one plane
1	add/addition	To bring two or more numbers (or things) together to make a new total
1	addend	Any of the numbers that are added together
1	additive Identity Property of 0	The rule that states that any number plus 0 is equal to that number
1	analog clock	a clock with a minute hand and a hour hand
1	analyze	Examining parts to understand how they work together
1	angle	A figure formed by two rays with the same endpoint (vertex).
1	area	The amount of surface inside a closed shape. measured in square units
1	array	A set of objects arranged in rows and columns.
1	Associative Property of Addition	The property that states that when adding three or more real numbers, the sum is always the same regardless of their grouping.
1	attribute	A character that something has such as color, weight, height
1	bar graph	A graph that uses horizontal or vertical bars to represent data
1	base ten	a number system based on ten; also known as the decimal system
1	between	The space that separates two things
1	cardinal number	The number of unique items in a set.
1	category	a particular type of thing within a larger group; class. A kind of something.
1	cent	Smallest money value in US
1	centimeter	A metric unit of length equal to one hundredth of a meter
1	circle	A 2-dimensional shape made by drawing a curve that is always the same distance from a center
1	circular	Having the shape of a perfect circle, or resembling a circle in shape
1	classify	to sort into categories or to arrange into groups by attribute
1	closed figure	A two-dimensional figure that starts and ends at the same point
1	column	an arrangement of figures, one above the other
1	Commutative Property of Addition	the sum remains the same no matter the order of the addends
1	compare	To find how things are different or the same
1	compose	To form or join parts to make a whole
1	composite shape	a figure made from two or more geometric figures

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
1	cone	A solid 3 dimensional object that has a circular base and one vertex
1	corner	The place where two lines meet
1	count	To say numbers in order
1	count backwards	To say numbers in order backward
1	cube	Box shaped solid object that has 6 identical square faces
1	cylinder	A solid object with 2 identical flat ends that are circular and 1 curved side
1	data	A collection of facts, such as values or measurements
1	decompose	To separate into parts or elements (e.g., geometric figures or numbers).
1	defining attribute	a characteristic that defines an object or shape.
1	determine	to find or figure out
1	diamond	Plane shape with 4 equal sides and no right angles
1	difference	The result when one number is subtracted from another
1	different/difference	Not the same; unlike
1	digit	Any of the symbols 0,1,2,3,4,5,6,7,8,9
1	digital clock	A clock that show time in numbers
1	dime	A coin with a value of ten cents.
1	dollar	a unit of money (\$)
1	equal shares	An equal part of a group, number, or whole
1	equal/equivalent	Exactly the same amount or value (=)
1	equation	Says two things are the same, using math symbols
1	equivalent	Equal in value or amount
1	expression	Numbers, symbols grouped together to show the value of something
1	face	A flat surface of a solid shape
1	feet	Standard units for measuring length
1	fifty	5 sets of 10; 50
1	figure	A flat or solid shape
1	flat	Not curved or bumping
1	fourth	The number four in a position or order of things.
1	fourths	One or more of four equal parts
1	graph	A drawing used to record information

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
1	greater than	Bigger; The symbol > means greater than (the symbol < means less than)
1	greatest	The highest (largest) amount or number
1	half circle	One of two equal parts of a circle
1	half hour	A unit of time equal to 30 minutes.
1	half/halves	One of two equal parts of a whole
1	heavier	Weighing more than something else
1	hexagon	A six-sided polygon.
1	hour	A unit of time equal to 60 minutes
1	hour hand	The hand on an analog clock that represents the hour.
1	hundreds	The place value in a number that represents how many 100's there are
1	inch	A measure of length
1	Indirect measure	The measurement of an object through the known measure of another object.
1	information	News or knowledge received or given
1	largest	The highest amount (greatest)
1	least	The smallest
1	length	How long something is from end to end
1	less than	Smaller than another (<)
1	lighter	Weighing less than something else
1	line segment	A portion of a line with a start and a stop
1	longer/longest	Having a length that is greater than another
1	metric system	A system for measuring
1	middle	The center of an object; halfway between the highest and the lowest
1	minute	A unit of time equal to 60 seconds
1	more	Larger amount than something else
1	most	The largest (biggest) group
1	most likely	Has the best chance of happening
1	multiples of ten	Numbers into which ten will divide evenly
1	nickel	A coin with a value equal to 5 cents
1	number	A number is a count or measurement
1	number line	A line on which each point represents a number

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
1	number sentence	Math sentence written in numerals and symbols
1	numeral	A symbol used to represent a number
1	odd number	Number that is not divisible by 2. Odd numbers end with 1, 3, 5, 7, or 9
1	ones	The place value in a number that represents how many 1's there are.
1	operation	The math processes of addition, subtraction, multiplication, and division.
1	outside	The outer side, part; exterior
1	pair	A set of 2 matched things or items
1	partition	To divide a whole into parts
1	pattern	A predictable sequence.
1	penny	A coin with a value of 1 cent
1	place value	The value of where the digit is in the number, such as units, tens, hundreds, etc.
1	prism	A polyhedron that has two congruent and parallel faces joined by faces that are parallelograms. Prisms are named by their bases.
1	pyramid	A solid shape with polygon as a base and triangular faces that taper to a point (vertex)
1	quarter	A coin with a value of 25 cents.
1	quarter	One of four equal parts. Written as $\frac{1}{4}$
1	range	The difference between the greatest (maximum) and least (minimum) values in a set of data.
1	rectangle	A parallelogram with four right angles.
1	rectangular prism	A solid figure with six faces that are all rectangles
1	relation	The connection between a pair of objects, measures, numbers
1	represent	To present clearly, describe, show
1	rhombus	Parallelogram with four equal sides and equal opposite angles
1	right rectangular prism	A polyhedron with congruent rectangular parallel bases, joined by faces that are also rectangles. The lateral edges of the faces are perpendicular to the bases.
1	sequence	A set of numbers or objects arranged according to a specific rule or pattern.
1	shorter/shortest	Less height or distance than another
1	side	One of the lines that make a flat shape or one of the surfaces that make a solid object

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
1	similar	Having the same shape but not necessarily the same size
1	solve	To work out the answer
1	sort	To group or organize according to shared attributes.
1	sphere	A 3-dimensional figure that is completely round; a ball
1	square	A 4-sided polygon (a flat shape with straight sides) where all sides have equal length and every angle is a right angle (90°)
1	square unit	A measurement of size based on square shaped units
1	subtract/subtraction	To take one number away from another
1	sum	The result of adding two or more numbers
1	survey	A method of collecting a sample data by asking people questions
1	symbol	A mark or sign used instead of words
1	table	Numbers or quantities arranged in rows and columns
1	taller/tallest	Having more height than others
1	tally/tallies	Using marks to record counting
1	temperature	A measurement of how hot or cold something is
1	ten	one more than nine; one less than eleven
1	tens	Place value-the digit next to ones
1	thermometer	Instrument for measuring temperature
1	time	Ongoing sequence of events take place-past, present, future. Clocks measure time
1	trapezoid	A quadrilateral with exactly one pair of parallel sides
1	triangle	A 3-sided polygon
1	unit	Another name for one, place value – the units column is the ones column
1	unknown number	The missing number in an equation
1	vertex/vertices	A corner; a place where surfaces meet
1	weight	How heavy something is or how much mass it has
1	whole	All of an object; the entire thing
1	whole number	A set of counting numbers including zero

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
2	2-dimensional	Lying flat
2	3-dimensional	solid shapes; having points or sides that are not all on one plane
2	a.m.	Before noon; the time between midnight and noon
2	add/addition	To bring two or more numbers (or things) together to make a new total
2	addend	Any of the numbers that are added together
2	additive Identity Property of 0	The rule that states that any number plus 0 is equal to that number
2	after	Describes a time that is later than some other time
2	analog clock	a clock with a minute hand and a hour hand
2	analyze	Examining parts to understand how they work together
2	angle	A figure formed by two rays with the same endpoint (vertex).
2	area	The amount of surface inside a closed shape. measured in square units
2	array	A set of objects arranged in rows and columns.
2	Associative Property of Addition	The property that states that when adding three or more real numbers, the sum is always the same regardless of their grouping.
2	attribute	A character that something has such as color, weight, height
2	average	A calculated "central" value of a set of numbers
2	bar graph	A graph that uses horizontal or vertical bars to represent data
2	base ten	a number system based on ten; also known as the decimal system
2	before	Refers to a previous time
2	cardinal number	The number of unique items in a set.
2	category	a particular type of thing within a larger group; class. A kind of something.
2	cent	Smallest money value in US
2	centimeter (cm)	A metric unit of length equal to one hundredth of a meter
2	chance	The likelihood that a particular outcome will occur
2	circle	A 2-dimensional shape made by drawing a curve that is always the same distance from a center
2	clock	A device used for measuring and indicating time, usually by means of pointers moving over a dial
2	clockwise	Moving in the direction of the hands on a clock
2	closest	Not far away

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
2	coins	A kind of money
2	column	an arrangement of figures, one above the other
2	Commutative Property of Addition	This property means that addends can be added in any order and the sum is always the same.
2	compare	To find how things are different or the same
2	compose	To form or join parts to make a whole
2	cone	A solid 3 dimensional object that has a circular base and one vertex
2	cost	The amount of money asked for or paid for an item
2	count	To say numbers in order
2	count backwards	To say numbers in order backward
2	counting order	Any number you can use for counting things; does not include zero
2	cube	Box shaped solid object that has 6 identical square faces
2	cylinder	A solid object with 2 identical flat ends that are circular and 1 curved side
2	data	A collection of facts, such as values or measurements
2	day	The 24 hour period from midnight to the next midnight
2	decompose	To separate into parts or elements (e.g., geometric figures or numbers).
2	defining attribute	a characteristic that defines an object or shape.
2	determine	to find or figure out
2	difference	The result when one number is subtracted from another
2	different/difference	Not the same; unlike
2	digit	Any of the symbols 0,1,2,3,4,5,6,7,8,9
2	digital clock	A clock that show time in numbers
2	dime	A coin with a value of ten cents.
2	distance	The length between two points or objects
2	divide/division	To split into equal parts or groups. It is "fair sharing"
2	dollar	a unit of money (\$)
2	dozen	A group or set of 12
2	equal shares	An equal part of a group, number, or whole
2	equal/equivalent	Exactly the same amount or value (=)
2	equation	Says two things are the same, using math symbols

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
2	estimate/estimation	To guess closely; an answer that is close to the exact answer
2	even number	Number that is divisible by 2. Even numbers end with 2, 4, 6, 8, 0.
2	expanded form	A way to write numbers that shows the value of each digit
2	face	A flat surface of a solid shape
2	fact family	A group of related facts using the same set of numbers
2	factor	A number that is multiplied by another number to find a product
2	figure	A flat or solid shape
2	flip	A geometric transformation – to turn over
2	foot	Imperial units for measuring length; equivalent to 12 inches
2	fourths	One or more of four equal parts
2	fraction	One or more of the equal parts of a whole; fragment
2	greater than	Bigger; The symbol $>$ means greater than (the symbol $<$ means less than)
2	half circle	One of two equal parts of a circle
2	half hour	A unit of time equal to 30 minutes.
2	half past	Thirty minutes past any hour
2	half/halves	One of two equal parts of a whole
2	hexagon	A six-sided polygon.
2	horizontal	Parallel to, or in the plane of the horizon.
2	hour	A unit of time equal to 60 minutes
2	hour hand	The hand on an analog clock that represents the hour.
2	hundreds	The place value in a number that represents how many 100's there are
2	inch	A measure of length
2	large	Big as compared with others of its kind
2	length	How long something is from end to end
2	less	smaller; not as many
2	less than	Smaller than another ($<$)
2	line of symmetry	A line that divides a figure into halves, each of which is the mirror image of the other.
2	line plot	a number line showing frequency of data
2	line segment	A portion of a line with a start and a stop
2	lowest	Opposite to or farthest from the

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
2	meter (m)	A metric unit for measuring length Equal to 100 centimeters (centimeters)
2	metric system	A system of measurement
2	mile	A standard imperial unit for measuring distance
2	minute	A unit of time equal to 60 seconds
2	minute hand	The hand on an analog clock that represents the minutes.
2	money	Coins and bills used to pay for things
2	month	One of the twelve parts of the year:
2	morning	The first or early part of the day
2	most likely	Has the best chance of happening
2	most often	The largest or larger in a group
2	multiples of ten	Numbers into which ten will divide evenly
2	multiplication/multiply	The basic idea of multiplication is repeated addition
2	nickel	A coin with a value equal to 5 cents
2	noon	Twelve o'clock in the daytime; midday
2	number line	A line on which each point represents a number
2	number pattern	A list of numbers that follow a certain sequence or pattern
2	numeral	A symbol used to represent a number
2	o'clock	When the time is at a whole hour with no minutes
2	odd number	A number that is not divisible by 2; ends in 1,3,5,7, or 9
2	ones	The place value in a number that represents how many 1's there are.
2	operation	The math processes of addition, subtraction, multiplication, and division.
2	outside	The outer side, part; exterior
2	p.m.	After noon; the time between noon and midnight
2	partition	To divide a whole into parts
2	penny	A coin with a value of 1 cent
2	pentagon	A shape having 5 sides
2	picture graph	A graph that uses pictures or symbols to show numbers or quantity
2	place value	The value of where the digit is in the number, such as units, tens, hundreds, etc.
2	pound	A standard imperial unit for measuring weight, equal to 16 oz.
2	quadrilateral	A polygon with four sides and four angles

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
2	quart	A standard Imperial unit for measuring liquid capacity; equal to 32 fluid ounces, 2 pints, or 4 cups
2	quarter	A coin with a value of 25 cents.
2	quarter	One of four equal parts. Written as $\frac{1}{4}$
2	rate	A ratio that compares quantities measured in different units
2	rectangle	A parallelogram with four right angles.
2	regroup	To rearrange the formation of a place value; used to help with borrowing and carrying during addition and subtraction.
2	represent	To present clearly, describe, show
2	rotation/turn	A circular movement There is a central point that stays fixed and everything else moves around that point in a circle
2	round	To approximate a number to a specified place value.
2	row	An arrangement of figures, side by side
2	ruler	A tool used to measure distances or to make straight lines.
2	scale	The numeric values, set at fixed intervals, assigned to the axes of a graph.
2	second	The basic unit of time. There are 60 seconds in 1 minute and 3,600 seconds in an hour
2	sentence	A statement or question made with group of words including a subject, verb and object
2	sequence	A set of numbers or objects arranged according to a specific rule or pattern.
2	set	A collection of "things" (objects or numbers, etc.). Each member is called an element of the set. There should only be one of each member (all members are unique).
2	seventh	Any of the seven equal parts of something
2	similar	Having the same shape but not necessarily the same size
2	skip count	To count by a given number
2	slide	To move a shape without rotating or flipping it. The shape still looks exactly the same, just in a different place
2	smallest	Least in size or value
2	solve	To work out the answer
2	sort	To group or organize according to shared attributes.

Academic Vocabulary Words
Mathematics

Grade Level	Word	Definition
2	sphere	A 3-dimensional figure that is completely round; a ball
2	square	A 4-sided polygon (a flat shape with straight sides) where all sides have equal length and every angle is a right angle (90°)
2	square unit	A measurement of size based on square shaped units
2	standard form	A way to write numbers by using the digits 0-9, with each digit having a place value.
2	Standard units of measure	Accepted measuring devices and units of the customary or metric system.
2	subtract/subtraction	To take one number away from another
2	sum	The result of adding two or more numbers
2	symbol	A mark or sign used instead of words
2	table	Numbers or quantities arranged in rows and columns
2	tablespoon	A unit of measure used especially in cookery equal to $\frac{1}{2}$ fluid ounce (15 milliliters)

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
2	taller/tallest	Having more height than others
2	teaspoon	A unit of measure especially in cookery equal to $\frac{1}{6}$ fluid ounce or $\frac{1}{3}$ tablespoon (5 milliliters)
2	temperature	A measurement of how hot or cold something is
2	ten thousand	10,000
2	tens	Place value-the digit next to ones
2	thermometer	Instrument for measuring temperature
2	thirds	one or more of 3 equal parts
2	thousand	1,000
2	thousands	The place value of a number that represents how many 1000's
2	time	Ongoing sequence of events take place-past, present, future. Clocks measure time
2	triangle	A 3-sided polygon
2	twice	Two times
2	unit	Another name for one, place value – the units column is the ones column
2	unknown number	The missing number in an equation
2	value	How much something is worth; the numerical quantity assigned to a variable.
2	vertex/vertices	A corner; a place where surfaces meet
2	week	A time period of 7 days
2	weight	How heavy something is or how much mass it has
2	whole	All of an object; the entire thing
2	whole number	A set of counting numbers including zero
2	yard	Standard Imperial unit for measuring length; equal to 3 feet or 36 inches
2	year	365 days or 12 months

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
3	2-dimensional figure	A flat shape that only has length and height, but not width (depth).
3	3-dimensional figure	solid shapes; having points or sides that are not all on one plane
3	a.m.	Before noon; the time between midnight and noon
3	add/addition	To bring two or more numbers (or things) together to make a new total
3	addend	Any of the numbers that are added together
3	additive Identity Property of 0	The rule that states that any number plus 0 is equal to that number
3	algorithm	A step by step method for solving a problem
3	analyze	Examining parts to understand how they work together
3	angle	A figure formed by two rays with the same endpoint (vertex).
3	approximate	A value that is very close but not exactly to another number
3	area	The amount of surface inside a closed shape. measured in square units
3	area model	A replica or figure used to represent area
3	array	A set of objects arranged in rows and columns.
3	Associative Property of Addition	The property that states that when adding three or more real numbers, the sum is always the same regardless of their grouping.
3	Associative Property of Multiplication	The property that states that when multiplying three or more real numbers, the product is always the same regardless of their grouping.
3	attribute	A character that something has such as color, weight, height
3	average	A calculated "central" value of a set of numbers
3	bar graph	A graph that uses horizontal or vertical bars to represent data
3	Celsius (Degrees Celsius °C)	A temperature measurement scale used in the metric system
3	center	The middle
3	centimeter (cm)	A metric unit of length equal to one hundredth of a meter
3	closed figure	A two-dimensional figure that starts and ends at the same point
3	Commutative Property of Addition	This property means that addends can be added in any order and the sum is always the same.
3	Commutative Property of Multiplication	This property means that factors can be multiplied in any order and the product is always the same.
3	compare	To determine how numbers, objects, or shapes are alike or different
3	compatible numbers	Numbers that most people would find easy to add

