

CREE DICTIONARY OF MATHEMATICAL
TERMS WITH VISUAL EXAMPLES

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REGINA



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Dear Reader,

I am happy to present the new edition of the Cree Dictionary of Mathematical Terms. The previous edition, co-authored by Willie Ermine, Arzu Sardarli, and Ida Swan, was published in 2017 in a paper format. It was reviewed by Elder Jerry Saddleback, Professor Solomon Ratt (First Nations University of Canada) and a Cree-speaking teacher Nelson Benjamin Merasty. The project was supported by the First Nations University of Canada. All copies of the Dictionary were donated to First Nations schools across Canada. Since then, I have received many exciting comments from educators and students about this first Cree Dictionary of mathematical terms. Along with the positive feedback, the respondents keep addressing their request for additional copies. Considering the demand of our academic community, Ida and I decided to use the advantages of modern publication tools to develop an electronic version of the Dictionary. Working on the new version, we analyzed and considered the comments of readers of the first version. We also developed visual examples with Indigenous elements with the help of the Indigenous artist Larissa Kitchemonia. This edition was reviewed by Elder George McLeod (Stanley Mission) and Cree artist Lionel Peyachew. The proofreading was conducted by Steven Swan. The project was supported by the University of Regina within the Open Educational Resources Program.

I would like to take this opportunity and thank Elders George McLeod, Jerry Saddleback and Willie Ermine, professors Solomon Ratt and Lionel Peyachew, artist Larissa Kitchemonia, and reviewers Nelson Benjamin Merasty and Steven Swan on behalf of my co-author Ida Swan and myself for their outstanding contribution to this Dictionary.

I would like to thank the Office of the Associate Vice-President Academic, the University of Regina, for their support during our work on the project; special thanks to Open Education & Publishing Program Manager, Isaac Mulolani, for his patience and helpful advice that I received throughout my work on this project.

I also would like to express our most profound appreciation to

readers of the first version of the Dictionary for their feedback. Working on this version, we did our best to consider all helpful comments and corrections. The Pressbook platform provides the opportunity to keep improving the Dictionary. I hope to receive further feedback from our respected readers. The comments can be sent to my email address, asardarli@fnuniv.ca

Sincerely yours,

Dr. Arzu SARDARLI

Professor of Physics and Mathematics
Indigenous Knowledge and Science
First Nations University of Canada

tânisî!

This is the first Cree Dictionary of mathematical terms. The project coordinator Arzu Sardarli writes that this project “was a challenging two-year endeavor.” How true those words are especially when you consider that the people involved in translating English mathematical terms into Cree all come from different communities and thus speak different dialects.

Jerry Saddleback is a Northern Plains (Y) dialect speaker from Maskwacîs, Alberta; Willie Ermine is a Plains Cree (Y) dialect speaker from Sturgeon Lake First Nation, Saskatchewan; and Ida Swan is a Woods Cree (TH) dialect speaker from Pelican Narrows, Saskatchewan. What they put together is an amazing body of work that will be useful in Cree Immersion schools.

This Dictionary of mathematical terms in Cree is a wonderful resource.

Congratulations to the project team and to the project coordinator Arzu Sardarli for providing us with a much needed resource.

Solomon RATT

Associate Professor of Cree Language Studies
First Nations University of Canada
[for the previous edition of the Dictionary]

The video of the interview with Solomon Ratt is available on the following website: <https://youtu.be/4hqQMO8tejo>

Another vital Cree education tool developed by Arzu Sardarli, Ida Swan and illustrated by one of our own fine art students, and soon to be master's degree recipient, Larissa Kitchemonia. I commend you all for providing other alternative learning strategies by combining Mathematics, Indigenous language, and Indigenous Art. The Cree Dictionary of Mathematical Terms will be the departure point for other educational tools in the future to come.

