

Math Word List

English–Japanese Vocabulary for New York Grades 6–8

Purpose. This list supports Japanese-speaking students and families preparing for middle school math in Grades 6–8. It covers ratios, the number system, expressions and equations, functions, geometry, statistics and probability, and mathematical practices.

How to use it. Begin with the **Core** terms for classwork, problem solving, and assessment questions, then add the Useful terms as students explain reasoning, compare representations, and work with more advanced relationships.

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Term count by area

Area	Terms
Ratios and Proportional Relationships	11
The Number System	10
Expressions and Equations	21
Functions	10
Geometry	20
Statistics and Probability	24
Problem Solving and Mathematical Practices	10
Total	106

Ratios and Proportional Relationships

English	日本語	よみ	Grade	Priority	Student note / use
ratio	比	ひ	6-8	Core	comparison of two quantities
rate	割合	わりあい	6-8	Core	comparison of quantities with different units
unit rate	単度量あたりの割合	たんいりょうあたりのわりあい	6-8	Core	rate for one unit
proportion	比例式	ひれいしき	6-8	Core	equation showing two ratios are equal
proportional relationship	比例関係	ひれいかんけい	6-8	Core	relationship with a constant ratio
constant of proportionality	比例定数	ひれいていすう	6-8	Useful	number that links two proportional quantities
percent	百分率	ひゃくぶんりつ	6-8	Core	ratio out of one hundred
markup	上乗せ額	うわのせがく	6-8	Useful	amount added to a cost price
discount	値引き	ねびき	6-8	Useful	amount subtracted from an original price
tax	税	ぜい	6-8	Useful	additional percent charged on a price
tip	チップ	ちっぷ	6-8	Useful	extra percent paid for service

The Number System

English	日本語	よみ	Grade	Priority	Student note / use
integer	整数	せいすう	6-8	Core	whole number including negatives zero and positives
rational number	有理数	ゆうりすう	6-8	Core	number expressible as a fraction
positive number	正の数	せいのすう	6-8	Core	number greater than zero
negative number	負の数	ふのすう	6-8	Core	number less than zero
absolute value	絶対値	ぜったいち	6-8	Core	distance from zero on the number line
opposite	反対の数	はんたいのすう	6-8	Core	number the same distance from zero on the other side
coordinate plane	座標平面	ざひょうへいめん	6-8	Core	grid formed by perpendicular number lines
ordered pair	順序対	じゅんじょつゐ	6-8	Core	pair of coordinates written in order
quadrant	象限	しょうげん	6-8	Useful	one of the four regions of a coordinate plane
inequality	不等式	ふとうしき	6-8	Core	statement comparing values that are not equal

Expressions and Equations

English	日本語	よみ	Grade	Priority	Student note / use
expression	式	しき	6-8	Core	math phrase without an equals sign
numerical expression	数式	すうしき	6-8	Core	expression with numbers and operations
algebraic expression	代数式	だいすうしき	6-8	Core	expression with numbers variables and operations
term	項	こう	6-8	Core	part of an expression separated by plus or minus
coefficient	係数	けいすう	6-8	Core	number multiplying a variable
constant	定数	ていすう	6-8	Core	value that does not change
variable	変数	へんすう	6-8	Core	symbol that can represent different values
evaluate	値を求める	あたいをもとめる	6-8	Core	find the value of an expression
simplify	簡単にする	かんたんにする	6-8	Core	rewrite in an equivalent simpler form
equivalent expression	同値な式	どうちなしき	6-8	Useful	different-looking expression with the same value
distributive property	分配法則	ぶんぱいほうそく	6-8	Core	multiplying a sum or difference term by term
equation	方程式	ほうていしき	6-8	Core	statement that two expressions are equal
solution	解	かい	6-8	Core	value that makes an equation true
one-step equation	一段階方程式	いちだんかいほうていしき	6-8	Core	equation solved in one inverse-operation step
two-step equation	二段階方程式	にだんかいほうていしき	6-8	Core	equation requiring two steps to solve
like terms	同類項	どうるいこう	6-8	Useful	terms with the same variable part
combine like terms	同類項をまとめる	どうるいこうをまとめる	6-8	Core	add or subtract terms with matching variable parts
inverse operation	逆の演算	ぎゃくのえんざん	6-8	Core	operation that undoes another operation
substitute	代入する	だいにゆうする	6-8	Core	replace a variable with a value
graph a solution	解をグラフに表す	かいをぐらふにあらわす	6-8	Useful	show the solution on a number line or plane
linear equation	一次方程式	いちじほうていしき	6-8	Useful	equation whose graph is a line