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
3	compose	To form by putting together (e.g., a geometric figure or a number).
3	Composite figure	A figure made up of several different figures.
3	composite number	a number with more than two factors
3	computation	Finding an answer by using mathematics or logic.
3	Concave polygon	A shape or solid which has an indentation or "cave".
3	conclude	To make a judgment or decision after investigating or reasoning
3	conclusion	A statement that follows logically from other facts
3	congruent	Having exactly the same shape and size.
3	consecutive	Numbers which follow each other in order, without gaps, from smallest to largest.
3	Continuous data	Data that can take any of an infinite number of values between whole numbers
3	Continuous graph	A graph in which there are no gaps or holes (e.g., a line graph).
3	Convex polygon	A geometric figure with no indentations.
3	correct	To make right; remove errors
3	cost	The amount of money asked for or paid for an item
3	cube	Box shaped solid object that has 6 identical square faces
3	cup	A unit of measure of volume equal to eight fluid ounces.
3	data	A collection of facts, such as values or measurements
3	Data displays/graphs	Different ways of displaying data in charts, tables, or graphs; including pictographs, single- or double-bar graphs, line graphs, line plots, or Venn diagrams.
3	decade	A time period of ten years
3	decompose	To separate into parts or elements (e.g., geometric figures or numbers).
3	degrees (°)	The unit of measure for angles or temperature (°).
3	denominator	The bottom number in a fraction; tells how many equal parts
3	deposit	Something placed or entrusted for safekeeping
3	depth	The distance or length from front to back of a three-dimensional object.
3	determine	to find or figure out
3	diagonal	A line segment that joins two nonadjacent vertices of a polygon.
3	diagram	A drawing used to show a math statement
3	difference	A number that is the result of subtraction.
3	different/difference	Not the same; unlike

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
3	digit	Any of the symbols 0,1,2,3,4,5,6,7,8,9 used to write numbers
3	Discrete data	Distinct values that are not connected by intermediate values and are a finite set of values.
3	distance	The length between two points or objects
3	distributive property	You will always get the same answer when you multiply a number by a group of numbers added together as when you do each multiplication separately
3	divide/division	To split a whole into equal parts or groups.
3	dividend	A quantity that is to be divided.
3	divisor	The number by which another number is divided.
3	dollar sign	A symbol for US currency.
3	edge	A line segment where two faces of a polyhedron meet.
3	elapsed time	The amount of time that passes from the start of an activity to the end of that activity.
3	elevation	The height or altitude above sea level.
3	endpoint	The point at the end of a line segment or ray
3	equal shares	An equal part of a group, number, or whole
3	equal/equivalent	Exactly the same amount or value
3	equation	Says two things are the same, using math symbols
3	equidistant	Equally distant.
3	equivalent fractions	Two or more fractions that are equal
3	estimate/estimation	To guess closely; an answer that is close to the exact answer
3	expanded form	A way to write numbers that shows the value of each digit
3	expression	Numbers, symbols grouped together to show the value of something
3	face	A flat surface on the outside of a solid
3	fact	Something that is true or something that has occurred or has been proven correct
3	fact family	A group of related facts using the same set of numbers
3	factor	A number that is multiplied by another number to find a product
3	fewer	Not as many
3	fewest	Least
3	figure	A flat or solid shape

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
3	first	Coming before all others
3	foot	Imperial units for measuring length; equivalent to 12 inches
3	formula	A mathematical rule written using symbols, usually as an equation describing a certain relationship between quantities
3	fourths	One or more of four equal parts.
3	fraction	A part of a whole expressed using a numerator and a denominator
3	function	A special relationship between values: Each input values gives back exactly one output value.
3	gallon	A unit of measure of capacity; 1 gal = 4qt
3	gram (g)	A metric unit used to measure mass
3	greater than	Bigger; The symbol $>$ means greater than (the symbol $<$ means less than)
3	Greatest common factor (GCF)	The greatest number that is a factor of two or more numbers.
3	grid	Set of straight lines that cross each other at right angles to form a regular pattern of squares
3	gross	A quantity made of 144 items.
3	half hour	A unit of time equal to 30 minutes.
3	half/halves	One of two equal parts of a whole
3	height	measurement from top to bottom
3	hexagon	A six-sided polygon.
3	horizontal	Parallel to, or in the plane of the horizon.
3	hour	A unit of time equal to 60 minutes
3	Identity Property of Addition	When zero is added to a number the result is the number itself.
3	Identity Property of Multiplication	When a number is multiplied by 1 the result is the number itself.
3	inch	A measure of length
3	Increment (interval)	On a graph, the distance between numbers from one grid line to another.
3	Indirect measure	The measurement of an object through the known measure of another object.
3	Integers	All whole numbers (both positive and negative) and zero.
3	intersect/intersection	To meet or cross
3	Interval	Distance between two points; or amount of time between two events
3	Isosceles triangle	A triangle with 2 equal sides and 2 equal angles

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
3	key (graph)	A part of a graph that tells what each symbol stands for
3	kilogram (kg)	A metric unit used to measure mass
3	kite	A four-sided polygon in which the two pairs of adjacent sides have the same length.
3	Labels (for a graph)	The titles given to a graph, the axes of a graph, or the scales on the axes of a graph.
3	Lateral face	A face of a prism or pyramid that is not a base.
3	Least common multiple (LCM)	The lowest number that is a multiple of two or more numbers.
3	length	How long something is from end to end
3	less than	Smaller than another (<)
3	line graph	A graph that displays continuous data using connected line segments.
3	line plot	A method of visually displaying a distribution of data values where each data value is shown as a dot or mark above a number line. also known as a dot plot.
3	line segment	A portion of a line with a start and a stop
3	Linear measure (length)	A one-dimensional measure that is the measurable property of line segments.
3	liter (L)	A metric unit used to measure capacity
3	mass	A measure of how much matter is in an object.
3	Maximum	The greatest number reported in a set of data
3	measure/measurement	To find a number that shows the size or amount of something
3	meter (m)	A metric unit for measuring length; Equal to 100 centimeters (cm)
3	metric system	A system of measurement
3	Midpoint of a line segment	The point on a line segment equidistant from the endpoints.
3	miles per hour	The ratio of the distance traveled (in miles) to the time spent traveling (in hours)
3	million	Equal to a thousand thousands; 1,000,000
3	minimum	The least or lowest value or quantity.
3	minute	A measurement of time equal to 60 seconds
3	model	A smaller copy of an object
3	most often	The largest or larger in a group
3	multiple	The product of a given whole number and any other whole number
3	multiples of ten	Numbers into which ten will divide evenly
3	multiplication/multiply	The basic idea of multiplication is repeated addition
3	nearest	Closest

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
3	Negative integer	Any integer that is less than 0.
3	Net	A two-dimensional diagram that can be folded or made into a three-dimensional figure.
3	Nonroutine problem	A problem that can be solved more than one way, rather than a set procedure; these problems may include multiple decision points and multiple steps (grade-level dependent).
3	Nonstandard units of measure	Objects such as blocks, paper clips, crayons, or pencils that can be used to obtain a measure.
3	number line	A line on which ordered numbers can be written or visualized and may include negative numbers.
3	number statement	Mathematical sentence written in numerals and mathematical symbols
3	numerator	Number above the line of a fraction, showing how many parts you have
3	obtuse angle	An angle with a measure greater than 90° and less than 180° .
3	o'clock	When the time is at a whole hour with no minutes
3	ones	The place value in a number that represents how many 1's there are.
3	operation	The math processes of addition, subtraction, multiplication, and division.
3	order	Arrangement according to size, amount or value
3	Order of Operations	The order in which operations should be done
3	ordered pair	The location of a single point on a rectangular coordinate system where the first and second values represent the position relative to the x-axis and y-axis, respectively
3	Organized data	Data arranged in a display that is meaningful and that assists in the interpretation of the data. See data displays/graphs.
3	origin	The point of intersection of the x- and y-axes in a rectangular coordinate system, where the x-coordinate and y-coordinate are both zero (0).
3	ounce (oz.)	A measure of weight equal to $1/16$ of a pound. also, a measure of volume, one fluid ounce is equal to $1/16$ of a pint.
3	p.m.	After noon; the time between noon and midnight
3	parallel lines	Line that are a constant distance apart, never intersecting.
3	parallelogram	A quadrilateral in which both pairs of opposite sides are parallel.
3	parentheses ()	A pair of symbols used to enclose sections of a mathematical expression

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
3	Partial product	Method of multiplying, where one, tens, hundreds, etc. are multiplied separately and then the products are added together
3	Partitive division	In division, partitioning, or separating a quantity so that there is an equal amount in each group (e.g., dividing 20 pennies into 4 groups with the same number of pennies in each group).
3	pattern	A predictable or prescribed sequence of numbers, objects, etc.
3	pentagon	A shape having 5 sides
3	percent	Number of things out of every 100
3	perimeter	The distance around the outside of a figure or shape
3	perpendicular lines	Lines that form a 90° angle where they cross
3	picture graph	A graph that uses pictures or symbols to show numbers or quantity
3	pint (pt.)	A unit of measure of volume equal to two cups
3	place value	The value of a digit in a number, based on the location of the digit.
3	plane	A flat surface that extends forever in all directions
3	plane figure	A two-dimensional figure that lies entirely within a single plane.
3	point	The geometric figure formed at the <u>intersection</u> of two distinct lines.
3	polygon	A closed figure that has three or more sides, no curved lines, and no intersections
3	Polyhedron (pl. polyhedra)	A solid figure bounded by polygons.
3	population	A group of objects, events, or people studied in order to collect data
3	Positive integer	Any integer that is greater than 0.
3	pound	A standard imperial unit for measuring weight, equal to 16 oz.
3	Precision (of measurement)	A property of measurement related to the unit of measure used; the smaller the unit used, the more precise the measurement.
3	Prime factorization	The expression of a number as the product of prime factors.
3	prime number	Any positive integer with only two whole-number factors, 1 and itself
3	prism	A polyhedron that has two congruent and parallel faces joined by faces that are parallelograms. Prisms are named by their bases.
3	Procedural step	An action taken to solve a problem (e.g., there are three procedural steps to solve the following expression: $2(7 - 5)$, which has two operations).
3	product	The result of multiplying numbers together.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
3	Properties of equality	1) A balanced equation will remain balanced if you add, subtract, multiply, or divide both sides by the same number. 2) A quantity equal to another quantity can be substituted for it.
3	Pyramid	A solid shape with polygon as a base and triangular faces that taper to a point (vertex)
3	Quadrant	Any of the four regions formed by the axes in a rectangular coordinate system.
3	quadrilateral	A polygon with four sides and four angles
3	quart	A standard Imperial unit for measuring liquid capacity; equal to 32 fluid ounces, 2 pints, or 4 cups
3	quarter	One of four equal parts. Written as $\frac{1}{4}$
3	quarter past	15 minutes after the hour
3	quarter to	15 minutes before the hour
3	quotient	The result of dividing one number by another.
3	range	The difference between the greatest (maximum) and least (minimum) values in a set of data.
3	rate	A ratio that compares quantities measured in different units
3	ray	A line that has a starting point but no endpoint
3	Real-world problem	A problem that is an application of a real-life situation involving mathematics.
3	reasonableness	Logical or sensible based on the provided information
3	rectangle	A parallelogram with four right angles.
3	rectangular prism	A solid figure with six faces that are all rectangles
3	reflection	A flip of a flat figure across a line that creates a mirror image
3	Regular polygon	A polygon that is both equilateral (all sides congruent) and equiangular (all angles congruent).
3	Relation	The connection between a pair of objects, measures, numbers
3	remainder	An amount left over after one number is divided by another.
3	rhombus	A parallelogram with four congruent sides.
3	right angle	An angle that measures exactly 90° .
3	right rectangular prism	A polyhedron with congruent rectangular parallel bases, joined by faces that are also rectangles. The lateral edges of the faces are perpendicular to the bases.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
3	right triangle	A triangle with one angle measuring 90°
3	rise	The vertical distance between the two points on the graph
3	rotation/turn	A transformation of a figure by turning it about a point or axis. The amount of rotation is usually expressed in the number of degrees (e.g., a 90° rotation). The direction of the rotation is usually expressed as clockwise or counterclockwise. Also called a turn.
3	round/round to the nearest	To approximate a number to a specified place value.
3	row	An arrangement of figures, side by side
3	rule	A general statement written in numbers, symbols, or words that describes how to determine any term in a pattern or relationship.
3	ruler	A tool used to measure distances or to make straight lines.
3	same shape	Shape is how something looks. Same shape means both shapes look alike
3	Scalar drawing (or model)	A drawing (or model) that uses proportional lengths in the drawing (or model) and the actual image.
3	scale	The numeric values, set at fixed intervals, assigned to the axes of a graph.
3	scalene triangle	A triangle that has sides of different lengths and three different angles
3	second	The basic unit of time. There are 60 seconds in 1 minute and 3,600 seconds in an hour
3	sentence	A statement or question made with group of words including a subject, verb and object
3	sequence	A set of numbers or objects arranged according to a specific rule or pattern.
3	set	A collection of "things" (objects or numbers, etc.). Each member is called an element of the set. There should only be one of each member (all members are unique).
3	seventh	Any of the seven equal parts of something
3	SI units (International System of Units)	Scientific method of expressing the magnitudes or quantities of important natural phenomena. Base units acceptable for elementary mathematics items are meter, kilogram, and second.
3	side	The edge of a polygon (e.g., a triangle has three sides), the face of a polyhedron, or one of the rays that make up an angle.
3	sign	A mark or symbol having a specific meaning

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
3	Simplify	The process of converting a fraction or mixed number to an equivalent fraction or mixed number, in which the greatest common factor of the numerator and the denominator of the fraction is one.
3	slide/translation	To move a shape without rotating or flipping it. The shape still looks exactly the same, just in a different place
3	smallest	Least in size or value
3	solid figure	A three-dimensional figure that completely encloses a portion of space (e.g., a rectangular prism, cube, sphere, and pyramid).
3	solve	To work out the answer
3	sphere	A three-dimensional figure in which all points on the figure are equidistant from a center point.
3	spinner	An object that spins
3	square	A rectangle with four equal sides
3	square centimeter	equal to the area of a square that measures 1 centimeter on each side
3	square foot	equal to the area of a square that measures 1 foot on each side
3	square inch	A unit of area, equal to the area of a square with sides of one inch
3	square meter	Equal to the area of a square that measures 1 meter on each side.
3	square unit	A unit used to measure area
3	squiggle	A zigzag on the x- or y-axis in a line or bar graph indicating that the data displayed do not include all of the values that exist on the number line used. Also called a squiggle.
3	Standard algorithm	A list of well-defined instructions or a step-by-step procedure to solve a problem.
3	Standard units of measure	Accepted measuring devices and units of the customary or metric system.
3	Straight angle	An angle that measures exactly 180° .
3	straight edge	An marked or unmarked tool used tool to draw line segments
3	student	A person who is learning
3	subtract/subtraction	To take one number away from another
3	subtrahend	A number or quantity to be subtracted from another
3	Successive subtraction	A method of repeatedly subtracting the same amount to solve a division problem.
3	sum	The result of adding numbers together.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
3	support	Support means to carry, hold up or bear the weight of someone or something
3	surface	The outer face, or exterior, of an object
3	surface area	The total area of the exterior surface of a solid.
3	symbol	A mark or sign used instead of words
3	symmetry	A line on which a figure can be folded into two parts that are congruent mirror images of each other
3	Table	A data display that organizes information about a topic into categories.
3	tablespoon	A unit of measure used especially in cookery equal to $\frac{1}{2}$ fluid ounce (15 milliliters)
3	taller/tallest	Having a specified height
3	Tally chart (or table)	A chart, or table, consisting of tallies, or slash marks, having a one-to-one correspondence between the number of objects and the number of slash marks
3	teaspoon	A unit of measure especially in cookery equal to $\frac{1}{6}$ fluid ounce or $\frac{1}{3}$ tablespoon (5 milliliters)
3	ten thousand	10,000
3	tenths	The place value one place to the right of the decimal point; one of 10 equal parts of a whole or a group
3	thermometer	A thermometer measures the temperature of something, showing how hot or cold it is
3	thirds	one or more of 3 equal parts
3	tiling	A repeating pattern of figures that completely covers a plane without gaps or overlap.
3	time interval	The difference between the start time and the end time
3	times	A word that means to “multiply by”
3	ton	An Imperial unit of measure of weight or mass – 2,000 lbs. = 1 ton
3	transformation	a change in the size, shape, or position of a figure.
3	trapezoid	A quadrilateral with exactly one pair of parallel sides.
3	triangle	A 3-sided polygon
3	unifix cubes	Colorful, interlocking cubes that help children count
3	unit	Another name for one, place value – the units column is the ones column
3	unit fraction	A fraction that has 1 as its numerator
3	unknown number	The missing number in an equation
3	unknown variable	Any symbol, usually a letter, which represents an unknown number

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
3	Venn diagram	A diagram that shows relationships among sets of objects.
3	vertex/vertices	The point common to the two rays that form an angle; the point common to any two sides of a polygon; the point common to three or more edges of a polyhedron.
3	vertical/vertical line	Perpendicular to the plane of the horizon.
3	volume	The amount of space taken up by an object, usually calculated by: base x height x width
3	weight	How heavy something is or how much mass it has
3	whole numbers	The numbers in the set $\{0, 1, 2, 3, 4 \dots\}$.
3	width	Distance across from side to side
3	x-axis	The horizontal number line on a rectangular coordinate system.
3	yard	Standard Imperial unit for measuring length; equal to 3 feet or 36 inches
3	y-axis	The vertical number line on a rectangular coordinate system.
3	year	365 days or 12 months
3	Zero Property of Multiplication	A rule stating that any number multiplied by 0 is 0

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
4	2-dimensional figure	A flat shape that only has length and height, but not width (depth).
4	3-dimensional figure	solid shapes; having points or sides that are not all on one plane
4	about how much/approximate	A value that is very close, but not exactly equal to another number.
4	acute angle	An angle with a measure greater than 0° and less than 90°
4	add/addition	To bring two or more numbers (or things) together to make a new total
4	addend	Any of the numbers that are added together
4	additive Identity Property of 0	The rule that states that any number plus 0 is equal to that number
4	algorithm	A step by step method for solving a problem
4	altitude/elevation	How high something is above sea level
4	analyze	Examining parts to understand how they work together
4	angle	A figure formed by two rays with the same endpoint (vertex).
4	arc	A section of a curve; part of a circle
4	area	The amount of surface inside a closed shape. measured in square units
4	area model	A replica or figure used to represent area
4	array/chart	A set of objects arranged in rows and columns.
4	Associative Property of Addition	The property that states that when adding three or more real numbers, the sum is always the same regardless of their grouping.
4	Associative Property of Multiplication	The property that states that when multiplying three or more real numbers, the product is always the same regardless of their grouping.
4	attribute	A character that something has such as color, weight, height
4	bar graph	A graph that uses horizontal or vertical bars to represent data
4	base ten	a number system based on ten; also known as the decimal system
4	below	Lower than under, underneath
4	benchmark fractions	Fractions that are commonly used for estimation: $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{2}$, $\frac{2}{3}$, and $\frac{3}{4}$
4	biggest	Largest in size
4	billion	1,000,000,000
4	capacity	The amount of space that can be filled in a container. Both capacity and volume are used to measure three-dimensional spaces; however, capacity usually refers to fluid measures, whereas volume is described as cubic units.
4	center	The middle