Lionel PEYACHEW

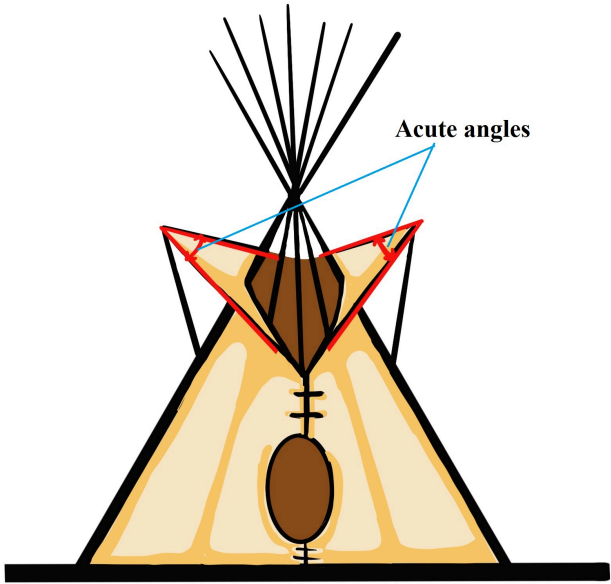
Associate Professor, Indigenous Art
First Nations University of Canada

I.

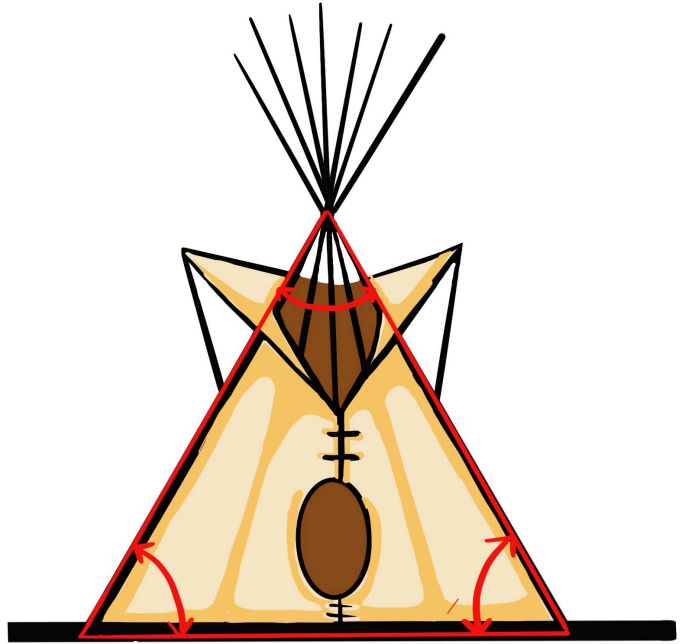


Absolute value

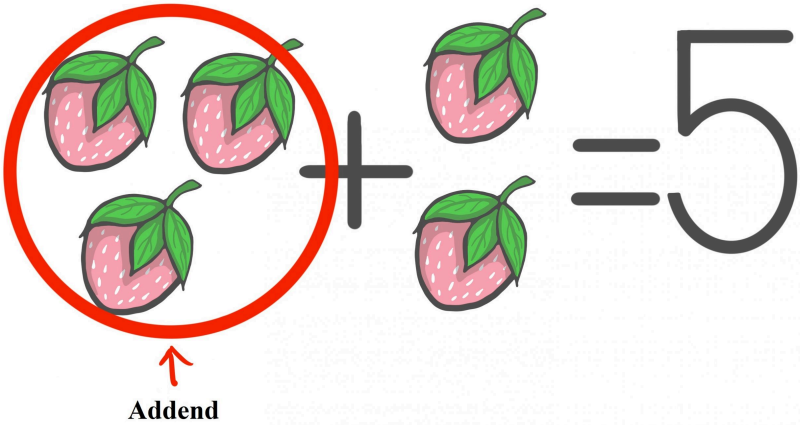
The absolute value of an integer is its distance from zero on the number line. [8]

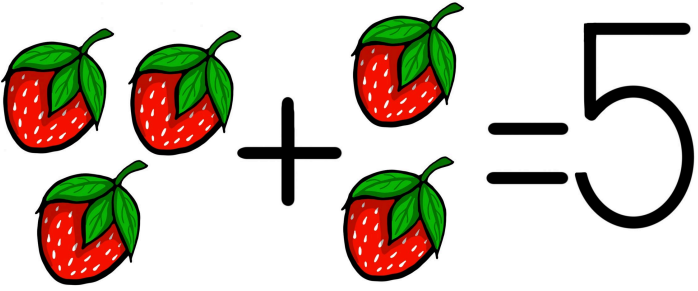
Acute angle	An angle that measures less than 90 degrees. [8]	nōti-kahkahkīyaw
 <p>The diagram shows a yellow teepee with a brown entrance and a brown oval opening at the bottom. Several black poles support the structure. At the top, several black lines radiate outwards. Three acute angles are highlighted with red outlines and labeled 'Acute angles' with blue arrows pointing to them. The angles are located at the top of the teepee's sides and at the top of the entrance.</p>		