Functions

English	日本語	よみ	Grade	Priority	Student note / use
pattern	規則性	きそくせい	6-8	Core	repeated or predictable relationship
relationship	関係	かんけい	6-8	Core	connection between quantities
function	関数	かんすう	6-8	Core	rule assigning one output to each input
input	入力	にゅうりょく	6-8	Core	value put into a function

output	出力	しゅつりょく	6-8	Core	value produced by a function
table of values	値の表	あたひのひょう	6-8	Core	table showing corresponding inputs and outputs
graph	グラフ	ぐらふ	6-8	Core	visual display of data or a relationship
x-coordinate	x座標	えっくすぢひょう	6-8	Useful	horizontal coordinate of a point
y-coordinate	y座標	わいぢひょう	6-8	Useful	vertical coordinate of a point
slope	傾き	かたむき	6-8	Useful	rate of change of a line

Geometry

English	日本語	よみ	Grade	Priority	Student note / use
angle	角	かく	6-8	Core	figure formed by two rays with a common endpoint
adjacent angles	隣り合う角	となりあうかく	6-8	Useful	angles sharing a side and a vertex
vertical angles	対頂角	たいちようかく	6-8	Useful	opposite angles formed by intersecting lines
supplementary angles	補角	ほかく	6-8	Core	two angles with a sum of 180 degrees
complementary angles	余角	よかく	6-8	Core	two angles with a sum of 90 degrees
triangle	三角形	さんかくけい	6-8	Core	polygon with three sides
interior angle	内角	ないかく	6-8	Useful	angle inside a polygon
exterior angle	外角	がいかく	6-8	Useful	angle formed outside a polygon by extending a side
parallel lines	平行線	へいこうせん	6-8	Core	lines that never intersect
transversal	横切る直線	よこぎるちよくせん	6-8	Useful	line crossing two or more lines
transformation	変換	へんかん	6-8	Core	change in position or size of a figure
translation	平行移動	へいこういどう	6-8	Core	slide of a figure without turning or flipping
reflection	対称移動	たいしょういどう	6-8	Core	flip of a figure across a line
rotation	回転移動	かいてんいどう	6-8	Core	turn of a figure around a point
dilation	拡大縮小	かくだいしゅくしょう	6-8	Useful	resizing a figure by a scale factor
congruent	合同な	ごうどうな	6-8	Core	same size and same shape
similar	相似な	そうじな	6-8	Core	same shape but not necessarily the same size
scale factor	拡大率	かくだいいりつ	6-8	Core	multiplier comparing lengths in similar figures
Pythagorean theorem	ピタゴラスの定理	ぴたごらすのていり	6-8	Useful	relationship among side lengths in a right triangle
right triangle	直角三角形	ちよっかくさんかくけい	6-8	Core	triangle containing a right angle

Statistics and Probability

English	日本語	よみ	Grade	Priority	Student note / use
statistical question	統計的な問い	とうけいてきなとい	6-8	Core	question anticipating variability in data
data set	データ集合	でーたしゅうごう	6-8	Core	collection of related data values
distribution	分布	ぶんぷ	6-8	Core	overall shape and spread of data
mean	平均	へいきん	6-8	Core	sum of values divided by the number of values
median	中央値	ちゅうおうち	6-8	Core	middle value in ordered data
mode	最頻値	さいひんち	6-8	Useful	most frequent value in a data set
range	範囲	はんい	6-8	Core	difference between the greatest and least values
interquartile range	四分位範囲	しぶんいはんい	6-8	Useful	spread of the middle half of a data set
box plot	箱ひげ図	はこひげず	6-8	Useful	graph showing quartiles and extremes
scatter plot	散布図	さんぷず	6-8	Core	graph of paired data points
outlier	外れ値	はずれち	6-8	Useful	data value far from the others
variability	ばらつき	ばらつき	6-8	Core	how spread out data values are
probability	確率	かくりつ	6-8	Core	chance that an event will occur
experiment	試行	しこう	6-8	Core	process used to observe outcomes
outcome	結果	けっか	6-8	Core	possible result of an experiment
event	事象	じしょう	6-8	Core	set of one or more outcomes
sample space	標本空間	ひょうほんくうかん	6-8	Useful	set of all possible outcomes
theoretical probability	理論上の確率	りろんじょうのかくりつ	6-8	Useful	probability based on reasoning rather than trials
experimental probability	実験的確率	じっけんてきかくりつ	6-8	Useful	probability based on observed results
likely	起こりやすい	おこりやすい	6-8	Core	having a high chance of happening
unlikely	起こりにくい	おこりにくい	6-8	Core	having a low chance of happening
certain	確実な	かくじつな	6-8	Core	sure to happen
impossible	不可能な	ふかのうな	6-8	Core	unable to happen
compound event	複合事象	ふくごうじしょう	6-8	Useful	event made of two or more simple events