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
4	centimeter (cm)	A metric unit of length equal to one hundredth of a meter
4	central angle	An angle in a circle with its corner in circle's center
4	certain	An event that is sure to happen; a 100% chance of an event occurring
4	circular	Having the shape of a perfect circle, or resembling a circle in shape
4	circumference	The distance around a circle; the perimeter of a circle
4	classify	to sort into categories or to arrange into groups by attribute
4	column	an arrangement of figures, one above the other
4	common denominator	A denominator that is the same in two or more fractions.
4	Commutative Property of Addition	This property means that addends can be added in any order and the sum is always the same.
4	Commutative Property of Multiplication	This property means that factors can be multiplied in any order and the product is always the same.
4	compare	To determine how numbers, objects, or shapes are alike or different
4	compatible numbers	Numbers that most people would find easy to add
4	compose	To form by putting together (e.g., a geometric figure or a number).
4	Composite figure	A figure made up of several different figures.
4	composite number	a number with more than two factors
4	computation	Finding an answer by using mathematics or logic.
4	compute	To solve problems that use numbers
4	Concave polygon	A shape or solid which has an indentation or "cave".
4	conclusion	A statement that follows logically from other facts
4	congruent	Having exactly the same shape and size.
4	Continuous data	Data that can take any of an infinite number of values between whole numbers
4	Continuous graph	A graph in which there are no gaps or holes (e.g., a line graph).
4	conversion	The process of changes from one form to another
4	conversion factor	A ratio of equivalent measurements used to convert a quantity from one unit to another
4	convert	To change something from one form to another
4	Convex polygon	A geometric figure with no indentations.
4	coordinate	A pair of numbers that define an exact location or point on grid

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
4	coordinate point	The exact location where two coordinates meet on a grid
4	cube	A solid figure with six congruent square faces.
4	cubic unit	A unit that measures volume in 3-dimensions
4	cup	A unit of measure of volume equal to eight fluid ounces.
4	customary system	A system of measurement used in the united states. the system includes units for measuring length, capacity, weights, and temperature
4	data	A collection of facts, such as values or measurements
4	Data displays/graphs	Different ways of displaying data in charts, tables, or graphs; including pictographs, single- or double-bar graphs, line graphs, line plots, or Venn diagrams.
4	decameter	A metric unit of length equal to 10 meters
4	deciliter	A unit of volume equal to one tenth of a liter
4	decimal (number)	Not a whole number, only part of the whole; a number with a decimal point
4	decimal point (.)	A dot used to separate the whole number part from the fractional part of a number
4	decimeter	A unit of equal length to one tenth of a meter
4	decompose	To separate into parts or elements (e.g., geometric figures or numbers).
4	decrease	To make something smaller, in size or quantity.
4	degrees (°)	The unit of measure for angles or temperature (°).
4	denominator	The bottom number in a fraction; tells how many equal parts
4	depth	The distance or length from front to back of a three-dimensional object.
4	determine	to find or figure out
4	diagonal	A line segment that joins two nonadjacent vertices of a polygon.
4	diagram	A drawing used to show a math statement
4	difference	A number that is the result of subtraction.
4	different/difference	Not the same; unlike
4	digit	Any of the symbols 0,1,2,3,4,5,6,7,8,9 used to write numbers
4	Direct measure	Obtaining the measure of an object by using measuring devices, either standard devices of the customary or metric systems, or nonstandard devices such as paper clips or pencils.
4	Discrete data	Distinct values that are not connected by intermediate values and are a finite set of values.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
4	distance	The length between two points or objects
4	distributive property	You will always get the same answer when you multiply a number by a group of numbers added together as when you do each multiplication separately
4	divide/division	To split a whole into equal parts or groups.
4	dividend	A quantity that is to be divided.
4	divisible	can be divided by another number without leaving a remainder
4	divisor	The number by which another number is divided.
4	double	Twice as much
4	east	A direction on a compass opposite of west
4	edge	A line segment where two faces of a polyhedron meet.
4	endpoint	The point at the end of a line segment or ray
4	equally likely	An event that is as likely to happen or not happen; multiple outcomes with the same chance of happening.
4	equation	Says two things are the same, using math symbols
4	equidistant	Equally distant.
4	equivalent	Equal in value or amount
4	Equivalent expressions	Expressions that have the same value but are presented in a different format using the properties of numbers.
4	Equivalent forms of a number	The same number expressed in different forms (e.g., $\frac{3}{4}$, 0.75, 75%).
4	equivalent fractions	Two or more fractions that are equal
4	estimate/estimation	To guess closely; an answer that is close to the exact answer
4	expanded form	A way to write numbers that shows the value of each digit
4	expression	Numbers, symbols grouped together to show the value of something
4	face	A flat surface on the outside of a solid
4	fact family	A group of related facts using the same set of numbers
4	factor	A number that is multiplied by another number to find a product
4	factor pairs	Any two numbers multiplied together to give you a certain number
4	Fahrenheit	a point on the thermometer which 32° is the freezing point and 212° is the boiling point of water

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
4	formula	A mathematical rule written using symbols, usually as an equation describing a certain relationship between quantities
4	fraction	A part of a whole expressed using a numerator and a denominator
4	function	A special relationship between values: Each input values gives back exactly one output value.
4	gram (g)	A metric unit used to measure mass
4	greater than	Bigger; The symbol > means greater than (the symbol < means less than)
4	Greatest common factor (GCF)	The greatest number that is a factor of two or more numbers.
4	grid	Set of straight lines that cross each other at right angles to form a regular pattern of squares
4	gross	A quantity made of 144 items.
4	hundred million	A 1 followed by 8 zeros. 10^8 .
4	hundred thousand	A 1 followed by 5 zeros. 10^5 .
4	hundredths	One or more of 100 equal parts
4	Identity Property of Addition	When zero is added to a number the result is the number itself.
4	Identity Property of Multiplication	When a number is multiplied by 1 the result is the number itself.
4	impossible	An event which has zero probability of occurring
4	improper fraction	A fraction whose numerator is greater than the denominator
4	Increment (interval)	On a graph, the distance between numbers from one grid line to another.
4	Indirect measure	The measurement of an object through the known measure of another object.
4	inside	The inner part, side, surface
4	Integers	All whole numbers (both positive and negative) and zero.
4	intersecting lines	Lines that cross at a point
4	Interval	Distance between two points; or amount of time between two events
4	inverse operation	The operation that reverses the effect of another operation
4	Isosceles triangle	A triangle with 2 equal sides and 2 equal angles
4	kilogram (kg)	A Metric measure of mass
4	kiloliter (kl)	A Metric measure of volume and equal to 1,000 liters
4	kilometer (km)	A Metric measure of distance and equal to 1,000 meters
4	Kite	A quadrilateral with two distinct pairs of adjacent congruent sides.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
4	Labels (for a graph)	The titles given to a graph, the axes of a graph, or the scales on the axes of a graph.
4	larger	Greater in size or amount
4	Lateral face	A face of a prism or pyramid that is not a base.
4	Least common multiple (LCM)	The lowest number that is a multiple of two or more numbers.
4	length	How long something is from end to end
4	less likely	An event that is not as likely to happen as another event
4	less than	Smaller; The symbol $<$ means less than (the symbol $>$ means greater than)
4	line graph	A graph that displays continuous data using connected line segments.
4	line of symmetry	A line that divides a figure into halves, each of which is the mirror image of the other.
4	line plot	A method of visually displaying a distribution of data values where each data value is shown as a dot or mark above a number line. also known as a dot plot.
4	line segment	A portion of a line with a start and a stop
4	Linear measure (length)	A one-dimensional measure that is the measurable property of line segments.
4	liter (L)	A metric unit used to measure capacity
4	lowest common denominator	the least common multiple of two or more denominators.
4	lowest terms	A fraction for which the only common factor of the numerator and denominator is 1
4	magic square	Numbers arranged in a square so they add up to the same total horizontally, vertically, or diagonally.
4	mass	A measure of how much matter is in an object.
4	mathematical statement	A number sentence that contains a relation symbol.
4	maximum	The greatest number reported in a set of data
4	median	The middle value of a set of data that are arranged in order of size.
4	meter (m)	A metric unit for measuring length; Equal to 100 centimeters (cm)
4	metric system	A system of measurement
4	Midpoint of a line segment	The point on a line segment equidistant from the endpoints.
4	mile	A unit of distance equal to 5,280 feet or 1,760 yards
4	miles per gallon	The measured amount of miles traveled when using one gallon of gas.
4	milligram	A unit of mass equal to 1/1000 of a gram
4	milliliter (ml)	A metric unit of measure of capacity; Equal to 1/1,000 (one-thousandth) of a liter
4	millimeter (mm)	A metric unit of length equal to one thousandth of a meter

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
4	minimum	The least or lowest value or quantity.
4	minute	A measurement of time equal to 60 seconds
4	mirror image	A reflection of the pre-image creating an image over the line of reflection
4	mixed number	A number with a whole number part and a fractional part
4	mode	The number or numbers that occur most often in a set of data
4	more likely	An event that is more likely to happen than another event
4	multiple	The product of a given whole number and any other whole number
4	multiplication/multiply	The basic idea of multiplication is repeated addition
4	negative	A number that is less than 0.
4	Negative integer	Any integer that is less than 0.
4	Net	A two-dimensional diagram that can be folded or made into a three-dimensional figure.
4	Nonroutine problem	A problem that can be solved more than one way, rather than a set procedure; these problems may include multiple decision points and multiple steps (grade-level dependent).
4	Nonstandard units of measure	Objects such as blocks, paper clips, crayons, or pencils that can be used to obtain a measure.
4	north	A direction on a compass opposite of south
4	number cube	A six sided die
4	number line	A line on which ordered numbers can be written or visualized and may include negative numbers.
4	numerator	Number above the line of a fraction, showing how many parts you have
4	obtuse	An angle that has measure more than 90° and less than 180° .
4	obtuse angle	An angle with a measure greater than 90° and less than 180° .
4	octagon	Eight sided polygon
4	operation	The math processes of addition, subtraction, multiplication, and division.
4	Order of Operations	The order in which operations should be done
4	ordered pair	The location of a single point on a rectangular coordinate system where the first and second values represent the position relative to the x-axis and y-axis, respectively

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
4	Organized data	Data arranged in a display that is meaningful and that assists in the interpretation of the data. See data displays/graphs.
4	origin	The point of intersection of the x- and y-axes in a rectangular coordinate system, where the x-coordinate and y-coordinate are both zero (0).
4	ounce (oz.)	A measure of weight equal to 1/16 of a pound. also, a measure of volume, one fluid ounce is equal to 1/16 of a pint.
4	oval	Resembling an egg in shape
4	parallel lines	Line that are a constant distance apart, never intersecting.
4	parallelogram	A quadrilateral in which both pairs of opposite sides are parallel.
4	parentheses ()	A pair of symbols used to enclose sections of a mathematical expression
4	Partial product	Method of multiplying, where one, tens, hundreds, etc. are multiplied separately and then the products are added together
4	Partitive division	In division, partitioning, or separating a quantity so that there is an equal amount in each group (e.g., dividing 20 pennies into 4 groups with the same number of pennies in each group).
4	pattern	A predictable or prescribed sequence of numbers, objects, etc.
4	pentagon	A shape having 5 sides
4	percent	Number of things out of every 100
4	perimeter	The distance around the outside of a figure or shape
4	perpendicular lines	Lines that form a 90° angle where they cross
4	pint (pt.)	A unit of measure of volume equal to two cups
4	place value	The value of a digit in a number, based on the location of the digit.
4	plane	A flat surface that extends forever in all directions
4	plane figure	A two-dimensional figure that lies entirely within a single plane.
4	plot	Locating and marking a point when given its coordinates
4	point	The geometric figure formed at the <u>intersection</u> of two distinct lines.
4	polygon	A closed figure that has three or more sides, no curved lines, and no intersections
4	Polyhedron (pl. polyhedra)	A solid figure bounded by polygons.
4	positive	Greater than zero
4	Positive integer	Any integer that is greater than 0.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
4	pound (lb.)	A standard imperial unit for measuring weight, equal to 16 oz.
4	Precision (of measurement)	A property of measurement related to the unit of measure used; the smaller the unit used, the more precise the measurement.
4	Prime factorization	The expression of a number as the product of prime factors.
4	prime number	Any positive integer with only two whole-number factors, 1 and itself
4	prism	A polyhedron that has two congruent and parallel faces joined by faces that are parallelograms. Prisms are named by their bases.
4	probability	How likely it is for an event to happen.
4	procedural step	An action taken to solve a problem (e.g., there are three procedural steps to solve the following expression: $2(7 - 5)$, which has two operations).
4	product	The result of multiplying numbers together.
4	Properties of equality	1) A balanced equation will remain balanced if you add, subtract, multiply, or divide both sides by the same number. 2) A quantity equal to another quantity can be substituted for it.
4	proportion	A part to whole comparison the equality of two ratios written as an equation
4	protractor	An instrument used to measure and draw angles
4	Pyramid	A solid shape with polygon as a base and triangular faces that taper to a point (vertex)
4	Quadrant	Any of the four regions formed by the axes in a rectangular coordinate system.
4	quadrilateral	A polygon with four sides and four angles
4	quart	A unit for measuring capacity or volume; equal to 4 cups.
4	quarter past	15 minutes after the hour
4	quarter to	15 minutes before the hour
4	quotient	The result of dividing one number by another.
4	random	A chance pick from a number of items (like drawing an item from a hat, rolling a die, or spinning a spinner where all items are equally likely)
4	range	The difference between the greatest (maximum) and least (minimum) values in a set of data.
4	ray	A line that has a starting point but no endpoint
4	Real-world problem	A problem that is an application of a real-life situation involving mathematics.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
4	reasonableness	Logical or sensible based on the provided information
4	reciprocal	One of a pair of numbers whose product is 1: the reciprocal of $\frac{2}{3}$ is $\frac{3}{2}$
4	rectangle	A parallelogram with four right angles.
4	rectangular prism	A solid figure with six faces that are all rectangles
4	reflection	A flip of a flat figure across a line that creates a mirror image
4	regroup	The process used to assist when trading or carrying in addition and subtraction
4	regular polygon	A polygon with equal sides and lengths.
4	Relation	The connection between a pair of objects, measures, numbers
4	remainder	An amount left over after one number is divided by another.
4	Rhombus	A parallelogram with four congruent sides.
4	right angle	An angle that measures exactly 90° .
4	right rectangular prism	A polyhedron with congruent rectangular parallel bases, joined by faces that are also rectangles. The lateral edges of the faces are perpendicular to the bases.
4	right triangle	A triangle with one angle measuring 90°
4	rise	The vertical change on the graph between two points.
4	rotation	A transformation of a figure by turning it about a point or axis. The amount of rotation is usually expressed in the number of degrees (e.g., a 90° rotation). The direction of the rotation is usually expressed as clockwise or counterclockwise. Also called a turn.
4	round	To approximate a number to a specified place value.
4	rule	A general statement written in numbers, symbols, or words that describes how to determine any term in a pattern or relationship.
4	same shape	Shape is how something looks. Same shape means both shapes look alike
4	Scalar drawing (or model)	A drawing (or model) that uses proportional lengths in the drawing (or model) and the actual image.
4	scale	The numeric values, set at fixed intervals, assigned to the axes of a graph.
4	scalene triangle	A triangle that has sides of different lengths and three different angles
4	second	The basic unit of time. There are 60 seconds in 1 minute and 3,600 seconds in an hour
4	sequence	A set of numbers or objects arranged according to a specific rule or pattern.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
4	SI units (International System of Units)	Scientific method of expressing the magnitudes or quantities of important natural phenomena. Base units acceptable for elementary mathematics items are meter, kilogram, and second.
4	side	The edge of a polygon (e.g., a triangle has three sides), the face of a polyhedron, or one of the rays that make up an angle.
4	sign	A mark or symbol having a specific meaning
4	simplify	To write something in the simplest, shortest form
4	skew	A point within a set of data that throws off the bell curve
4	solid figure	A three-dimensional figure that completely encloses a portion of space (e.g., a rectangular prism, cube, sphere, and pyramid).
4	solve	To work out the answer
4	speed	A measure of how fast something is going; Usually measured as distance/time
4	sphere	A three-dimensional figure in which all points on the figure are equidistant from a center point.
4	spinner	An object that spins
4	square	A rectangle with four congruent sides; also, a rhombus with four right angles.
4	square inch	A unit of area, equal to the area of a square with sides of one inch
4	square number	A number that is the product of multiplying a number with itself
4	square unit	A unit used to measure area
4	squiggle	A zigzag on the x- or y-axis in a line or bar graph indicating that the data displayed do not include all of the values that exist on the number line used. Also called a squiggle.
4	Standard algorithm	A list of well-defined instructions or a step-by-step procedure to solve a problem.
4	standard numeral	A regular number that has not been changed into expanded notation
4	Standard units of measure	Accepted measuring devices and units of the customary or metric system.
4	statement	Something stated or declared
4	straight	Extended continuously in the same direction without curving
4	Straight angle	An angle that measures exactly 180° .
4	subtract/subtraction	To take one number away from another
4	subtrahend	A number or quantity to be subtracted from another

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
4	Successive subtraction	A method of repeatedly subtracting the same amount to solve a division problem.
4	sum	The result of adding numbers together.
4	surface	The outer face, or exterior, of an object
4	surface area	The total area of the exterior surface of a solid.
4	symbol	A mark or sign used instead of words
4	symmetrical/symmetry	Showing exact equivalence or reflection of a shape on opposite sides of a separating line
4	Table	A data display that organizes information about a topic into categories.
4	Tally chart (or table)	A chart, or table, consisting of tallies, or slash marks, having a one-to-one correspondence between the number of objects and the number of slash marks
4	ten thousands	The value given to the digit located 5 places to the left of the decimal point.
4	tenths	The place value one place to the right of the decimal point; one of 10 equal parts of a whole or a group
4	thousandths	The value given to the digit located three places to the right of the decimal point.
4	time interval	The difference between the start time and the end time
4	times	A word that means to “multiply by”
4	ton	An Imperial unit of measure of weight or mass – 2,000 lbs. = 1 ton
4	transformation	a change in the size, shape, or position of a figure.
4	translation	A transformation in which every point in a figure is moved in the same direction and by the same distance. Also called a slide.
4	trapezoid	A quadrilateral with exactly one pair of parallel sides.
4	triple	To multiply a number by three
4	unifix cubes	Colorful, interlocking cubes that help children count
4	unit fraction	A fraction that has 1 as its numerator
4	unknown number	The missing number in an equation
4	unlikely	An event that probably will not happen
4	value	How much something is worth; the numerical quantity assigned to a variable.
4	variable	Any symbol, usually a letter, which could represent a number.
4	Venn diagram	A diagram that shows relationships among sets of objects.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
4	vertex/vertices	The point common to the two rays that form an angle; the point common to any two sides of a polygon; the point common to three or more edges of a polyhedron.
4	vertical/vertical line	Perpendicular to the plane of the horizon.
4	volume	The amount of space taken up by an object, usually calculated by: base x height x width
4	weight	How heavy something is or how much mass it has
4	what time	Tells the time
4	when	A word used in story problems to ask "at what time"
4	whole numbers	The numbers in the set $\{0, 1, 2, 3, 4 \dots\}$.
4	wide	Having a specific distance from side to side
4	width	One of the dimensions of a two- or three-dimensional figure.
4	x-axis	The horizontal number line on a rectangular coordinate system.
4	yard	Standard Imperial unit for measuring length; equal to 3 feet or 36 inches
4	y-axis	The vertical number line on a rectangular coordinate system.
4	zero	A numerical figure which means the lack of any quantity, nothing, none, nil
4	Zero Property of Multiplication	A rule stating that any number multiplied by 0 is 0