Acute triangle	An acute triangle has three angles that measure between 0 and 90 degrees. [8]	(1) otōskwana-nisto (2) ati-isko keka-mitahtātōmitanaw
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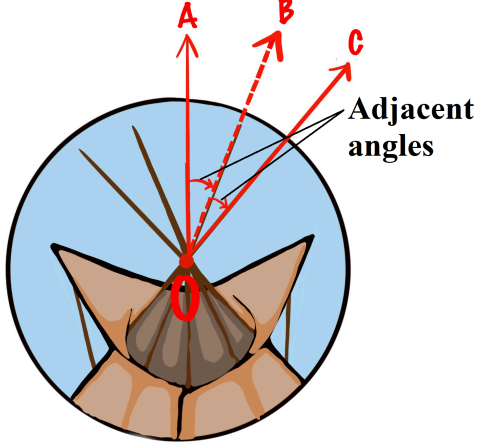
Add	To combine two or more quantities to find one quantity, called a total or a sum. [1]	māmiwi-akihta
$3 + 4$		

Addend	Addends are numbers being added together. [8]	māmiwi-akihtasona
 <p style="text-align: center;">Addend</p>		

Addition	Mathematical operation of combining two or more numbers into a sum. [1]	takohahikcikewin
		

Addition property of equality	The property that states that if you add the same number to both sides of an equation, the sides remain equal (i.e., the equation continues to be true.) [8]	nāmawi-akicikiwin
$5 = 5$ $2 + 3 = 3 + 2$		

Additive inverse	An additive inverse is the opposite of a given number. [8]	tēyakwac
$- 5 \text{ and } + 5$		

Adjacent angles	Adjacent angles are angles that are side by side and have a common vertex and ray. [8]	(1) thikītakak (Woodland) (2) wihkwehtakāw (Plain)
		

Algebra	Algebra is the branch of mathematics concerning the study of the rules of operations and relations, and the constructions and concepts arising from them, including terms, polynomials, equations and algebraic structure. [8]	algebra
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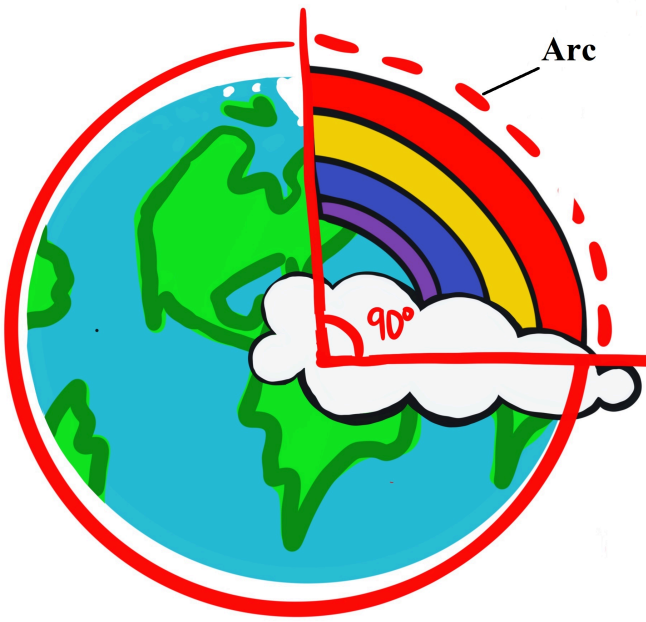
Algebraic equation	An algebraic equation is an equation that includes one or more variables. [8]	algebra oci masinayikiwin
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Algebraic expression	An algebraic expression is a mathematical expression that consists of variables, numbers and operations. The value of this expression can change.	algebra masinayikiwina
$5x^2 - 3\sqrt[3]{x} - 2y$ $0.5p - 3q + 12s - t$ $4a + 3b$		