Problem Solving and Mathematical Practices

English	日本語	よみ	Grade	Priority	Student note / use
model	モデル	もでる	6-8	Core	representation of a situation using math
reasoning	推論	すいるん	6-8	Core	thinking logically to justify an answer

justify	説明して正当化する	せつめいしてせいとうかする	6-8	Core	give reasons why an answer is correct
estimate	見積もる	みつもる	6-8	Core	find a close answer without exact calculation
check for reasonableness	妥当性を確かめる	だとうせいをたしかめる	6-8	Core	decide whether an answer makes sense
show your work	途中式を書く	とちゅうしきをかく	6-8	Core	record the steps used to solve
interpret	解釈する	かいしゃくする	6-8	Core	explain what a result means in context
strategy	解き方	ときかた	6-8	Core	planned method for solving a problem
persevere	ねばり強く取り組む	ねばりづよくとりくむ	6-8	Useful	keep working through a difficult problem
precision	正確さ	せいかくさ	6-8	Useful	careful use of language numbers and symbols

Expressions and Equations (sorted)

English	日本語	よみ	Grade	Priority	Student note / use
combine like terms	同類項をまとめる	どうるいこうをまとめる	6-8	Core	add or subtract terms with matching variable parts
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like terms	同類項	どうるいこう	6-8	Useful	terms with the same variable part
linear equation	一次方程式	いちじほうていしき	6-8	Useful	equation whose graph is a line
one-step equation	一段階方程式	いちだんかいほうていしき	6-8	Core	equation solved in one inverse-operation step
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Functions (sorted)

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y-coordinate	y座標	わいぎひょう	6-8	Useful	vertical coordinate of a point

Geometry (sorted)

English	日本語	よみ	Grade	Priority	Student note / use
adjacent angles	隣り合う角	となりあうかく	6-8	Useful	angles sharing a side and a vertex
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supplementary angles	補角	ほかく	6-8	Core	two angles with a sum of 180 degrees
transversal	横切る直線	よこぎるちよくせん	6-8	Useful	line crossing two or more lines
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vertical angles	対頂角	たいちょうかく	6-8	Useful	opposite angles formed by intersecting lines
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reflection	対称移動	たいしょういどう	6-8	Core	flip of a figure across a line
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scale factor	拡大率	かくだいいつ	6-8	Core	multiplier comparing lengths in similar figures
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transformation	変換	へんかん	6-8	Core	change in position or size of a figure

translation	平行移動	へいこういどう	6-8	Core	slide of a figure without turning or flipping
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Problem Solving and Mathematical Practices (sorted)

English	日本語	よみ	Grade	Priority	Student note / use
check for reasonableness	妥当性を確かめる	だとうせいをたしかめる	6-8	Core	decide whether an answer makes sense
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persevere	ねばり強く取り組む	ねばりづよくとりくむ	6-8	Useful	keep working through a difficult problem
precision	正確さ	せいかくさ	6-8	Useful	careful use of language numbers and symbols
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strategy	解き方	ときかた	6-8	Core	planned method for solving a problem

Ratios and Proportional Relationships (sorted)

English	日本語	よみ	Grade	Priority	Student note / use
constant of proportionality	比例定数	ひれいていすう	6-8	Useful	number that links two proportional quantities
discount	値引き	ねびき	6-8	Useful	amount subtracted from an original price
markup	上乗せ額	うわのせがく	6-8	Useful	amount added to a cost price
percent	百分率	ひゃくぶんりつ	6-8	Core	ratio out of one hundred
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tax	税	ぜい	6-8	Useful	additional percent charged on a price
tip	チップ	ちっぷ	6-8	Useful	extra percent paid for service
unit rate	単位量あたりの割合	たんいりょうあたりのわりあい	6-8	Core	rate for one unit

Statistics and Probability (sorted)

English	日本語	よみ	Grade	Priority	Student note / use
box plot	箱ひげ図	はこひげず	6-8	Useful	graph showing quartiles and extremes
data set	データ集合	でーたしゅうごう	6-8	Core	collection of related data values
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experimental probability	実験的確率	じっけんてきかくりつ	6-8	Useful	probability based on observed results
impossible	不可能な	ふかのうな	6-8	Core	unable to happen
likely	起こりやすい	おこりやすい	6-8	Core	having a high chance of happening
outcome	結果	けっか	6-8	Core	possible result of an experiment
probability	確率	かくりつ	6-8	Core	chance that an event will occur
sample space	標本空間	ひょうほんくうかん	6-8	Useful	set of all possible outcomes
theoretical probability	理論上の確率	りろんじょうのかくりつ	6-8	Useful	probability based on reasoning rather than trials
unlikely	起こりにくい	おこりにくい	6-8	Core	having a low chance of happening

The Number System (sorted)

English	日本語	よみ	Grade	Priority	Student note / use
absolute value	絶対値	ぜったいち	6-8	Core	distance from zero on the number line
coordinate plane	座標平面	ざひょうへいめん	6-8	Core	grid formed by perpendicular number lines

inequality	不等式	ふとうしき	6-8	Core	statement comparing values that are not equal
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