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
5	2-dimensional figure	A flat shape that only has length and height, but not width (depth).
5	3-dimensional figure	solid shapes; having points or sides that are not all on one plane
5	about how much/approximate	A value that is very close, but not exactly equal to another number.
5	above	In a higher place or position; in excess of or over
5	acute angle	An angle with a measure greater than 0° and less than 90°
5	acute triangle	a triangle with three acute angles
5	addend	Any of the numbers that are added together
5	additive Identity Property of 0	The rule that states that any number plus 0 is equal to that number
5	Algebraic rule	A mathematical expression that contains variables and describes a pattern or relationship.
5	algorithm	A step by step method for solving a problem
5	analyze	Examining parts to understand how they work together
5	angle	A figure formed by two rays with the same endpoint (vertex).
5	area	The amount of surface inside a closed shape. measured in square units
5	area model	A replica or figure used to represent area
5	array/chart	A set of objects arranged in rows and columns.
5	Associative Property of Addition	The property that states that when adding three or more real numbers, the sum is always the same regardless of their grouping.
5	Associative Property of Multiplication	The property that states that when multiplying three or more real numbers, the product is always the same regardless of their grouping.
5	attribute	A character that something has such as color, weight, height
5	axis	The horizontal and vertical number lines used in a coordinate plane system.
5	bar graph	A graph that uses horizontal or vertical bars to represent data
5	base (of a solid figure)	A flat surface of a solid figure by which the figure is measured or classified
5	base of an exponent	The number that is multiplied by itself when raised to an exponent
5	base ten	a number system based on ten; also known as the decimal system
5	benchmark angles	The angles 0° , 45° , 90° , 180° , 270° , and 360° .
5	benchmark fractions	Fractions that are commonly used for estimation: $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{2}$, $\frac{2}{3}$, and $\frac{3}{4}$
5	braces { }	A pair of symbols used to enclose sections of a mathematical expression. { }
5	brackets []	A pair of symbols used to enclose sections of a mathematical expression. []

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
5	Break/Squiggle	A zigzag on the x- or y-axis in a line or bar graph indicating that the data displayed do not include all of the values that exist on the number line used. Also called a squiggle.
5	capacity	The amount of space that can be filled in a container. Both capacity and volume are used to measure three-dimensional spaces; however, capacity usually refers to fluid measures, whereas volume is described as cubic units.
5	center	The middle
5	centimeter (cm)	A metric unit of length equal to one hundredth of a meter
5	century	a length of time equal to one hundred years
5	chord	A straight line connecting two points on a curve or curved shape.
5	circle graph	a graph in the shape of a circle or pie. It shows how the total amount has been divided
5	classify	to sort into categories or to arrange into groups by attribute
5	Coefficient	The number that multiplies the variable(s) in an algebraic expression (e.g., $4xy$).
5	column	an arrangement of figures, one above the other
5	combinations	a grouping of different items or events, in which order is not important
5	common multiple	A number that is a multiple of two or more other numbers.
5	Commutative Property of Addition	This property means that addends can be added in any order and the sum is always the same.
5	Commutative Property of Multiplication	This property means that factors can be multiplied in any order and the product is always the same.
5	compare	To determine how numbers, objects, or shapes are alike or different
5	compatible numbers	Numbers that most people would find easy to add
5	compose	To form by putting together (e.g., a geometric figure or a number).
5	Composite figure	A figure made up of several different figures.
5	composite number	a number with more than two factors
5	compute	To solve problems that use numbers
5	Concave polygon	A shape or solid which has an indentation or "cave".
5	congruent	Having exactly the same shape and size.
5	congruent angle	angles that have the exact same measurement

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
5	Continuous data	Data that can take any of an infinite number of values between whole numbers
5	Continuous graph	A graph in which there are no gaps or holes (e.g., a line graph).
5	conversion	The process of changes from one form to another
5	convert	To change something from one form to another
5	Convex polygon	A geometric figure with no indentations.
5	coordinate	A pair of numbers used to determine the position of a point on a graph
5	coordinate plane	A plane formed by a horizontal number line called the x-axis and a vertical number line called the y-axis
5	coordinate system	A standard grid, composed of lines of latitude and longitude, used to determine the absolute location of any object, place, or feature on the earth's surface.
5	corresponding terms	A term having the same ordered sequence as another term (not necessarily equal) in a different sequence.
5	cube	A solid figure with six congruent square faces.
5	cubic centimeter	A unit of volume that is made by a cube that is 1 centimeter on each side.
5	cubic feet	A unit of volume that is made by a cube that is 1 foot on each side
5	cubic inch	A unit of volume that is made by a cube that is 1 inch on each side
5	cubic unit	A unit that measures volume in 3-dimensions
5	customary system	The system of measurement used in the united states for measuring length, volume and weight
5	data	A collection of facts, such as values or measurements
5	Data displays/graphs	Different ways of displaying data in charts, tables, or graphs; including pictographs, single- or double-bar graphs, line graphs, line plots, or Venn diagrams.
5	date	month, day, and year
5	decimal (number)	Not a whole number, only part of the whole; a number with a decimal point
5	decimal form	a number that uses a decimal point followed by digits showing values less than one
5	decimal point (.)	A dot used to separate the whole number part from the fractional part of a number
5	decompose	To separate into parts or elements (e.g., geometric figures or numbers).
5	degrees (°)	The unit of measure for angles or temperature (°).
5	denominator	The bottom number in a fraction; tells how many equal parts
5	depth	The distance or length from front to back of a three-dimensional object.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
5	determine	to find or figure out
5	diagonal	A line segment that joins two nonadjacent vertices of a polygon.
5	diagram	A drawing used to show a math statement
5	diameter	A straight line going through the center of a circle connecting two points on the circumference.
5	dice	two or more regular 3-D shapes, usually a cube, marked with spots or numerals
5	difference	A number that is the result of subtraction.
5	different/difference	Not the same; unlike
5	digit	Any of the symbols 0,1,2,3,4,5,6,7,8,9 used to write numbers
5	dilation	a change in size of a figure without changing its angles
5	dimension	A measure in one direction (e.g., length, width, height, or depth.)
5	Discrete data	Distinct values that are not connected by intermediate values and are a finite set of values.
5	distance	The length between two points or objects
5	distributive property	You will always get the same answer when you multiply a number by a group of numbers added together as when you do each multiplication separately
5	divide/division	To split a whole into equal parts or groups.
5	dividend	A quantity that is to be divided.
5	divisible	can be divided by another number without leaving a remainder
5	divisor	The number by which another number is divided.
5	edge	A line segment where two faces of a polyhedron meet.
5	elevation	The height or altitude above sea level.
5	equation	Says two things are the same, using math symbols
5	equidistant	Equally distant.
5	equilateral triangle	a triangle with 3 equal sides and 3 equal angles
5	equivalent	Equal in value or amount
5	equivalent fractions	Two or more fractions that are equal
5	estimate/estimation	To guess closely; an answer that is close to the exact answer
5	evaluate	To solve or find the value of an expression
5	expanded form	A way to write numbers that shows the value of each digit

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
5	exponent	A mathematical notation indicating the number of times a quantity is multiplied by itself
5	expression	Numbers, symbols grouped together to show the value of something
5	face	A flat surface on the outside of a solid
5	factor	A number that is multiplied by another number to find a product
5	factor tree	a diagram that shows how a number breaks down into factors
5	finite decimal	A decimal that ends. Also called a terminating decimal.
5	fitted line/line of best fit	a line on a plot which can be drawn near the points to more clearly show the trend between two sets of data
5	formula	A mathematical rule written using symbols, usually as an equation describing a certain relationship between quantities
5	fraction	A part of a whole expressed using a numerator and a denominator
5	Frequency table	A table that shows how often each item, number, or range of numbers occurs in a set of data.
5	function	A special relationship between values: Each input values gives back exactly one output value.
5	geometric solid	solid shapes; having points or sides that are not all on one plane
5	greater than	Bigger; The symbol $>$ means greater than (the symbol $<$ means less than)
5	greatest common factor (GCF)	The greatest number that is a factor of two or more numbers.
5	grid	Set of straight lines that cross each other at right angles to form a regular pattern of squares
5	gross	A quantity made of 144 items.
5	heads	the side of a coin containing a head
5	hectometer	100 meters
5	horizontal	Parallel to, or in the plane of the horizon.
5	hundred thousand	A 1 followed by 5 zeros. 10^5 .
5	hundredths	One or more of 100 equal parts
5	improper fraction	A fraction whose numerator is greater than the denominator
5	increase	To make something bigger, in size or quantity.
5	Increment (interval)	On a graph, the distance between numbers from one grid line to another.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
5	Indirect measure	The measurement of an object through the known measure of another object.
5	inequality	A mathematical sentence that uses symbols such as $<$, \leq , $>$, or \geq to compare two quantities.
5	Integers	All whole numbers (both positive and negative) and zero.
5	Intersection	The point at which lines or curves meet; the line where planes meet.
5	Interval	Distance between two points; or amount of time between two events
5	inverse operation	The operation that reverses the effect of another operation
5	isosceles triangle	A triangle with 2 equal sides and 2 equal angles
5	Kite	A quadrilateral with two distinct pairs of adjacent congruent sides.
5	Labels (for a graph)	The titles given to a graph, the axes of a graph, or the scales on the axes of a graph.
5	Lateral face	A face of a prism or pyramid that is not a base.
5	Least common multiple (LCM)	The smallest common multiple that two or more numbers have in common
5	length	How long something is from end to end
5	less than	Smaller; The symbol $<$ means less than (the symbol $>$ means greater than)
5	likelihood	the chances
5	line	A straight path that extends without end in opposite directions
5	line graph	A graph that displays continuous data using connected line segments.
5	line plot	A method of visually displaying a distribution of data values where each data value is shown as a dot or mark above a number line. also known as a dot plot.
5	Linear measure (length)	A one-dimensional measure that is the measurable property of line segments.
5	long division	Standard procedure suitable for dividing simple or complex multi-digit numbers. it breaks down a division problem into a series of easier steps.
5	lowest common denominator	the least common multiple of two or more denominators.
5	lowest terms	A fraction that has been reduced completely
5	mass	A measure of how much matter is in an object.
5	maximum	The greatest number reported in a set of data
5	mean	The average; A measure of center in a set of numerical data, computed by adding the values in a list and then dividing by the number of values in the list.
5	meter (m)	A metric unit for measuring length; Equal to 100 centimeters (cm)
5	metric system	A system of measurement

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
5	micrometer	Any device used for measuring very small distances
5	Midpoint of a line segment	The point on a line segment equidistant from the endpoints.
5	mileage table	a table showing distances
5	milligram	A unit of mass equal to 1/1000 of a gram
5	millimeter (mm)	A metric unit of length equal to one thousandth of a meter
5	minimum	The least or lowest value or quantity.
5	minuend	The number from which another number is subtracted.
5	missing factor	the number that makes a multiplication equation true when given one factor and the product
5	mixed number	A number with a whole number part and a fractional part
5	Multiples	The numbers that result from multiplying a whole number by the set of whole numbers (e.g., the multiples of 15 are 0, 15, 30, 45, 60, 75, etc.).
5	Negative integer	Any integer that is less than 0.
5	net	A two-dimensional diagram that can be folded or made into a three-dimensional figure.
5	Nonroutine problem	A problem that can be solved more than one way, rather than a set procedure; these problems may include multiple decision points and multiple steps (grade-level dependent).
5	Nonstandard units of measure	Objects such as blocks, paper clips, crayons, or pencils that can be used to obtain a measure.
5	number line	A line on which ordered numbers can be written or visualized and may include negative numbers.
5	numerator	Number above the line of a fraction, showing how many parts you have
5	numerical expression	A math sentence that contains numbers and operations
5	obtuse angle	an angle with a measure greater than 90° and less than 180°
5	obtuse triangle	a triangle with one obtuse angle
5	octagon	Eight sided polygon
5	odd	any number that cannot be divided by 2
5	operation	The math processes of addition, subtraction, multiplication, and division.
5	Order of Operations	The order in which operations should be done

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
5	ordered pair	The location of a single point on a rectangular coordinate system where the first and second values represent the position relative to the x-axis and y-axis, respectively
5	organized data	Data arranged in a display that is meaningful and that assists in the interpretation of the data. See data displays/graphs.
5	origin	The point of intersection of the x- and y-axes in a rectangular coordinate system, where the x-coordinate and y-coordinate are both zero (0).
5	parallel lines	Line that are a constant distance apart, never intersecting.
5	parallelogram	A quadrilateral in which both pairs of opposite sides are parallel.
5	parentheses ()	A pair of symbols used to enclose sections of a mathematical expression
5	Partial product	Method of multiplying, where one, tens, hundreds, etc. are multiplied separately and then the products are added together
5	Partitive division	In division, partitioning, or separating a quantity so that there is an equal amount in each group (e.g., dividing 20 pennies into 4 groups with the same number of pennies in each group).
5	pattern	A predictable or prescribed sequence of numbers, objects, etc.
5	percent	Number of things out of every 100
5	Perimeter	The distance around the outside of a figure or shape
5	perpendicular lines	Lines that form a 90° angle where they cross
5	place value	The value of a digit in a number, based on the location of the digit.
5	plane	A flat surface that extends forever in all directions
5	Plane figure	A two-dimensional figure that lies entirely within a single plane.
5	plus	Symbol for addition
5	point	The geometric figure formed at the <u>intersection</u> of two distinct lines.
5	Polygon	A closed figure that has three or more sides, no curved lines, and no intersections
5	Polyhedron (pl. polyhedra)	A solid figure bounded by polygons.
5	positive	Greater than zero
5	Positive integer	Any integer that is greater than 0.
5	power	The number of times the base number is to be multiplied by itself
5	power of 10	A number with 10 as a base and a whole-number exponent

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
5	Precision (of measurement)	A property of measurement related to the unit of measure used; the smaller the unit used, the more precise the measurement.
5	Prime factorization	The expression of a number as the product of prime factors.
5	prime number	Any positive integer with only two whole-number factors, 1 and itself
5	prism	A polyhedron that has two congruent and parallel faces joined by faces that are parallelograms. Prisms are named by their bases.
5	probability	How likely it is for an event to happen.
5	Procedural step	An action taken to solve a problem (e.g., there are three procedural steps to solve the following expression: $2(7 - 5)$, which has two operations).
5	product	The result of multiplying numbers together.
5	proof	a demonstration of truth of a mathematical statement
5	proper fraction	A fraction with a numerator smaller than the denominator
5	Properties of equality	1) A balanced equation will remain balanced if you add, subtract, multiply, or divide both sides by the same number. 2) A quantity equal to another quantity can be substituted for it.
5	proportion	A part to whole comparison the equality of two ratios written as an equation
5	protractor	An instrument used to measure and draw angles
5	prove	to verify
5	Pyramid	A solid shape with polygon as a base and triangular faces that taper to a point (vertex)
5	quadrant	Any of the four regions formed by the axes in a rectangular coordinate system.
5	quadrilateral	A polygon with four sides and four angles
5	quintillion	1 followed by 18 zeros; 10^{18}
5	quotient	The result of dividing one number by another.
5	radius	a line segment with one endpoint at the center of a circle and its other endpoint on the circle
5	random	A chance pick from a number of items (like drawing an item from a hat, rolling a die, or spinning a spinner where all items are equally likely)
5	ratio	A comparison of two numbers, often written as a fraction
5	ray	A line that has a starting point but no endpoint

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
5	Real-world problem	A problem that is an application of a real-life situation involving mathematics.
5	reciprocal	One of a pair of numbers whose product is 1: the reciprocal of $\frac{2}{3}$ is $\frac{3}{2}$
5	rectangle	A parallelogram with four right angles.
5	rectangular prism	A solid figure with six faces that are all rectangles
5	reduce	to simplify or make smaller. To express a fraction in its simplest form.
5	reflection	A flip of a flat figure across a line that creates a mirror image
5	region	all the points inside a closed shape together with all the points on the edge of the shape
5	regroup	The process used to assist when trading or carrying in addition and subtraction
5	Regular polygon	A polygon that is both equilateral (all sides congruent) and equiangular (all angles congruent).
5	Relation	The connection between a pair of objects, measures, numbers
5	remainder	An amount left over after one number is divided by another.
5	rhombus	A parallelogram with four congruent sides.
5	right angle	An angle that measures exactly 90° .
5	right rectangular prism	A polyhedron with congruent rectangular parallel bases, joined by faces that are also rectangles. The lateral edges of the faces are perpendicular to the bases.
5	right triangle	A triangle with one angle measuring 90°
5	Roman numeral	The Roman system of numbering where numbers are represented by letters.
5	rotation	A transformation of a figure by turning it about a point or axis. The amount of rotation is usually expressed in the number of degrees (e.g., a 90° rotation). The direction of the rotation is usually expressed as clockwise or counterclockwise. Also called a turn.
5	round	To approximate a number to a specified place value.
5	rule	A general statement written in numbers, symbols, or words that describes how to determine any term in a pattern or relationship.
5	ruler	A tool used to measure distances or to make straight lines.
5	Scalar drawing (or model)	A drawing (or model) that uses proportional lengths in the drawing (or model) and the actual image.
5	scale	The numeric values, set at fixed intervals, assigned to the axes of a graph.
5	scalene triangle	A triangle that has sides of different lengths and three different angles

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
5	sequence	A set of numbers or objects arranged according to a specific rule or pattern.
5	SI units (International System of Units)	Scientific method of expressing the magnitudes or quantities of important natural phenomena. Base units acceptable for elementary mathematics items are meter, kilogram, and second.
5	side	The edge of a polygon (e.g., a triangle has three sides), the face of a polyhedron, or one of the rays that make up an angle.
5	simplify	The process of converting a fraction or mixed number to an equivalent fraction or mixed number, in which the greatest common factor of the numerator and the denominator of the fraction is one.
5	skew	A point within a set of data that throws off the bell curve
5	smaller	less than
5	solid figure	A three-dimensional figure that completely encloses a portion of space (e.g., a rectangular prism, cube, sphere, and pyramid).
5	solve	To work out the answer
5	south	the direction to the right of sunrise; on a map usually down
5	speed	A measure of how fast something is going; Usually measured as distance/time
5	sphere	A three-dimensional figure in which all points on the figure are equidistant from a center point.
5	square	A rectangle with four congruent sides; also, a rhombus with four right angles.
5	square centimeter	equal to the area of a square that measures 1 centimeter on each side
5	square foot	equal to the area of a square that measures 1 foot on each side
5	square mile	equal to the area of a square that measures 1 mile on each side
5	square number	A number that is the product of multiplying a number with itself
5	Standard algorithm	A list of well-defined instructions or a step-by-step procedure to solve a problem.
5	standard form	A way to write numbers by using the digits 0-9, with each digit having a place value.
5	Standard units of measure	Accepted measuring devices and units of the customary or metric system.
5	statement	Something stated or declared
5	straight	Extended continuously in the same direction without curving
5	Straight angle	An angle that measures exactly 180° .
5	subtrahend	A number or quantity to be subtracted from another