Algebraic numbers	An algebraic number is a number that is a root of a non-zero polynomial in one variable with rational coefficients. [8]	algebra akihcikewina
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Angle	An angle is a figure formed by two rays that have a common endpoint. [8]	(1) wihkwetakaw (2) thikitakwaw (Woodland)
--------------	--	---

Angle measure	The size of an angle is measured in degrees. [8]	wihkwetakaw kayispicak
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Arc	An arc is a part of a circle named by its endpoints. [8]	(1) wāki-yaw (2) wakāw (Wodland)
		

Area	Area is defined as the number of square units that cover a closed figure. [8]	askiy
<p>Area = 1cm^2 Area = 4cm^2 Area = 9cm^2</p>		

Area of a circle	The area of a circle is the number of square units inside that circle. [8]	pihcāyihk wāwiyiyaw
$A = \pi r^2$		

Area of a polygon	The area of a polygon is the number of square units inside that polygon. [8]	ka-tipastawa pihcāyihk
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Arithmetic	The branch of mathematics is usually concerned with the four operations (addition, subtraction, multiplication and division) of positive numbers. [8]	akihtāsowēpinikēwin
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Arithmetic expression	An algebraic expression is a mathematical expression that consists of numbers and arithmetic operators (such as +, -, ×, ÷, roots, exponents, parentheses).	akihtāsowēpinikēwina
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$$5 + 7$$

$$(-2 - 7)^3 + 5 \times 3 \div 2 - \sqrt[5]{81}$$

Arithmetic mean	The arithmetic mean (or simply the mean) of a list of numbers is the sum of all of the list divided by the number of items in the list. [8]	akihtāsowēpinikēwin tastawāyak
Arithmetic mean of 3, 7, 32 = $\frac{3+7+32}{3} = 14$		

Arithmetic operations	The four basic arithmetic operations are addition, subtraction, multiplication and division. [8]	akihtāsowēpinikēwin itihwina
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Associative property	Property of addition and multiplication that allows the numbers being added or multiplied to be regrouped without changing the outcome of the operations. [3]	akihtāsowēpinikēwin itiwina
$(32)5 = 3(25)$ $(1 + 4) + 2 = 1 + (4 + 2)$		

Average	The number obtained by dividing the sum of a set of numbers by the number of addends. [8]	tastawāyak
Average of 3, 7, 32 = $\frac{3+7+32}{3} = 14$		

Axes	Axes are the horizontal number line (x-axis) and the vertical number line (y-axis) on the coordinate plane. Axes are also the lines at the side and bottom of a graph. [8]	akask
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2.

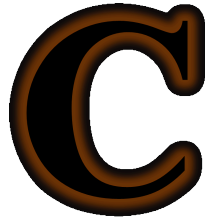
B

Backward	Directed toward the back or past. [6]	asi-akicki
		

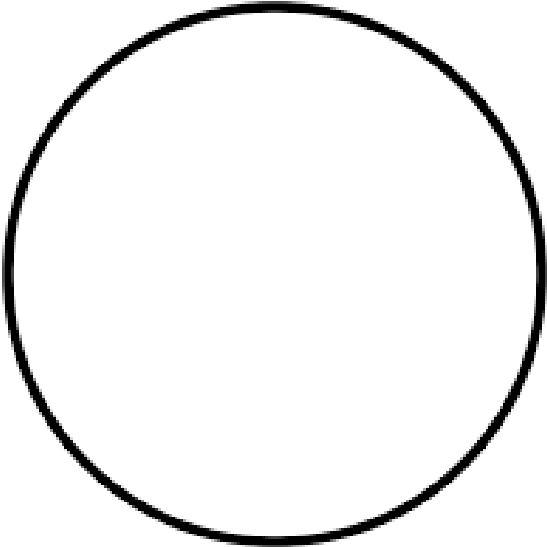
Before	In front of or earlier than. [4]	pâmwayês
2 is just before 3		

Brackets	Signs, “[” and “]”, or “(” and “)” used to indicate that the operation(s) on the quantities enclosed should be worked out first or should be treated as a unit. Brackets are normally used after parentheses are used. [4]	sítwahpicikew
$2[(6 - 4)3 + 1] - 1$ $= 2[23 + 1] - 1$ $= 2[6 + 1] - 1$ $= 27 - 1 = 13$		

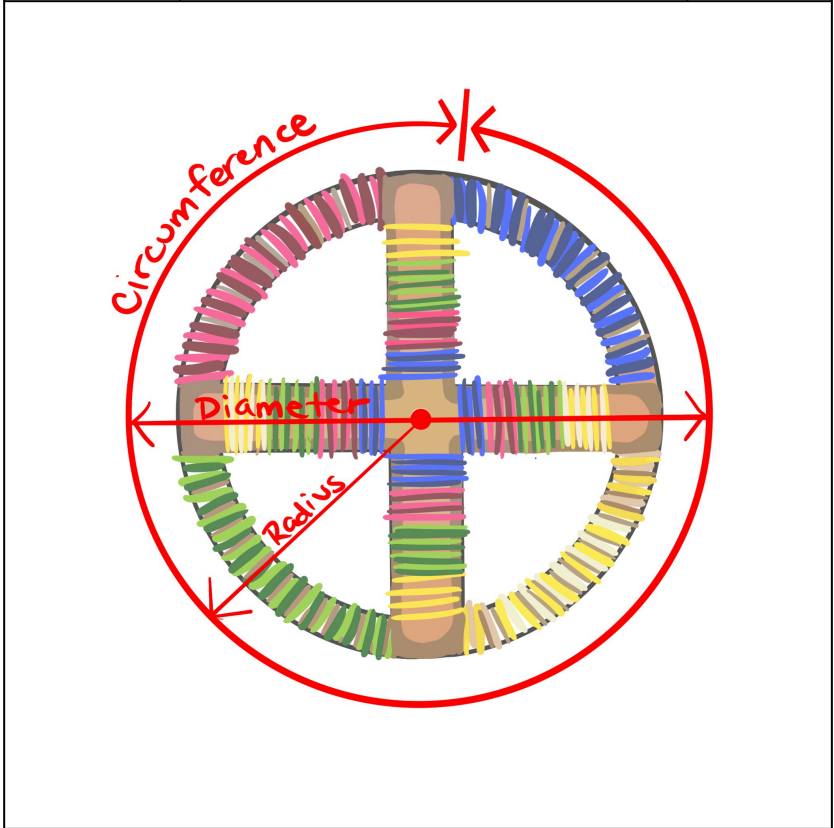
3.



Cent	A unit of money in many countries such as the United States, Canada, Australia, and New Zealand. [4]	pīwâpiskos
		

Circle	A closed, perfectly round curve consisting of all the points that are equidistant from a fixed point inside the curve called the center. [4]	wâwiyiyaw
		

Circumference	The perimeter (length) of a circle, determined as $C = 2\pi r$, where $\pi \approx 3.14$ and r is the radius of the circle.	wâsakâm
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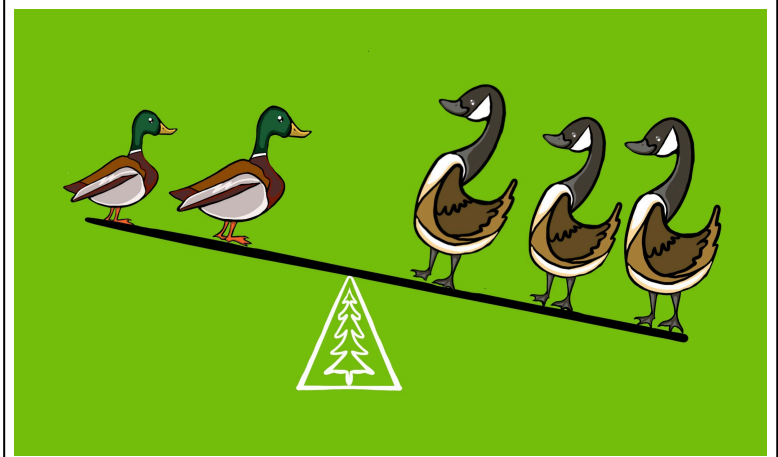


Coefficient	A constant that multiplies a variable. [1]	akihtâsona kâpatahk
<p>in $3x + 4y = 14$ 3 is the coefficient of x, 4 is the coefficient of y</p>		