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
5	Successive subtraction	A method of repeatedly subtracting the same amount to solve a division problem.
5	sum	The result of adding numbers together.
5	surface area	The total area of the exterior surface of a solid.
5	symbol	A mark or sign used instead of words
5	symmetrical/symmetry	Showing exact equivalence or reflection of a shape on opposite sides of a separating line
5	systematic list	organizing information or numbers based upon a system
5	Table	A data display that organizes information about a topic into categories.
5	tails	the side of the coin opposite the heads
5	Tally chart (or table)	A chart, or table, consisting of tallies, or slash marks, having a one-to-one correspondence between the number of objects and the number of slash marks
5	ten thousands	The value given to the digit located 5 places to the left of the decimal point.
5	term	A single number, or a variable, or numbers and variables multiplied together.
5	thousandths	The value given to the digit located three places to the right of the decimal point.
5	tiling	A repeating pattern of figures that completely covers a plane without gaps or overlap.
5	times	A word that means to “multiply by”
5	transformation	a change in the size, shape, or position of a figure.
5	translation	A transformation in which every point in a figure is moved in the same direction and by the same distance. Also called a slide.
5	trapezoid	A quadrilateral with exactly one pair of parallel sides
5	triangular prism	a prism that has triangles as bases
5	trillion	A 1 followed by 12 zeros; 10^{12} .
5	triple	To multiply a number by three
5	twist	To wind two things around each other or one thing around something else
5	union	a combination of two or more things

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
5	unit cube	a cube whose edges are 1 unit long; it is the basic unit of measurement for volume
5	unit fraction	A fraction that has 1 as its numerator
5	variable	Any symbol, usually a letter, which could represent a number.
5	Venn diagram	A diagram that shows relationships among sets of objects.
5	vertex/vertices	The point common to the two rays that form an angle; the point common to any two sides of a polygon; the point common to three or more edges of a polyhedron.
5	vertical	Perpendicular to the plane of the horizon.
5	vertical angle	congruent angles that form opposite each other when two lines intersect
5	vertical axis	a line that runs top to bottom on a grid (y-axis)
5	volume	The amount of space taken up by an object, usually calculated by: base x height x width
5	week]/'
5	weight	How heavy something is or how much mass it has
5	west	the general direction of the sunset; on a map usually to the left
5	when	A word used in story problems to ask "at what time"
5	whole numbers	The numbers in the set {0, 1, 2, 3, 4 . . .}.
5	wide	Having a specific distance from side to side
5	width	One of the dimensions of a two- or three-dimensional figure.
5	x-axis/horizontal axis	The horizontal number line on a rectangular coordinate system.
5	x-coordinate	The value on the x-axis used to locate a point on the coordinate graph. it is the first value in an ordered pair.
5	y-axis/vertical axis	The vertical number line on a rectangular coordinate system.
5	y-coordinate	The value on the y-axis used to locate a point on the coordinate graph. it is the second value in an ordered pair.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
6	3-dimensional	solid shapes; having points or sides that are not all on one plane
6	above	In a higher place or position; in excess of or over
6	absolute value	How far a number is from zero
6	acute triangle	a triangle with three acute angles
6	addend	Any of the numbers that are added together
6	additive Identity Property of 0	The rule that states that any number plus 0 is equal to that number
6	additive inverses	A number and it's opposite whose sum is 0; ex. -4 and 4 = 0
6	algebraic expression	A mathematical phrase that can contain ordinary numbers, variables (like x or y) and operators (like add, subtract, multiply, and divide).
6	algorithm	A step by step method for solving a problem
6	analyze	Examining parts to understand how they work together
6	angle	A figure formed by two rays with the same endpoint (vertex).
6	area	The amount of surface inside a closed shape. measured in square units
6	area of a polygon	The measure of the interior surface. The formula is $a = \frac{1}{2}ap$ (apothem, perimeter)
6	area of a quadrilateral	The measure of the interior surface. The formula is $a = bh$ (base x height)
6	area of a triangle	The measure of the interior surface. The formula is $a = \frac{1}{2}bh$ ((base x height) ÷ by 2)
6	Associative Property of Addition	The property that states that when adding three or more real numbers, the sum is always the same regardless of their grouping.
6	Associative Property of Multiplication	The property that states that when multiplying three or more real numbers, the product is always the same regardless of their grouping.
6	attribute	A character that something has such as color, weight, height
6	average	A calculated "central" value of a set of numbers
6	axis	The horizontal and vertical number lines used in a coordinate plane system.
6	base (of a solid figure)	A flat surface of a solid figure by which the figure is measured or classified
6	box plot	A diagram or graph using a number line to show the distribution of a set of data
6	chord	A straight line connecting two points on a curve or curved shape
6	cluster	A grouping of a number of similar things
6	coefficient	The number which is multiplied by one or more variables or powers of variables in the term.
6	common denominator	A denominator that is the same in two or more fractions.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
6	common factor	A number that divides two or more numbers exactly.
6	common multiple	A number that is a multiple of two or more other numbers.
6	Commutative Property of Addition	This property means that addends can be added in any order and the sum is always the same.
6	Commutative Property of Multiplication	This property means that factors can be multiplied in any order and the product is always the same.
6	compare	To find how things are different or the same
6	compose	To form by putting together (e.g., a geometric figure or a number).
6	compute	To solve problems that use numbers
6	congruent	Having exactly the same shape and size.
6	constant	A number having a fixed value that does not change or vary
6	convert	To change something from one form to another
6	coordinate	A pair of numbers used to determine the position of a point on a graph
6	coordinate axes	A set of lines or curves used to define a coordinate system.
6	coordinate plane	A plane formed by a horizontal number line called the x-axis and a vertical number line called the y-axis
6	coordinate system	A standard grid, composed of lines of latitude and longitude, used to determine the absolute location of any object, place, or feature on the earth's surface.
6	cube	Box shaped solid object that has 6 identical square faces
6	customary system	The system of measurement used in the united states for measuring length, volume and weight
6	data	A collection of facts, such as values or measurements
6	Data displays/graphs	Different ways of displaying data in charts, tables, or graphs; including pictographs, single- or double-bar graphs, line graphs, line plots, or Venn diagrams.
6	decimal (number)	Not a whole number, only part of the whole
6	decompose	To separate into parts or elements (e.g., geometric figures or numbers).
6	denominator	The bottom number in a fraction; tells how many equal parts
6	dependent variable	A variable whose value depends on the values of one or more independent variables.
6	determine	to find or figure out

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
6	diameter	A straight line going through the center of a circle connecting two points on the circumference.
6	different/difference	Not the same; unlike
6	digit	Any of the symbols 0,1,2,3,4,5,6,7,8,9 used to write numbers
6	distributive property	A number outside the parenthesis can be multiplied to each term within the parenthesis. Ex. $a(b + c) = ab + ac$
6	divide/division	To split a whole into equal parts or groups.
6	dividend	A quantity that is to be divided.
6	divisor	The number by which another number is divided.
6	dot plot	a graph that summarizes data by the number of dots above each data value on the horizontal axis
6	double number line diagram	A graphic diagram that shows a proportional relationship between two quantities.
6	elevation	How high something is above sea level
6	equation	Says two things are the same, using math symbols
6	equilateral triangle	A triangle with 3 equal sides and 3 equal angles
6	equivalent expression	Expressions that have the same value but are presented in a different format using the properties of numbers.
6	equivalent ratio	Ratios that have the same value
6	estimate/estimation	To guess closely; an answer that is close to the exact answer
6	evaluate	to solve or find the value of an expression
6	exponent	A mathematical notation indicating the number of times a quantity is multiplied by itself
6	expression	Numbers, symbols grouped together to show the value of something
6	factor	A number that is multiplied by another number to find a product
6	first quartile	The median of the lower half of a data set
6	formula	A mathematical rule written using symbols, usually as an equation describing a certain relationship between quantities
6	fraction	A part of a whole expressed using a numerator and a denominator
6	greatest common factor (GCF)	The greatest number that is a factor of two or more numbers.
6	histogram	A bar chart representing a frequency distribution

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
6	horizontal	Parallel to, or in the plane of the horizon.
6	improper fraction	A fraction whose numerator is greater than the denominator
6	independent variable	A variable in an equation that may have its value freely chosen regardless the values of any other variable.
6	inequality	A mathematical sentence that uses symbols such as $<$, \leq , $>$, or \geq to compare two quantities.
6	infinite	Having no limits or boundaries in time or space or extent or magnitude; endless
6	integers	All whole numbers (both positive and negative) and zero.
6	interquartile range	The difference between the upper and lower quartiles; represents the middle half of the data in the set
6	Inverse operation	The operation that reverses the effect of another operation
6	Isosceles triangle	A triangle with 2 equal sides and 2 equal angles
6	Least common multiple (LCM)	The smallest common multiple that two or more numbers have in common
6	line plot	A method of visually displaying a distribution of data values where each data value is shown as a dot or mark above a number line. also known as a dot plot.
6	lowest terms	A fraction is said to be in lowest terms if its numerator and denominator have no common factor.
6	mean	The average; A measure of center in a set of numerical data, computed by adding the values in a list and then dividing by the number of values in the list.
6	mean absolute deviation	A measure of variation in a set of numerical data, computed by adding the distances between each data value and the mean, then dividing by the number of data values.
6	measure of variation	Provides an indicator of variation around central tendency values. its measures are range, percentile and standard deviation.
6	measures of central tendency	Measure that tells us where the middle of a bunch of data lies. The three most common are mean, median, and mode.
6	median	The middle value of a set of data that are arranged in order of size.
6	metric system	A base 10 system of measurement where each unit is defined in terms of multiples of 10.
6	minimum	The least or lowest value or quantity.
6	minuend	The number from which another number is subtracted.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
6	mixed number	A number with a whole number part and a fractional part
6	mode	The number or numbers that occur most often in a set of data
6	multiples	The numbers that result from multiplying a whole number by the set of whole numbers (e.g., the multiples of 15 are 0, 15, 30, 45, 60, 75, etc.).
6	Multiplicative Identity Property of 1	A property that states that when you multiply a number by 1, the product is that number.
6	Multiplicative inverses	Two numbers that when multiplied together equal 1. example 4 multiplied by $\frac{1}{4}$
6	negative numbers	Numbers that are less than zero
6	net	A two-dimensional diagram that can be folded or made into a three-dimensional figure.
6	number line	A line on which ordered numbers can be written or visualized and may include negative numbers.
6	numerator	Number above the line of a fraction, showing how many parts you have
6	numerical expression	A math sentence that contains numbers and operations
6	obtuse triangle	A triangle with one obtuse angle
6	operation	The math processes of addition, subtraction, multiplication, and division.
6	Order of Operations	The order in which operations should be done
6	ordered pair	The location of a single point on a rectangular coordinate system where the first and second values represent the position relative to the x-axis and y-axis, respectively
6	origin	The point of intersection of the x- and y-axes in a rectangular coordinate system, where the x-coordinate and y-coordinate are both zero (0).
6	outlier	A value that "lies outside" (is much smaller or larger than) most of the other values in a set of data.
6	percent	Number of things out of every 100
6	perpendicular line	Lines that form a 90° angle where they cross
6	place value	The value of a digit in a number, based on the location of the digit.
6	plot	Locating and marking a point when given its coordinates
6	plus	Symbol for addition
6	polygon	A closed figure that has three or more sides, no curved lines, and no intersections
6	positive	Greater than zero

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
6	prism	A polyhedron that has two congruent and parallel faces joined by faces that are parallelograms. Prisms are named by their bases.
6	probability	How likely it is for an event to happen.
6	product	The result of multiplying numbers together.
6	proof	A demonstration of truth of a mathematical statement
6	proportion	The equality of two ratios written as an equation.
6	proportional relationship	If one of the related things is multiplied in size by a number, which we'll call x, then the other related thing is also multiplied by x.
6	protractor	An instrument used to measure and draw angles
6	prove	to verify
6	pyramid	A solid shape with polygon as a base and triangular faces that taper to a point (vertex)
6	quadrant	The four regions into which a coordinate plane is divided by the x-axis and the y-axis
6	quadrilateral	A polygon with four sides and four angles
6	quintillion	1 followed by 18 zeros; 10^{18}
6	quotient	The result of dividing one number by another.
6	radius	a line segment with one endpoint at the center of a circle and its other endpoint on the circle
6	range	The difference between the greatest (maximum) and least (minimum) values in a set of data.
6	rate	A ratio that compares quantities measured in different units
6	ratio	A comparison of two numbers, often written as a fraction
6	rational number	Any number that can be written as a fraction.
6	Ray	A portion of a line that begins at an endpoint and goes on indefinitely in one direction.
6	Real-world problem	A problem that is an application of a real-life situation involving mathematics.
6	reciprocal	One of a pair of numbers whose product is 1: the reciprocal of $\frac{2}{3}$ is $\frac{3}{2}$
6	rectangle	A parallelogram with four right angles.
6	rectangular prism	A three-dimensional figure (polyhedron) with congruent rectangular parallel bases and lateral faces that are parallelograms.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
6	reduce	to simplify or make smaller. To express a fraction in its simplest form.
6	reflection	A flip of a flat figure across a line that creates a mirror image
6	region	all the points inside a closed shape together with all the points on the edge of the shape
6	remainder	An amount left over after one number is divided by another.
6	right angle	An angle that measures exactly 90° .
6	right rectangular prism	A polyhedron with congruent rectangular parallel bases, joined by faces that are also rectangles. The lateral edges of the faces are perpendicular to the bases.
6	right square pyramid	A pyramid that has an axis perpendicular to its base and its base is square
6	right triangle	A triangle with one angle measuring 90°
6	Roman numeral	the Roman system of numbering where numbers are represented by letters.
6	scalene triangle	A triangle that has sides of different lengths and three different angles
6	simplify	The process of converting a fraction or mixed number to an equivalent fraction or mixed number, in which the greatest common factor of the numerator and the denominator of the fraction is one.
6	smaller	less than
6	solution	Answer to a problem
6	solve	To work out the answer
6	south	the direction to the right of sunrise; on a map usually down
6	spread	A numerical summary of how tightly the values are clustered around the "center"
6	square	A 4-sided polygon (a flat shape with straight sides) where all sides have equal length and every angle is a right angle (90°)
6	square centimeter	equal to the area of a square that measures 1 centimeter on each side
6	square foot	equal to the area of a square that measures 1 foot on each side
6	square mile	equal to the area of a square that measures 1 mile on each side
6	square-based pyramid	A pyramid having a square base.
6	Standard algorithm	A list of well-defined instructions or a step-by-step procedure to solve a problem.
6	statistical	Of, relating to, or employing statistics or the principles of statistics.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
6	statistical variability	Refers to the extent to which data points differ from each other. There are four commonly used measures of variability: range, mean, variance and standard deviation.
6	statistics	A branch of applied mathematics concerned with collecting, organizing, and interpreting data.
6	straight angle	an angle with a measure of 180°
6	substitution	To replace the variables in an equation with numbers.
6	subtrahend	A number or quantity to be subtracted from another
6	surface area	The total area of the exterior surface of a solid.
6	systematic list	organizing information or numbers based upon a system
6	tails	the side of the coin opposite the heads
6	tape diagram	A drawing that looks like a segment of tape, used to illustrate number relationships. also known as a strip diagram, bar model, fraction strip, or length model.
6	term	A single number, or a variable, or numbers and variables multiplied together.
6	third quartile	Median of the upper half of a collection of data; 75th percentile
6	transformation	a change in the size, shape, or position of a figure.
6	translation	A transformation in which every point in a figure is moved in the same direction and by the same distance. Also called a slide.
6	Trapezoid	A quadrilateral with exactly one pair of parallel sides
6	triangular prism	A prism composed of two triangular bases and three rectangular sides
6	triangular pyramid	A solid shape with a triangle base and 3 triangular faces that meet in a point
6	trillion	A 1 followed by 12 zeros; 10^{12} .
6	union	A combination of two or more things
6	unit cube	A cube whose edges are 1 unit long; it is the basic unit of measurement for volume
6	unit fraction	A fraction that has 1 as its numerator
6	unit rate	A rate in which the second quantity in the comparison is one unit.
6	variable	Any symbol, usually a letter, which could represent a number.
6	variation	A function that relates the values of one variable to those of other variables
6	vertex/vertices	A corner point of a geometric figure. For a polygon, vertices are where adjacent sides meet. For an angle, the vertex is where the two rays making up the angle meet.