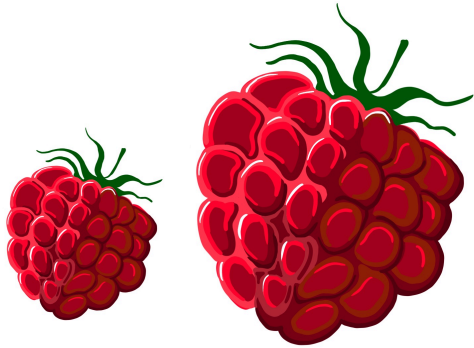
Coin	Metal money. [5]	sôniyâs
		
<h1 style="color: red;">Coins</h1>		

Commutative	Property of addition and multiplication that allows the numbers to be added or multiplied in any order, without affecting the sum or product of the operation. [3]	(1) papiyakwan ithikohk (Woodland) (2) pahpeyakwan iyikohk (Plain)
$6 + 12 = 12 + 6$ $35 = 53$		

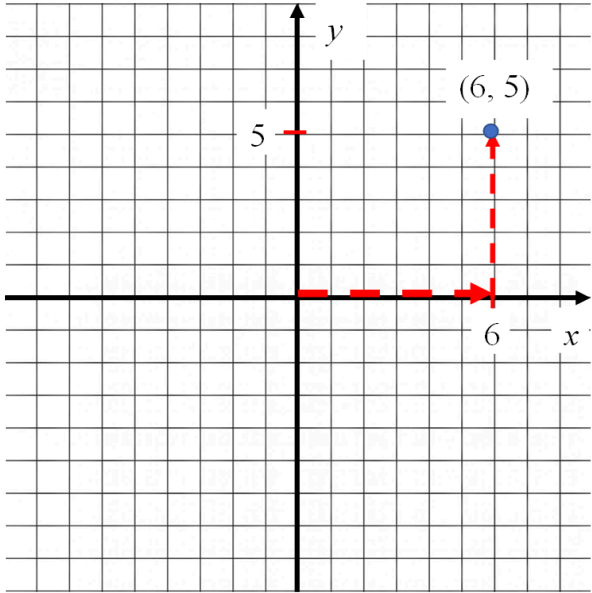
Compare	To state the similarities or differences between two or more numbers, objects, or figures by considering their attributes/characteristics. [1]	peyakwan ahpo pitos akihtásona
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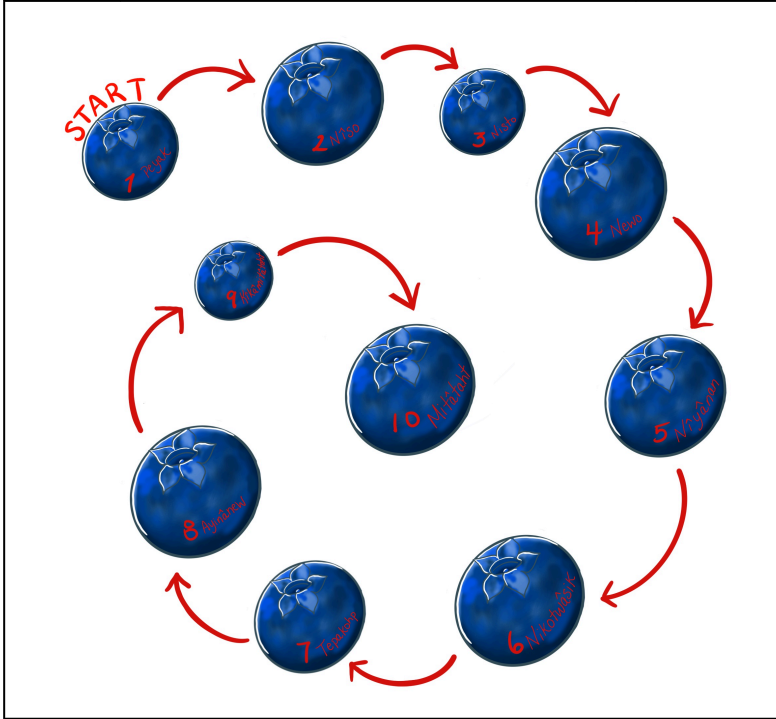
2 is less than 3 or 3 is more than 2

Comparison	Examination (two or more objects, ideas, people, etc.) in order to note similarities and differences. [6]	nânâkatakawêyitamôwin
 The image shows two raspberries against a white background. On the left is a smaller raspberry, and on the right is a larger one. Both are bright red with green leafy tops. The raspberries are composed of many small, rounded drupelets.		