Academic Vocabulary Words
Mathematics

Grade Level	Word	Definition
6	vertical	Perpendicular to the plane of the horizon.
6	vertical angle	congruent angles that form opposite each other when two lines intersect
6	volume	The amount of space taken up by an object, usually calculated by: base x height x width
6	west	the general direction of the sunset; on a map usually to the left
6	whole numbers	The numbers in the set $\{0, 1, 2, 3, 4 \dots\}$.
6	x-axis	The horizontal number line on a rectangular coordinate system.
6	x-coordinate	The value on the x-axis used to locate a point on the coordinate graph. it is the first value in an ordered pair.
6	y-axis	The vertical number line on a rectangular coordinate system.
6	y-coordinate	The value on the y-axis used to locate a point on the coordinate graph. it is the second value in an ordered pair.
6	zero pair	The result when one positive number is paired with one negative number. Ex. $-3 + 3 = 0$

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
7	2-dimensional figure	A flat shape that only has length and height, but not width (depth).
7	3-dimensional	solid shapes; having points or sides that are not all on one plane
7	absolute value	How far a number is from zero
7	acute triangle	a triangle with three acute angles
7	additive inverses	A number and it's opposite whose sum is 0; ex. -4 and 4 = 0
7	adjacent angle	2 angles that have the same vertex and a common ray but no interior points in common
7	algebra	An area of mathematics where letters represent unknown numbers
7	algebraic equation	A math sentence with variables, numbers, at least one operation, and an equal sign.
7	analyze	Examining parts to understand how they work together
7	angle	A figure formed by two rays with the same endpoint (vertex).
7	annual	Something that happens once a year
7	apothem	A segment that is drawn from the center of a regular polygon perpendicular to a side of the polygon.
7	approximate	A value that is very close but not exactly to another number
7	area	The amount of surface inside a closed shape. measured in square units
7	area of a circle	The measure of the interior surface. The formula is $a = \pi r^2$ (pie x radius squared)
7	area of a polygon	The measure of the interior surface. The formula is $a = \frac{1}{2}ap$ (apothem, perimeter)
7	area of a quadrilateral	The measure of the interior surface. The formula is $a = bh$ (base x height)
7	area of a triangle	The measure of the interior surface. The formula is $a = \frac{1}{2}bh$ ((base x height) ÷ by 2)
7	associative	In addition and subtraction, no matter how the numbers are grouped, the answer will always be the same.
7	Associative Property of Addition	The property that states that when adding three or more real numbers, the sum is always the same regardless of their grouping.
7	Associative Property of Multiplication	The property that states that when multiplying three or more real numbers, the product is always the same regardless of their grouping.
7	axiom	A rule or a statement that is accepted as true without proof.
7	axis	A line that establishes a relationship between data in a chart; most charts have a horizontal x-axis and a vertical y-axis

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
7	bill	A written statement of how much money is owed for items purchased or services provided
7	binomial	An algebraic expression (or a polynomial) containing two terms that are not like terms.
7	box plot	A diagram or graph using a number line to show the distribution of a set of data
7	cardinal number	The number of unique items in a set.
7	center	The middle
7	chord	A straight line connecting two points on a curve or curved shape.
7	circumference	The distance around a circle; the perimeter of a circle
7	circumscribed	A geometric figure that is drawn around another geometric figure so as to touch all its vertices
7	coefficient	The number which is multiplied by one or more variables or powers of variables in the term.
7	collinear	Three or more points lie on the same straight line
7	commission	An amount paid to an employee based on a percentage of the employee's sales
7	common factor	A whole number that divides exactly into two (or more) other numbers
7	Commutative Property of Addition	This property means that addends can be added in any order and the sum is always the same.
7	compare	To find how things are different or the same
7	complementary angles	Two acute angles that add up to give a right angle, 90° .
7	composite numbers	a number with more than two factors
7	compound events	Describes the probability resulting from two or more simple events.
7	compound interest	Where interest is calculated on both the amount borrowed and any previous interest.
7	computation	Finding an answer by using mathematics or logic.
7	compute	To solve problems that use numbers
7	constant	A number having a fixed value that does not change or vary
7	convert	To change something from one form to another
7	coordinate	A pair of numbers used to determine the position of a point on a graph
7	coordinate plane	A plane formed by a horizontal number line called the x-axis and a vertical number line called the y-axis

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
7	coordinate system	A standard grid, composed of lines of latitude and longitude, used to determine the absolute location of any object, place, or feature on the earth's surface.
7	cosine	In a right triangle, the ratio of the length of the side adjacent to an acute angle to the length of the hypotenuse.
7	cross-section	The plane figure obtained by the intersection of a solid by a plane.
7	cube	A solid figure with six congruent square faces.
7	cube root	A value that, when used in a multiplication three times, gives that number.
7	cubic centimeter	A unit of volume that is made by a cube that is 1 centimeter on each side.
7	cubic feet	A unit of volume that is made by a cube that is 1 foot on each side
7	cubic meter	A unit of volume that is made by a cube that is 1 meter on each side
7	cubic millimeter	A unit of volume that is made by a cube that is 1 millimeter on each side
7	cubic yard	A unit of volume that is made by a cube that is 1 yard on each side
7	data	A collection of facts, such as values or measurements
7	decimal (number)	Not a whole number, only part of the whole; a number with a decimal point
7	degrees (°)	The unit of measure for angles or temperature (°).
7	determine	to find or figure out
7	diagonal	A line segment that joins two nonadjacent vertices of a polygon.
7	diagram	A visual representation of data to help readers better understand relationships among data
7	diameter	A straight line going through the center of a circle connecting two points on the circumference.
7	different/difference	Not the same; unlike
7	dimension	A measure in one direction (e.g., length, width, height, or depth.)
7	distributive property	A number outside the parenthesis can be multiplied to each term within the parenthesis. Ex. $a(b + c) = ab + ac$
7	divide/division	To split a whole into equal parts or groups.
7	divisor	The number by which another number is divided.
7	domain of a relation	The set of all x-coordinates of the ordered pairs of that relation.
7	enlargement	The process of making something larger
7	equation	Says two things are the same, using math symbols

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
7	equilateral	Describes a geometric figure in which all the sides are of equal length
7	equilateral triangle	A triangle with 3 equal sides and 3 equal angles
7	equivalent expression	Expressions that have the same value but are presented in a different format using the properties of numbers.
7	equivalent ratio	Ratios that have the same value
7	estimate/estimation	To guess closely; an answer that is close to the exact answer
7	evaluate	to solve or find the value of an expression
7	experimental probability	The ratio of the number of times an event occurs to the total number of trials or times the activity is performed
7	expression	Numbers, symbols grouped together to show the value of something
7	factor	A number that is multiplied by another number to find a product
7	formula	A mathematical rule written using symbols, usually as an equation describing a certain relationship between quantities
7	fraction	A part of a whole expressed using a numerator and a denominator
7	frequency	The number of times a particular item appears in a set of data
7	function	A special relationship between values: Each input values gives back exactly one output value.
7	geometric figure	A figure formed by any combination of points, lines, planes, curves, or surfaces in one, two, or three dimensions
7	gratuities	An amount given to employees by customers for services rendered
7	greatest common divisor	The biggest number that divides into two (or more) given numbers.
7	heaviest	The most heavy; of great weight, hard to lift or carry
7	horizontal	Parallel to, or in the plane of the horizon.
7	inequality	A mathematical sentence that uses symbols such as $<$, \leq , $>$, or \geq to compare two quantities.
7	inferences	Logical conclusion drawn from available evidence and prior knowledge made from observations.
7	infinite	Having no limits or boundaries in time or space or extent or magnitude; endless
7	integers	All whole numbers (both positive and negative) and zero.
7	interest	Money paid for the use of other money.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
7	interquartile range	The difference between the upper and lower quartiles; represents the middle half of the data in the set
7	interval	Distance between two points; or amount of time between two events
7	Inverse operation	The operation that reverses the effect of another operation
7	Inverse variation	A relationship between two variables in which the product is a constant. When one variable increases the other decreases in proportion so that the product is unchanged.
7	irrational numbers	A number that cannot be written as a simple fraction - the decimal goes on forever without repeating.
7	isosceles triangle	A triangle with 2 equal sides and 2 equal angles
7	least common multiple (LCM)	The smallest common multiple that two or more numbers have in common
7	lightest	Weighing the least
7	linear equation	An equation that makes a straight line when it is graphed.
7	long division	Standard procedure suitable for dividing simple or complex multi-digit numbers. it breaks down a division problem into a series of easier steps.
7	longer	Having greater length
7	markdowns	A reduction in price used to stimulate sales, dispose of slow moving merchandise or meet the competitors price
7	markups	percentages or dollar amounts added to the cost of sales to arrive at a products selling price.
7	matrix/matrices	A rectangular (or square) array of numbers. Matrices can be written using brackets or parentheses.
7	mean	The average; A measure of center in a set of numerical data, computed by adding the values in a list and then dividing by the number of values in the list.
7	mean absolute deviation	A measure of variation in a set of numerical data, computed by adding the distances between each data value and the mean, then dividing by the number of data values.
7	measure of variation	Provides an indicator of variation around central tendency values. its measures are range, percentile and standard deviation.
7	measures of central tendency	Measure that tells us where the middle of a bunch of data lies. The three most common are mean, median, and mode.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
7	Median	The middle value of a set of data that are arranged in order of size.
7	midpoint formula	The formula for finding the midpoint between points (x_1, y_1) and (x_2, y_2) .
7	Mode	The number or numbers that occur most often in a set of data
7	multiplicative inverses	Two numbers that when multiplied together equal 1. example 4 multiplied by $\frac{1}{4}$
7	negative exponent	A number having a negative exponent equals the reciprocal with a positive exponent
7	null	Zero or None.
7	number line	A line on which ordered numbers can be written or visualized and may include negative numbers.
7	obtuse triangle	A triangle with one obtuse angle
7	operation	The math processes of addition, subtraction, multiplication, and division.
7	ordered pair	The location of a single point on a rectangular coordinate system where the first and second values represent the position relative to the x-axis and y-axis, respectively
7	ordinal number	Numerical words that indicate order.
7	origin	The point of intersection of the x- and y-axes in a rectangular coordinate system, where the x-coordinate and y-coordinate are both zero (0).
7	outcome	One of the possible results of a probability experiment
7	parallelogram	A quadrilateral in which both pairs of opposite sides are parallel.
7	partial product	Method of multiplying, where one, tens, hundreds, etc. are multiplied separately and then the products are added together
7	percent	Number of things out of every 100
7	percent decrease	The percent of change when the new amount is less than the original amount
7	percent error	The difference between the approximate and exact values, expressed as a percentage of the exact value.
7	percent increase	The percent of change when the new amount is more than the original amount
7	Perimeter	The distance around the outside of a figure or shape
7	<i>Pi</i>	The ratio of a circle's circumference to its diameter
7	polygon	A closed figure that has three or more sides, no curved lines, and no intersections
7	polynomial	An expression made with constants, variables and exponents, which are combined using addition, subtraction and multiplication
7	population	A group of objects, events, or people studied in order to collect data

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
7	positive	Greater than zero
7	positive linear relationship	A linear relationship where the line has a positive slope.
7	postulate	A statement accepted as true without proof.
7	prediction	A statement about the way things will happen in the future, often but not always based on experience or knowledge.
7	prime factorization	The expression of a number as the product of prime factors.
7	prism	A polyhedron that has two congruent and parallel faces joined by faces that are parallelograms. Prisms are named by their bases.
7	probability	How likely it is for an event to happen.
7	product	The result of multiplying numbers together.
7	proportion	A part to whole comparison the equality of two ratios written as an equation
7	Proportional	When two quantities always have the same relative size
7	proportional relationship	If one of the related things is multiplied in size by a number, which we'll call x, then the other related thing is also multiplied by x.
7	protractor	An instrument used to measure and draw angles
7	pyramid	A solid shape with polygon as a base and triangular faces that taper to a point (vertex)
7	quadrant	Any of the four regions formed by the axes in a rectangular coordinate system.
7	quadratic	An equation, graph, or data that can be modeled by a degree 2 polynomial.
7	quadrilateral	A polygon with four sides and four angles
7	quartiles	Each of the values that divide a list of numbers into quarters.
7	quotient	The result of dividing one number by another.
7	Radius	A line segment with one endpoint at the center of a circle and its other endpoint on the circle
7	random sample	A sample that fairly represents a population because each member has an equal chance of inclusion
7	Range	The difference between the greatest (maximum) and least (minimum) values in a set of data.
7	Rate	A ratio that compares quantities measured in different units
7	ratio	A comparison of two numbers, often written as a fraction

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
7	rational number	Any number that can be written as a fraction
7	real number	The set of all rational and irrational numbers.
7	Real-world problem	A problem that is an application of a real-life situation involving mathematics.
7	rectangular prism	A solid figure with six faces that are all rectangles
7	reflexive	The property of equality that states anything is equal to itself.
7	relative frequency	The ratio of the number of observations in a statistical category to the total number of observations
7	remainder	An amount left over after one number is divided by another.
7	repeating decimal	A decimal with a sequence of digits that repeats itself indefinitely
7	representative sample	A small sample of something that accurately represents an entire group
7	rhombus	A parallelogram with four congruent sides.
7	right angle	An angle that measures exactly 90° .
7	right prism	A prism that has two bases, one directly above the other, and that has its lateral faces as rectangles.
7	right rectangular prism	A polyhedron with congruent rectangular parallel bases, joined by faces that are also rectangles. The lateral edges of the faces are perpendicular to the bases.
7	right triangle	A triangle with one angle measuring 90°
7	sample space	the set of all possible outcomes of a probability experiment
7	scalar	Any real number, or any quantity that can be measured using a single real number.
7	scale	Sequenced marks, usually at regular intervals or representing equal steps
7	scale drawing (or model)	A drawing (or model) that uses proportional lengths in the drawing (or model) and the actual image.
7	scalene triangle	a triangle that has sides of different lengths and three different angles
7	scatter plot	A graph of plotted points that show the relationship between two sets of data.
7	scientific notation	A way to write a number as the product of a number between 1 and 10 and a power of 10.
7	signed number	A number preceded by either a plus or minus sign. if a sign (+ or -) is not given, the plus sign is assumed.
7	Similar figures	Figures are similar if they have the same shape, but are different sizes

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
7	simple interest	A method of computing interest based on the original principle only, no matter how much money has accrued.
7	simplify	The process of converting a fraction or mixed number to an equivalent fraction or mixed number, in which the greatest common factor of the numerator and the denominator of the fraction is one.
7	sine	The length of the opposite side divided by the length of the hypotenuse
7	Slope	The ratio of change in the vertical axis (y-axis) to change in the horizontal axis (x-axis).
7	solution set	Any and all value(s) of the variable(s) that satisfies an equation, inequality, system of equations, or system of inequalities.
7	solve	To work out the answer
7	spread	A numerical summary of how tightly the values are clustered around the "center"
7	square meter	Equal to the area of a square that measures 1 meter on each side.
7	square numbers	Numbers that are the product of a number multiplied by itself.
7	square root	The square root of a number is a nonnegative number which when multiplied by itself equals the given number.
7	standard deviation	The standard deviation is defined as the average amount by which individual data items in a data set differ from the arithmetic mean of all the data in the set.
7	standard form	A way to write numbers by using the digits 0-9, with each digit having a place value.
7	statistical variability	Refers to the extent to which data points differ from each other. There are four commonly used measures of variability: range, mean, variance and standard deviation.
7	statistics	A branch of applied mathematics concerned with collecting, organizing, and interpreting data.
7	stem and leaf plot	A method of organizing numerical data in order of place value.
7	substitution	To replace the variables in an equation with numbers.
7	supplementary angles	Two angles that add up to give a straight angle, 180°
7	surface area	The total area of the exterior surface of a solid.
7	survey	A method of collecting a sample data by asking people questions

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
7	symmetry	A line on which a figure can be folded into two parts that are congruent mirror images of each other
7	tangent	The length of the opposite side divided by the length of the adjacent side.
7	tax	A percentage of money paid to the government
7	ten million	10,000,000
7	ten thousandth	The value given to the digit located four places to the right of the decimal point.
7	terminating decimal	a decimal number that ends or terminates
7	tessellation	A pattern of identical shapes that do not overlap or have any gaps
7	theorem	An assertion that can be proved true using the rules of logic.
7	theoretical probability	The likeliness of an even happening based on all of the possible outcomes.
7	thousandths	The value given to the digit located three places to the right of the decimal point.
7	transformation	a change in the size, shape, or position of a figure.
7	transitive	describes a given relation between terms
7	tree diagram	A branching diagram that shows all possible combinations or outcomes of an event
7	twice	Two times
7	unit rate	A rate in which the second quantity in the comparison is one unit.
7	variable	Any symbol, usually a letter, which could represent a number.
7	variation	A function that relates the values of one variable to those of other variables
7	vector	A quantity, drawn as an arrow, with both direction and magnitude
7	Venn diagram	A diagram that shows relationships among sets of objects.
7	vertical	Perpendicular to the plane of the horizon.
7	vertical angle	congruent angles that form opposite each other when two lines intersect
7	volume	The amount of space taken up by an object, usually calculated by: base x height x width
7	x-axis	The horizontal number line on a rectangular coordinate system.
7	x-coordinate	The value on the x-axis used to locate a point on the coordinate graph. it is the first value in an ordered pair.
7	<i>x-intercept</i>	The value of x at the point where a line or graph intersects the x-axis. The value of y is zero (0) at this point.
7	y-axis	The vertical number line on a rectangular coordinate system.

Academic Vocabulary Words
Mathematics

Grade Level	Word	Definition
7	y-coordinate	The value on the y-axis used to locate a point on the coordinate graph. it is the second value in an ordered pair.
7	<i>y-intercept</i>	The value of y at the point where a line or graph intersects the y-axis. The value of x is zero (0) at this point.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
8	2-dimensional figure	A flat shape that only has length and height, but not width (depth).
8	absolute value	How far a number is from zero
8	acute	An angle measuring less than 90 degrees.
8	adjacent	"Next to" or "neighboring"
8	algebraic expression	A mathematical phrase that can contain ordinary numbers, variables (like x or y) and operators (like add, subtract, multiply, and divide).
8	algebraic sentence	Gives relation between two algebraic expressions
8	analyze	Examining parts to understand how they work together
8	angle	A figure formed by two rays with the same endpoint (vertex).
8	angle of elevation	The angle between the horizontal and the line of sight to an object above the horizontal.
8	apothem	A segment that is drawn from the center of a regular polygon perpendicular to a side of the polygon.
8	arc	Part of the circumference (edge) of a circle
8	arithmetic progression	A sequence of numbers where the difference between the consecutive terms is constant
8	asymptote	a line that a graph gets closer and closer to, but never touches or crosses.
8	axiom	A rule or a statement that is accepted as true without proof.
8	axis	The horizontal and vertical number lines used in a coordinate plane system.
8	bivariate measurement data	Data for two variables.
8	borrow	To arrange to be given money by somebody or by a bank or other financial institution for a fixed period of time
8	central angle	An angle in a circle with its corner in circle's center
8	certainty	Something that will definitely happen.
8	chord	A straight line connecting two points on a curve or curved shape.
8	circumcenter	Circumcenter of a triangle is the point of intersection of all the three perpendicular bisectors of the triangle.
8	circumscribed	A geometric figure that is drawn around another geometric figure so as to touch all its vertices
8	cluster	A grouping of a number of similar things

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
8	coefficient	The number which is multiplied by one or more variables or powers of variables in the term.
8	compare	To find how things are different or the same
8	complementary angles	Two acute angles that add up to give a right angle, 90° .
8	compute	To solve problems that use numbers
8	concurrent lines	A set of lines that all intersect at the same point.
8	cone volume formula	The volume (V) of a cone is equal to $\frac{1}{3}\pi r^2 h$.
8	congruent	Having exactly the same shape and size.
8	congruent side	Sides that are exactly the same size
8	converse	Switching the hypothesis and conclusion of a conditional statement ("If... then..." statement)
8	convert	To change something from one form to another
8	coordinate	Numbers that correspond to points on a coordinate plane in the form (x, y), or a number that corresponds to a point on a number line. Also called ordered pairs.
8	coordinate plane	A plane formed by a horizontal number line called the x-axis and a vertical number line called the y-axis
8	coordinate system	A standard grid, composed of lines of latitude and longitude, used to determine the absolute location of any object, place, or feature on the earth's surface.
8	corresponding angle	When two lines are crossed by another line (which is called the Transversal), the angles in matching corners are called corresponding angles
8	corresponding side	If the position of two sides is the same in two figures, they are called corresponding sides
8	cosine	In a right triangle, the ratio of the length of the side adjacent to an acute angle to the length of the hypotenuse.
8	cross-section area	The area of the face that results from slicing through a solid object
8	cube root	A value that, when used in a multiplication three times, gives that number.
8	cubed	To raise to the third power
8	cubic inch	A unit of volume that is made by a cube that is 1 inch on each side
8	cylinder	A solid object with 2 identical flat ends that are circular and 1 curved side
8	data	A collection of facts, such as values or measurements

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
8	data point	An item of factual information resulting from measurement or research
8	decimal (number)	Not a whole number, only part of the whole; a number with a decimal point
8	determine	to find or figure out
8	different/difference	Not the same; unlike
8	digit	Any of the symbols 0,1,2,3,4,5,6,7,8,9 used to write numbers
8	dilation	a change in size of a figure without changing its angles
8	discount	A reduction in price used to stimulate sales, dispose of slow moving merchandise or meet the competitors price.
8	disjunction	A statement which connects two other statements using the word <i>or</i> .
8	distributive property	A number outside the parenthesis can be multiplied to each term within the parenthesis. Ex. $a(b + c) = ab + ac$
8	domain	All the values that go into a function
8	ellipse	A stretched out or smashed circle
8	equality	A math statement showing that two things are equal
8	equation	Says two things are the same, using math symbols
8	equiangular	Having all equal angles.
8	equivalent expression	Expressions that have the same value but are presented in a different format using the properties of numbers.
8	estimate/estimation	To guess closely; an answer that is close to the exact answer
8	evaluate	to solve or find the value of an expression
8	expanded notation	Writing a number to show the value of each digit
8	exponent	A mathematical notation indicating the number of times a quantity is multiplied by itself
8	expression	Numbers, symbols grouped together to show the value of something
8	exterior angle	An angle between one side of a polygon and the extension of an adjacent side.
8	finite	Describes a set which does not have an infinite number of elements.
8	formula	A mathematical rule written using symbols, usually as an equation describing a certain relationship between quantities
8	frequency	The number of times a particular item appears in a set of data