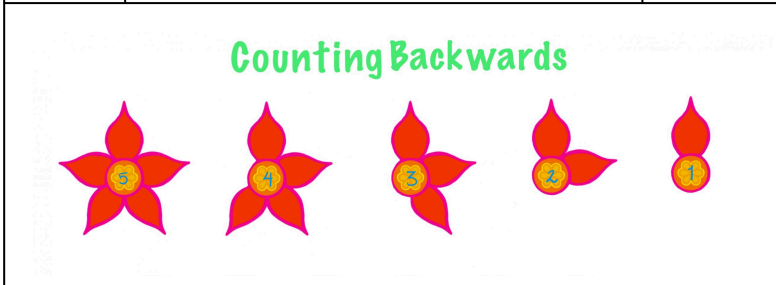
Coordinate	Ordered pair used to describe a location on a grid or plane. For example, the coordinates (6, 5) describe a location found by moving 6 units to the right and 5 units up from the origin.	ita kanakiskätomakaki
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Count	1. To name the numbers in order up to and including a given number. 2. To determine the total number or amount. [1]	akihta
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Count backward	To list or name numerals in reverse order. [6]	asêkicikê
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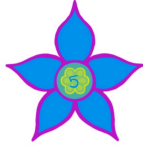


**Count
forward**

To list or name numerals in order. [6]

akihcikē


Counting Forward

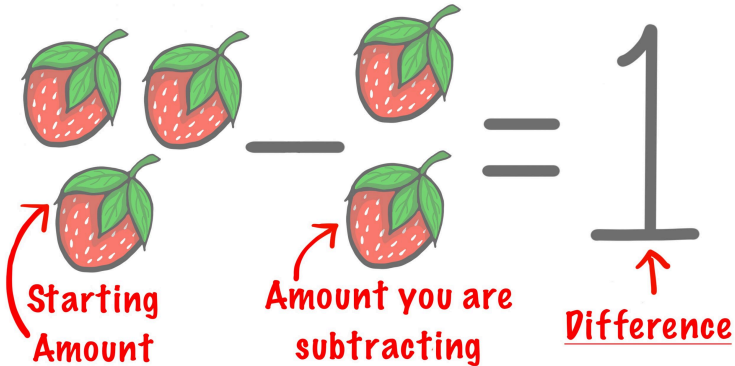


4.

D

Data	Information that is collected first or second hand. Data are usually numerical, organized in charts and displayed by graphs. [1]	(1) nōkanwa (2) akihtāsōwinah										
Percentage of Cree speakers in Canadian Provinces [9]												
<table border="1"><thead><tr><th>Provinces</th><th>Concentrations</th></tr></thead><tbody><tr><td>Saskatchewan</td><td>27.8%</td></tr><tr><td>Alberta</td><td>24.0%</td></tr><tr><td>Manitoba</td><td>21.6%</td></tr><tr><td>Quebec</td><td>18.0%</td></tr></tbody></table>			Provinces	Concentrations	Saskatchewan	27.8%	Alberta	24.0%	Manitoba	21.6%	Quebec	18.0%
Provinces	Concentrations											
Saskatchewan	27.8%											
Alberta	24.0%											
Manitoba	21.6%											
Quebec	18.0%											

Denominator	The number below the line in a fraction that can state one of the following: the number of elements in a set or the number of equal parts into which the whole is divided. [1]	nichi akihtāson
		

Difference	The amount remaining after one quantity is subtracted from another. [1]	iskonikiwin
		

Different	Not alike in character or quality; distinct in nature; dissimilar. [6]	pîtos

Digit	Any one of the ten numerals: 0, 1, 2, 3, 4, 5, 6, 7, 8, or 9. [1]	peyak akihtâson
digits “3”, “0” and “5” form the number “305”		