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
8	function	A special relationship between values: Each input values gives back exactly one output value.
8	half hour	Thirty minutes, the half point of an hour
8	horizontal	Parallel to, or in the plane of the horizon.
8	hyperbola	Hyperbola is a conic section in which difference of distances of all the points from two fixed points (called 'foci') is constant.
8	hypotenuse	The side opposite the right angle in a right-angled triangle
8	incline	A slope that travels upward
8	infinite	Having no limits or boundaries in time or space or extent or magnitude; endless
8	input	The value substituted for a variable in an expression.
8	integer exponent	An exponent that is any integer; positive, negative, or 0.
8	intercept	The point at which a line or curve intersects an axis.
8	interior angle	An angle inside a shape
8	interquartile range	The difference between the upper and lower quartiles; represents the middle half of the data in the set
8	Intersection	The point at which lines or curves meet; the line where planes meet.
8	interval	Distance between two points; or amount of time between two events
8	irrational numbers	A number that cannot be written as a simple fraction - the decimal goes on forever without repeating.
8	isosceles triangle	A triangle with 2 equal sides and 2 equal angles
8	kilowatt	A Metric measure equal to 1,000 watts
8	leg	Either of the legs connected to the base of a trapezoid or triangle
8	like terms	Terms which have the same variables and corresponding powers and/or roots.
8	line of fit	a line that is drawn through the data on a scatter plot to describe the trend of the data.
8	Line plot	A method of visually displaying a distribution of data values where each data value is shown as a dot or mark above a number line. also known as a dot plot.
8	line segment	the part of a line consisting of two endpoints and all points between them.
8	linear equation	An equation that makes a straight line when it is graphed.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
8	linear function	A function that can be graphically represented on the coordinate plane by a straight line.
8	logarithm	The logarithm base b of a number x is the power to which b must be raised in order to equal x .
8	lower quartile	For a set of data, a number for which 25% of the data is less than that number.
8	matrix/matrices	A rectangular (or square) array of elements. Matrices can be written using brackets or parentheses.
8	mean	The average; A measure of center in a set of numerical data, computed by adding the values in a list and then dividing by the number of values in the list.
8	measures of central tendency	Measure that tells us where the middle of a bunch of data lies. The three most common are mean, median, and mode.
8	median	The middle value of a set of data that are arranged in order of size.
8	midpoint formula	The formula for finding the midpoint between points (x_1, y_1) and (x_2, y_2) .
8	midpoint of a line segment	The point on a line segment equidistant from the endpoints.
8	minus	A symbol used to show subtraction; to take away a quantity from another
8	mode	The number or numbers that occur most often in a set of data
8	negative association	A relationship in paired data in which one variable's values tend to increase when the other decreases, and vice-versa.
8	non-linear function	A function whose graph does not form a straight line.
8	null	Zero or None.
8	number line	A line on which ordered numbers can be written or visualized and may include negative numbers.
8	numerical expression	A math sentence that contains numbers and operations
8	obtuse	An angle that has measure more than 90° and less than 180° .
8	operation	The math processes of addition, subtraction, multiplication, and division.
8	opposite	Placed or located directly across from something else or from each other
8	ordered pair	The location of a single point on a rectangular coordinate system where the first and second values represent the position relative to the x-axis and y-axis, respectively [e.g., (x, y) or $(3, -4)$]. See also coordinates.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
8	origin	The point of intersection of the x- and y-axes in a rectangular coordinate system, where the x-coordinate and y-coordinate are both zero (0).
8	outlier	A value that "lies outside" (is much smaller or larger than) most of the other values in a set of data.
8	output	The result of a solved expression when the "input" has been substituted for the variable.
8	parabola	A special curve, shaped like an arch, the graph of a quadratic equation
8	parallel lines	Line that are a constant distance apart, never intersecting.
8	percentile	A measure that tells us what percent of the total frequency scored at or below that measure
8	Perpendicular	Lines, line segments, rays, or planes that intersect to form a right angle.
8	point of intersection	The point at which two lines intersect, or cross
8	positive association	A relationship in paired data in which the two sets of data tend to increase together or decrease together.
8	postulate	A statement accepted as true without proof.
8	power of 10	A number with 10 as a base and a whole-number exponent
8	probability	How likely it is for an event to happen.
8	proportional relationship	If one of the related things is multiplied in size by a number, which we'll call x, then the other related thing is also multiplied by x.
8	protractor	An instrument used to measure and draw angles
8	pyramid	A solid shape with polygon as a base and triangular faces that taper to a point (vertex)
8	Pythagorean theorem	In a right angled triangle the square of the hypotenuse is equal to the sum of the squares of the other two sides.
8	quadrupled	Multiplied by four.
8	qualitative	descriptive information
8	quantitative	numerical information
8	radian	A unit for measuring angles. $180^\circ = \pi$ radians, and $360^\circ = 2\pi$ radians.
8	radical	The symbol $\sqrt{\quad}$, which is used to represent the square root or n^{th} root of a number.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
8	random	A chance pick from a number of items (like drawing an item from a hat, rolling a die, or spinning a spinner where all items are equally likely)
8	range	The difference between the greatest (maximum) and least (minimum) values in a set of data.
8	rate of change	The ratio of the change in the output value and change in the input value of a function
8	ratio	A comparison of two numbers, often written as a fraction
8	rational function	A function that can be written as a polynomial divided by a polynomial.
8	rational number	Any number that can be written as a fraction
8	ray	A portion of a line that begins at an endpoint and goes on indefinitely in one direction.
8	Real-world problem	A problem that is an application of a real-life situation involving mathematics.
8	reflection	A flip of a flat figure across a line that creates a mirror image
8	regular polygon	A polygon where all sides are of equal length.
8	repeating decimal	A decimal with a sequence of digits that repeats itself indefinitely
8	right angle	An angle that measures exactly 90° .
8	right triangle	a triangle with one angle measuring 90°
8	rise	The vertical change between two points on the graph of a line.
8	rotation	A transformation of a figure by turning it about a point or axis. The amount of rotation is usually expressed in the number of degrees (e.g., a 90° rotation). The direction of the rotation is usually expressed as clockwise or counterclockwise. Also called a turn.
8	rule	A general statement written in numbers, symbols, or words that describes how to determine any term in a pattern or relationship.
8	run	The horizontal change between two points on the graph of a line.
8	sample	A selection taken from a larger group (the "population") so that you can examine it to find out something about the larger group.
8	scale factor	A number used as a multiplier in scaling
8	scale model	A model that uses proportional lengths in the model and the actual image.
8	scalene	A triangle for which all three sides and all three angles are different.
8	scatter plot	A graph of plotted points that show the relationship between two sets of data.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
8	scientific notation	A way to write a number as the product of a number between 1 and 10 and a power of 10.
8	secant	The length of the hypotenuse divided by the length of the adjacent side.
8	short	having little length, distance, or height
8	similar figures	Figures are similar if they have the same shape, but are different sizes
8	simultaneous linear	Two or more linear equations containing common variable(s).
8	sine	The length of the opposite side divided by the length of the hypotenuse
8	slope	The ratio of change in the vertical axis (y-axis) to change in the horizontal axis (x-axis).
8	slope intercept form	An equation of the form $y = mx + b$, where m is the slope and b is the y-intercept.
8	solution	Answer to a problem
8	solve	To work out the answer
8	sphere volume	The total amount of space enclosed in a sphere.
8	square pyramid	a solid figure with a square base and four triangular faces that meet at a common point
8	square region	An area that has the shape of a square
8	square root	The square root of a number is a nonnegative number which when multiplied by itself equals the given number.
8	standard deviation	The standard deviation is defined as the average amount by which individual data items in a data set differ from the arithmetic mean of all the data in the set.
8	statistical	Of, relating to, or employing statistics or the principles of statistics.
8	step function	A step function is a special type of function whose graph is a series of line segments.
8	successive	One after the other.
8	supplementary angles	Two angles that add up to give a straight angle, 180°
8	survey	A method of collecting a sample data by asking people questions
8	symmetry	A line on which a figure can be folded into two parts that are congruent mirror images of each other
8	synthetic division	A shortcut for polynomial long division that can be used when dividing by an expression of the form $x - c$ or $x + c$.
8	system of equations	Two or more equations containing common variable(s)

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
8	tangent	The length of the opposite side divided by the length of the adjacent side.
8	tax	A percentage of money paid to the government
8	tenth power	Raising a number to the tenth power is multiplying a number by itself 10 times
8	tenths	The value given to the digit located one place to the right of the decimal.
8	term	Parts of an expression or series separated by + or – signs
8	terminating decimal	a decimal number that ends or terminates
8	tessellation	A pattern of identical shapes that do not overlap or have any gaps
8	theorem	An assertion that can be proved true using the rules of logic.
8	transformation	a change in the size, shape, or position of a figure.
8	translation	A transformation in which every point in a figure is moved in the same direction and by the same distance. Also called a slide.
8	transversal	A line that intersects two or more lines at different points.
8	trigonometric	Of or relating to the principles of trigonometry.
8	tripled	Multiplied by three.
8	truncate	Limit the number of digits to the right of the decimal point.
8	unit rate	A rate in which the second quantity in the comparison is one unit.
8	upper quartile	For a set of data, a number for which 75% of the data is less than that number.
8	value	How much something is worth; the numerical quantity assigned to a variable.
8	variable	Any symbol, usually a letter, which could represent a number.
8	variation	A function that relates the values of one variable to those of other variables
8	vector	A quantity, drawn as an arrow, with both direction and magnitude
8	Venn diagram	A diagram that shows relationships among sets of objects.
8	vertical	Perpendicular to the plane of the horizon.
8	vertical angle	congruent angles that form opposite each other when two lines intersect
8	vertical axis	a line that runs top to bottom on a grid (y-axis)
8	volume	The amount of space taken up by an object, usually calculated by: base x height x width
8	<i>x-axis</i>	The horizontal number line on a rectangular coordinate system.
8	<i>x-intercept</i>	The value of x at the point where a line or graph intersects the x-axis. The value of y is zero (0) at this point.

Academic Vocabulary Words
Mathematics

Grade Level	Word	Definition
8	<i>y-axis</i>	The vertical number line on a rectangular coordinate system.
8	<i>y-intercept</i>	The value of y at the point where a line or graph intersects the y -axis. The value of x is zero (0) at this point.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
9-12	2-dimensional figure	A flat shape that only has length and height, but not width (depth).
9-12	2-way frequency table	A table in which frequencies correspond to two variables.
9-12	3-dimensional	solid shapes; having points or sides that are not all on one plane
9-12	AA similarity	If two angles of one triangle are congruent to two corresponding angles in another triangle, then the triangles are similar.
9-12	absolute value	How far a number is from zero
9-12	acute angle	An angle with a measure greater than 0° and less than 90°
9-12	adjacent angle	2 angles that have the same vertex and a common ray but no interior points in common
9-12	adjacent side	Sides immediately next to each other
9-12	algebraic expression	A mathematical phrase that can contain ordinary numbers, variables (like x or y) and operators (like add, subtract, multiply, and divide).
9-12	alternate exterior angle	When two lines are crossed by another line (which is called the Transversal), the pairs of angles on opposite sides of the transversal but outside the two lines are called Alternate Exterior Angles
9-12	alternate interior angle	When two lines are crossed by another line (which is called the Transversal), the pairs of angles on opposite sides of the transversal but inside the two lines are called Alternate Interior Angles
9-12	amplitude	Half the maximum peak-to-peak value of a periodic function
9-12	analyze	Examining parts to understand how they work together
9-12	angle	A figure formed by two rays with the same endpoint (vertex).
9-12	angle bisector	A line that splits an angle into two equal angles
9-12	angle of depression	The angle between the horizontal and the line of sight to an object beneath the horizontal.
9-12	angle of elevation	The angle between the horizontal and the line of sight to an object above the horizontal.
9-12	Angle-Side-Angle (ASA)	If two angles and the included side of one triangle are congruent to the two angles and the included side of another triangle, then the two triangles are congruent.
9-12	apothem	A segment that is drawn from the center of a regular polygon perpendicular to a side of the polygon.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
9-12	approximate	A value that is very close but not exactly to another number
9-12	arc	Part of the circumference (edge) of a circle
9-12	area	The amount of surface inside a closed shape. measured in square units
9-12	area of a circle	The measure of the interior surface. The formula is $a = \pi r^2$ (pie x radius squared)
9-12	area of a triangle	The measure of the interior surface. The formula is $a = \frac{1}{2}bh$ ((base x height) ÷ by 2)
9-12	arithmetic sequence	A sequence of numbers that has a constant difference between every two consecutive terms.
9-12	Associative Property of Addition	The property that states that when adding three or more real numbers, the sum is always the same regardless of their grouping.
9-12	Associative Property of Multiplication	The property that states that when multiplying three or more real numbers, the product is always the same regardless of their grouping.
9-12	asymptote	a line that a graph gets closer and closer to, but never touches or crosses.
9-12	average	A calculated "central" value of a set of numbers
9-12	average salary	The amount of money that person in a particular profession makes
9-12	axis	The horizontal and vertical number lines used in a coordinate plane system.
9-12	axis of symmetry	A line that cuts an object in half so that the two halves are mirror images of each other
9-12	base (of a solid figure)	A flat surface of a solid figure by which the figure is measured or classified
9-12	binomial	An algebraic expression (or a polynomial) containing two terms that are not like terms.
9-12	binomial Theorem	Binomial Theorem is used to expand powers of binomials.
9-12	bisect	To divide into two equal sections or two equal halves.
9-12	bisector of a line	A line that cuts another line segment into two equal parts.
9-12	box plot	A diagram or graph using a number line to show the distribution of a set of data
9-12	calculus	Calculus is the branch of mathematics that studies continuously changing quantities.
9-12	causation	changes in x cause changes in y in a list of data
9-12	central angle	An angle in a circle with its corner in circle's center
9-12	centroid	The center of mass of a uniform object
9-12	chord	A straight line connecting two points on a curve or curved shape.
9-12	circular	Having the shape of a perfect circle, or resembling a circle in shape

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
9-12	circumcenter	Circumcenter of a triangle is the point of intersection of all the three perpendicular bisectors of the triangle.
9-12	circumference	The distance around a circle; the perimeter of a circle
9-12	circumscribed	A geometric figure that is drawn around another geometric figure so as to touch all its vertices
9-12	classify	to sort into categories or to arrange into groups by attribute
9-12	coefficient	The number which is multiplied by one or more variables or powers of variables in the term.
9-12	collinear	Three or more points lie on the same straight line
9-12	combination	An arrangement of objects in which order does not matter.
9-12	commission	A fee paid based on a percentage of the sale made by an employee or agent, separate from regular payments of wages or salary
9-12	common ratio	the constant ratio between any term and the term after it.
9-12	Commutative Property of Addition	This property means that addends can be added in any order and the sum is always the same.
9-12	Commutative Property of Multiplication	This property means that factors can be multiplied in any order and the product is always the same.
9-12	compare	To find how things are different or the same
9-12	complementary angles	Two angles that add up to equal 90°
9-12	complete the square	the process of converting a quadratic equation into a perfect square trinomial by adding or subtracting terms on both sides.
9-12	complex number	A number that can be written by the sum or difference of a real number and an imaginary number.
9-12	compound events	Describes the probability resulting from two or more simple events.
9-12	compound interest	Where interest is calculated on both the amount borrowed and any previous interest.
9-12	computation	Finding an answer by using mathematics or logic.
9-12	compute	To solve problems that use numbers
9-12	concave	Curved inwards.
9-12	conclusion	A statement that follows logically from other facts
9-12	concurrent lines	A set of lines that all intersect at the same point.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
9-12	conditional probability	The probability of some event (A), given the occurrence of some other event (B).
9-12	conditional relative frequency	The relative frequencies placed in the body of a two-way relative frequency table.
9-12	cone volume formula	The volume (V) of a cone is equal to $\frac{1}{3}\pi r^2 h$.
9-12	congruent	Having exactly the same shape and size.
9-12	congruent angle	angles that have the exact same measurement
9-12	congruent side	Sides that are exactly the same size
9-12	congruent triangle	Triangles that are exactly the same size
9-12	conic sections	A group of curves obtained when a plane intersects a double cone.
9-12	conjugate	Two binomials whose only difference is the sign of one term.
9-12	constant function	a linear function of the form $y = b$, where b is a constant.
9-12	construction	The process of building something
9-12	contrapositive	Switching the hypothesis and conclusion of a conditional statement and negating both.
9-12	converge	To approach a finite limit.
9-12	converse	Switching the hypothesis and conclusion of a conditional statement ("If... then..." statement)
9-12	conversion	The process of changes from one form to another
9-12	convert	To change something from one form to another
9-12	convex	Curved outwards.
9-12	coordinate	A pair of numbers used to determine the position of a point on a graph
9-12	coordinate axes	A set of lines or curves used to define a coordinate system.
9-12	coordinate plane	The plane containing the "x" axis and "y" axis
9-12	coordinate system	A standard grid, composed of lines of latitude and longitude, used to determine the absolute location of any object, place, or feature on the earth's surface.
9-12	coplanar	A set of points, lines, or any other geometrical shapes that lie on the same plane
9-12	correlation	The degree to which two variables are related
9-12	corresponding angle	When two lines are crossed by another line (which is called the Transversal), the angles in matching corners are called corresponding angles
9-12	corresponding side	If the position of two sides is the same in two figures, they are called corresponding sides

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
9-12	cosecant	For a given angle in a right triangle, a trigonometric function equal to the length of the hypotenuse divided by that of the side opposite the angle
9-12	cosine	In a right triangle, the ratio of the length of the side adjacent to an acute angle to the length of the hypotenuse.
9-12	counterexample	An example which disproves a proposition
9-12	Cramer's rule	A method for solving a linear system of equations using determinants. Cramer's rule may only be used when the system is square and the coefficient matrix is invertible.
9-12	cross-section	The plane figure obtained by the intersection of a solid by a plane.
9-12	cube root	A value that, when used in a multiplication three times, gives that number.
9-12	curve	a line that is rounded
9-12	cuspid	A sharp point on a curve.
9-12	cylinder	A solid object with 2 identical flat ends that are circular and 1 curved side
9-12	data	A collection of facts, such as values or measurements
9-12	Data displays/graphs	Different ways of displaying data in charts, tables, or graphs; including pictographs, single- or double-bar graphs, line graphs, line plots, or Venn diagrams.
9-12	data point	An item of factual information resulting from measurement or research
9-12	decagon	A polygon with 10 sides
9-12	decreasing intervals	An interval where a function's slope is negative.
9-12	degrees (°)	The unit of measure for angles or temperature (°).
9-12	dependent variable	A variable whose value depends on the values of one or more independent variables.
9-12	depreciate	The decrease in value of assets
9-12	determine	to find or figure out
9-12	diameter	A straight line going through the center of a circle connecting two points on the circumference.
9-12	different/difference	Not the same; unlike
9-12	dilation	a change in size of a figure without changing its angles
9-12	disjunction	A statement which connects two other statements using the word <i>or</i> .
9-12	distance formula	The formula for finding the distance between two points.
9-12	distributive property	A number outside the parenthesis can be multiplied to each term within the parenthesis. Ex. $a(b + c) = ab + ac$

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
9-12	domain	All the values that go into a function
9-12	dot plot	a graph that summarizes data by the number of dots above each data value on the horizontal axis
9-12	double angle formula	Equations that show how to find the sine, cosine, or tangent of twice a given angle.
9-12	ellipse	A stretched out or smashed circle
9-12	ellipsoid	A sphere-like surface for which all cross-sections are ellipses.
9-12	empty set	A set with no elements, also called null set
9-12	equation	Says two things are the same, using math symbols
9-12	equation of a line	Various equations that represent a line. In all equations, slope is represented by m , the x-intercept by a , and the y-intercept by b .
9-12	equiangular triangle	A triangle with three equal angles
9-12	equidistant	Equally distant.
9-12	equilateral triangle	a triangle with 3 equal sides and 3 equal angles
9-12	equivalent expression	Expressions that have the same value but are presented in a different format using the properties of numbers.
9-12	estimate/estimation	To guess closely; an answer that is close to the exact answer
9-12	Euclidean geometry	The main area of study in high school geometry. This is the geometry of axioms, theorems, and two-column proofs. It includes the study of points, lines, triangles, quadrilaterals, other polygons, circles, spheres, prisms, pyramids, cones, cylinders, etc.
9-12	evaluate	to solve or find the value of an expression
9-12	exponent	A mathematical notation indicating the number of times a quantity is multiplied by itself
9-12	exponential decay	a decrease that follows an exponential function.
9-12	exponential function	A function of the form $y = a \cdot b^x$ where $a > 0$ and either $0 < b < 1$ or $b > 1$.
9-12	exponential growth	an increase that follows an exponential function.
9-12	expression	Numbers, symbols grouped together to show the value of something
9-12	exterior angle	The angle between any side of a shape, and a line extended from the next side
9-12	factor	A number that is multiplied by another number to find a product
9-12	factorial	The product of a given positive integer and all smaller positive integers.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
9-12	feet per second	Expresses the distance in feet traveled divided by the time in seconds
9-12	Fibonacci sequence	The sequence of numbers 1, 1, 2, 3, 5, 8, 13, 21, 34, . . . for which the next term is found by adding the previous two terms.
9-12	finite	Describes a set which does not have an infinite number of elements.
9-12	formula	A mathematical rule written using symbols, usually as an equation describing a certain relationship between quantities
9-12	frequency table	A table that shows how often each item, number, or range of numbers occurs in a set of data.
9-12	function	A special relationship between values: Each input values gives back exactly one output value.
9-12	function notation	$f(x)$; an alternative to the "y=" equation.
9-12	function table	Displays the relationship between the inputs and outputs of a specific function
9-12	Fundamental Theorem of Algebra	The theorem that establishes that, using complex numbers, all polynomials can be factored.
9-12	geometric figure	A figure formed by any combination of points, lines, planes, curves, or surfaces in one, two, or three dimensions
9-12	geometric sequence	A sequence which has a constant ratio between terms.
9-12	geometric series	A sequence made by multiplying some number each time
9-12	half angle formula	Equations that show how to find the sine, cosine, or tangent of half a given angle.
9-12	helix	A curve shaped like a spring.
9-12	heptagon	A polygon with 7 sides
9-12	hexagon	A polygon with 6 sides
9-12	histogram	A bar chart representing a frequency distribution
9-12	hyperbola	Hyperbola is a conic section in which difference of distances of all the points from two fixed points (called `foci`) is constant.
9-12	hyperbolic	Relating to, involving, or typical of a hyperbola (a curve shaped like an arch)
9-12	hypotenuse	The side opposite the right angle in a right-angled triangle
9-12	identity	An equation that is true no matter what values are chosen.
9-12	identity matrix	A square matrix which has a 1 for each element on the main diagonal and 0 for all other elements.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
9-12	implicit function	A function in which the dependent variable is not isolated on one side of the equation.
9-12	increasing intervals	A interval where the function's slope is positive.
9-12	inference	A conclusion drawn from multiple observations
9-12	infinite	Having no limits or boundaries in time or space or extent or magnitude; endless
9-12	initial point of a vector	The starting point of a vector that is being represented by a line segment.
9-12	input	The value substituted for a variable in an expression.
9-12	inscribe	To draw on the inside of, touching as many points as possible.
9-12	integer	All whole numbers (both positive and negative) and zero.
9-12	integer exponent	An exponent that is any integer; positive, negative, or 0.
9-12	intercept	The point at which a line or curve intersects an axis.
9-12	interior angle	An angle inside a shape
9-12	interquartile range	The difference between the upper and lower quartiles; represents the middle half of the data in the set
9-12	intersection	The point at which lines or curves meet; the line where planes meet.
9-12	inverse	Opposite in effect; the reverse of
9-12	irrational numbers	A number that cannot be written as a simple fraction - the decimal goes on forever without repeating.
9-12	isosceles triangle	A triangle with 2 equal sides and 2 equal angles
9-12	lateral area	The surface area of the lateral surfaces of a solid. Lateral surface area does not include the area of the base(s).
9-12	law of cosines	An equation relating the cosine of an interior angle and the lengths of the sides of a triangle.
9-12	law of sines	Equations relating the sines of the interior angles of a triangle and the corresponding opposite sides.
9-12	least common multiple	the smallest common multiple that two or more numbers have in common
9-12	line segment	the part of a line consisting of two endpoints and all points between them.
9-12	line symmetry	Another name for reflection symmetry. One half is the reflection of the other half.
9-12	linear equation	An equation that makes a straight line when it is graphed.
9-12	linear foot	A straight line measurement of 12 inches

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
9-12	linear function	A function that can be graphically represented on the coordinate plane by a straight line.
9-12	linear graph	A model of a straight line on the X and Y axis. It represents the equation $y=mx+b$.
9-12	linear pair	A pair of adjacent angles formed by intersecting lines
9-12	logarithm	The logarithm base b of a number x is the power to which b must be raised in order to equal x .
9-12	logarithmic function	The inverse of the exponential function.
9-12	long division	Standard procedure suitable for dividing simple or complex multi-digit numbers. it breaks down a division problem into a series of easier steps.
9-12	magnitude of a vector	The length of a vector.
9-12	marginal relative frequency	The entries in the "total" row and "total" column of a two-way relative frequency table.
9-12	matrix/matrices	A rectangular (or square) array of numbers. Matrices can be written using brackets or parentheses.
9-12	mean	The average; A measure of center in a set of numerical data, computed by adding the values in a list and then dividing by the number of values in the list.
9-12	median	The middle value of a set of data that are arranged in order of size.
9-12	midline	The midline is a horizontal axis that is used as the reference line about which the graph of a periodic function oscillates.
9-12	midpoint formula	The formula for finding the midpoint between points (x_1, y_1) and (x_2, y_2) .
9-12	midpoint of a line segment	The point on a line segment equidistant from the endpoints.
9-12	modeling	The process of representing real life situations through equations or inequalities.
9-12	monomial	A polynomial with one term.
9-12	multiplicative inverses	Two numbers that when multiplied together equal 1. example 4 multiplied by $1/4$
9-12	natural logarithm	The logarithm base e of a number.
9-12	negative intervals	Intervals written as (x,y) where x is negative.
9-12	number line	A line on which ordered numbers can be written or visualized and may include negative numbers.
9-12	number sequence	An ordered set of quantities
9-12	oblique	Tilted at an angle; neither vertical nor horizontal.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
9-12	obtuse	An angle that has measure more than 90° and less than 180° .
9-12	operation	The math processes of addition, subtraction, multiplication, and division.
9-12	opposite side	The side across from the reference angle in a right triangle
9-12	Order of Operations	The order in which operations should be done
9-12	ordered pair	The location of a single point on a rectangular coordinate system where the first and second values represent the position relative to the x-axis and y-axis, respectively
9-12	origin	The point of intersection of the x- and y-axes in a rectangular coordinate system, where the x-coordinate and y-coordinate are both zero (0).
9-12	orthocenter	The point at which the three (possibly extended) altitudes of a triangle intersect.
9-12	outcome	One of the possible results of a probability experiment
9-12	outlier	A value that "lies outside" (is much smaller or larger than) most of the other values in a set of data.
9-12	parabola	A special curve, shaped like an arch, the graph of a quadratic equation
9-12	paraboloid of revolution	a surface obtained by revolving a parabola around its axis.
9-12	parallel lines	Line that are a constant distance apart, never intersecting.
9-12	parallelogram	A quadrilateral in which both pairs of opposite sides are parallel.
9-12	parallelogram rule	the sum of the squares of the lengths of the four sides of a parallelogram equals the sum of the squares of the lengths of the two diagonals.
9-12	parent functions	A set of basic functions used as building blocks for more complicated functions.
9-12	Pascal's Triangle	The arrangement of the binomial coefficients in a pattern of triangle.
9-12	perimeter	The distance around the outside of a figure or shape
9-12	perpendicular bisector	The line perpendicular to a segment passing through the segment's midpoint
9-12	perpendicular lines	Lines that form a 90° angle where they cross
9-12	piecewise function	A function that uses different formulas for different parts of its domain.
9-12	plot	Locating and marking a point when given its coordinates
9-12	point of intersection	The point at which two lines intersect, or cross
9-12	point symmetry	A special center point for certain kinds of symmetric figures or graphs. If a figure or graph can be rotated 180° about a point P and end up as a mirror image to the original, then P is a point of symmetry.
9-12	polar axis	The positive x -axis.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
9-12	polar equation	An equation for a curve written in terms of the polar coordinates r and θ .
9-12	polygon	A closed figure that has three or more sides, no curved lines, and no intersections
9-12	polynomial	An expression made with constants, variables and exponents, which are combined using addition, subtraction and multiplication
9-12	population	A group of objects, events, or people studied in order to collect data
9-12	positive intervals	Intervals written as (x,y) where x is positive.
9-12	precise	Exact or detailed
9-12	prediction	A statement about the way things will happen in the future, often but not always based on experience or knowledge.
9-12	prime factor	A factor that is a prime number. One of the prime numbers that, when multiplied, give the original number.
9-12	prism	A polyhedron that has two congruent and parallel faces joined by faces that are parallelograms. Prisms are named by their bases.
9-12	probability	How likely it is for an event to happen.
9-12	product	The result of multiplying numbers together.
9-12	properties of radicals	Product Property of Radicals: For two real numbers x and y both nonnegative, $\sqrt{xy} = \sqrt{x}\sqrt{y}$. Quotient Property of Radicals: For two real numbers x and y both nonnegative, $\sqrt{\frac{x}{y}} = \frac{\sqrt{x}}{\sqrt{y}}$.
9-12	proportion	A part to whole comparison the equality of two ratios written as an equation
9-12	pyramid	A solid shape with polygon as a base and triangular faces that taper to a point (vertex)
9-12	Pythagorean theorem	In a right angled triangle the square of the hypotenuse is equal to the sum of the squares of the other two sides.
9-12	quadratic equation/function	An equation that includes only second degree polynomials.
9-12	quadratic formula	A formula for the roots of a quadratic equation.
9-12	quadrilateral	A polygon with four sides and four angles
9-12	quartile	Each of the values that divide a list of numbers into quarters.
9-12	quotient	The result of dividing one number by another.
9-12	radian	A unit for measuring angles. $180^\circ = \pi$ radians, and $360^\circ = 2\pi$ radians.
9-12	radical	The symbol $\sqrt{\quad}$, which is used to represent the square root or n^{th} root of a number.
9-12	radicand	The number under the radical symbol ($\sqrt{\quad}$).

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
9-12	radius/radii	The distance from the center of a circle or a sphere to any point on the circle or a sphere.
9-12	random sample	a sample in which every individual or element in the population has an equal chance of being selected.
9-12	range	The difference between the greatest (maximum) and least (minimum) values in a set of data.
9-12	rate of change	The ratio of the change in the output value and change in the input value of a function
9-12	ratio	A comparison of two numbers, often written as a fraction
9-12	rational expression	An expression that can be written as a polynomial divided by a polynomial.
9-12	rational function	A function that can be written as a polynomial divided by a polynomial.
9-12	rational number	Any number that can be written as a fraction
9-12	real number	The set of all rational and irrational numbers.
9-12	reciprocal	One of a pair of numbers whose product is 1: the reciprocal of $\frac{2}{3}$ is $\frac{3}{2}$
9-12	rectangular area	An area that has the shape of a rectangle
9-12	reflection	A flip of a flat figure across a line that creates a mirror image
9-12	regression equation	A function of a particular form (linear, quadratic, exponential, etc.) that fits a set of paired data as closely as possible.
9-12	regular hexagon	A hexagon with six equal sides, and six equal angles.
9-12	regular pentagon	A pentagon with five equal sides, and five equal angles.
9-12	relative frequency	The ratio of the number of observations in a statistical category to the total number of observations
9-12	representative sample	A small sample of something that accurately represents an entire group
9-12	rhombus	A parallelogram with four congruent sides.
9-12	right cylinder	A cylinder that has centers of the bases that are aligned directly one above the other
9-12	right pyramid	A pyramid that has an axis perpendicular to its base
9-12	right triangle	a triangle with one angle measuring 90°

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
9-12	rotation	A transformation of a figure by turning it about a point or axis. The amount of rotation is usually expressed in the number of degrees (e.g., a 90° rotation). The direction of the rotation is usually expressed as clockwise or counterclockwise. Also called a turn.
9-12	rotational symmetry	The shape can be rotated some amount and is still the same
9-12	sample space	the set of all possible outcomes of a probability experiment
9-12	sample survey	A survey of a population made by using only a portion of the population.
9-12	scalar	Any real number, or any quantity that can be measured using a single real number.
9-12	scale factor	The ratio of any two corresponding lengths in two similar geometric figures.
9-12	scalene	A triangle for which all three sides and all three angles are different.
9-12	scatter plot	A graph of plotted points that show the relationship between two sets of data.
9-12	secant	Secant is a straight line that intersects a curve at two or more points.
9-12	semi-annual	Happens twice a year
9-12	semicircle	Half a circle
9-12	series	a group of related or similar things, arranged in succession; sequence.
9-12	side-angle-side (SAS)	When two triangles have corresponding angles and sides that are congruent, the triangles are congruent.
9-12	side-side-side (SSS)	When two triangles have corresponding sides that are congruent, the triangles are congruent.
9-12	sigma notation	A notation using the Greek letter sigma (Σ) that allows a long sum to be written compactly.
9-12	sine	The length of the opposite side divided by the length of the hypotenuse
9-12	slant height	The diagonal distance from the apex of a right circular cone or a right regular pyramid to the base
9-12	slope	The ratio of change in the vertical axis (y-axis) to change in the horizontal axis (x-axis) in the form rise or Δy . Also, the constant, m , in the linear equation for the slope-intercept form
9-12	slope-intercept form	An equation of the form $y = mx + b$, where m is the slope and b is the y -intercept.
9-12	solution set	Any and all value(s) of the variable(s) that satisfies an equation, inequality, system of equations, or system of inequalities.
9-12	solve	To work out the answer

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
9-12	sphere volume	The total amount of space enclosed in a sphere.
9-12	spread	A numerical summary of how tightly the values are clustered around the "center"
9-12	square kilometer	A unit of area, equal to the area of a square with sides of one kilometer
9-12	square root	The square root of a number is a nonnegative number which when multiplied by itself equals the given number.
9-12	square yard	A unit of measurement using squares that measure one yard on each side
9-12	squared	A number that has been multiplied by itself
9-12	standard deviation	The standard deviation is defined as the average amount by which individual data items in a data set differ from the arithmetic mean of all the data in the set.
9-12	statistics	A branch of applied mathematics concerned with collecting, organizing, and interpreting data.
9-12	step function	A step function is a special type of function whose graph is a series of line segments.
9-12	sum of measures	The result of adding measures together.
9-12	supplementary angles	two angles that add up to give a straight angle, 180°
9-12	surface area	The total area of the exterior surface of a solid.
9-12	symmetric	Describes a geometric figure or a graph consisting of two parts that are congruent to each other.
9-12	synthetic division	A shortcut for polynomial long division that can be used when dividing by an expression of the form $x - c$ or $x + c$.
9-12	System of Equations	Two or more equations containing common variable(s)
9-12	System of Inequalities	Two or more inequalities containing common variable(s).
9-12	tangent	The length of the opposite side divided by the length of the adjacent side.
9-12	terminal point	The end point of a vector that is being represented by a line segment.
9-12	theorem	An assertion that can be proved true using the rules of logic.
9-12	theoretical probability	the probability of an event when all outcomes are equally likely
9-12	time-and-a-half	rate of pay equal to one and a half times the normal rate, usually paid for overtime work
9-12	times table	A table that shows you the results of multiplying two numbers
9-12	transformation	a change in the size, shape, or position of a figure.

Academic Vocabulary Words Mathematics

Grade Level	Word	Definition
9-12	translation	A transformation in which every point in a figure is moved in the same direction and by the same distance. Also called a slide.
9-12	transversal	A line that intersects two or more lines at different points.
9-12	trapezoid	A quadrilateral with exactly one pair of parallel sides
9-12	trigonometric function	The six functions sine, cosine, tangent, cosecant, secant, and cotangent.
9-12	trigonometric ratios	A ratio that describes a relationship between sides and angles of triangles.
9-12	trigonometric relationship	Describes a relationship between a side and angle of a triangle
9-12	trinomial	A polynomial with three terms which are not like terms.
9-12	undefined	A term used when a mathematical result has no meaning.
9-12	valid	Having a well-founded, logical conclusion
9-12	variable	Any symbol, usually a letter, which could represent a number.
9-12	vector	A quantity, drawn as an arrow, with both direction and magnitude
9-12	velocity	The rate of change of the position of an object.
9-12	vertex/vertices	A corner point of a geometric figure. For a polygon, vertices are where adjacent sides meet. For an angle, the vertex is where the two rays making up the angle meet.
9-12	vertical angle	congruent angles that form opposite each other when two lines intersect
9-12	volume	The amount of space taken up by an object, usually calculated by: base x height x width
9-12	wider	Having greater distance from side to side
9-12	x-axis	The horizontal number line on a rectangular coordinate system.
9-12	x-coordinate	The position of a point according to the x-axis
9-12	x-intercept	The value of x at the point where a line or graph intersects the x-axis. The value of y is zero (0) at this point.
9-12	y-axis	The vertical number line on a rectangular coordinate system.
9-12	y-coordinate	The position of a point according to the y-axis
9-12	y-intercept	The value of y at the point where a line or graph intersects the y-axis. The value of x is zero (0) at this point.
9-12	zero matrix	A matrix for which all elements are equal to 0.