Dime	A small coin that is worth 10 cents. There are 10 dimes in a dollar. [4]	mitahsonias
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Dime

Distributive	A property of real numbers that states that the product of the sum or difference of two numbers is the same as the sum or difference of their products. [1]	(1) pēyakwan ayitaw (2) ispīhtawa-kēyhtakwanwah
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$$3(5 + 7) = 35 + 37$$

Division	A mathematical operation involving two numbers that tells how many groups there are or how many are in each group. [1]	pahpiskihc âyâwin
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$$189 = 2$$

Dollar	The main unit of money in many countries such as United States, Canada, Australia, and New Zealand. [4]	pēyakwāpisk
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Domain	The set of all possible input values for a function or relation. [4]	itakisowina
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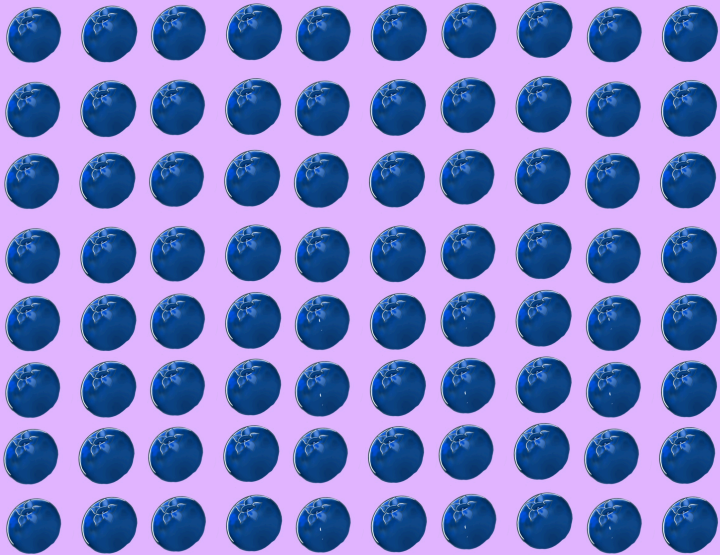
5.



Eight	8	ayênânêw
 <p data-bbox="341 1062 710 1138">8 Cattails</p>		

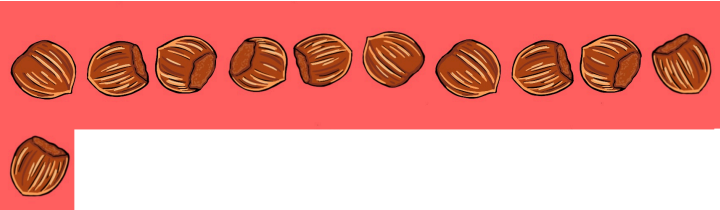
Eighth	8th	mweci-ayinânêw
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Eighty	80	ayinânêwomitanaw
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80 Blueberries

Eleven	11	pêyakosâp
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Equal	The same in size, value, or amount. [4]	(1) tipi (2) papeyakwan
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Equation	A mathematical sentence stating that two expressions are equal. [1]	pêyakwan akihîwêwah
$x + 2 = 72$ $y - 3x = 12$		

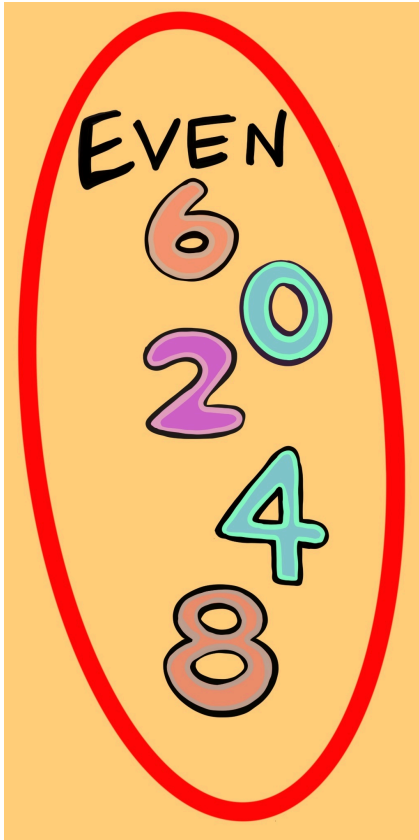
Equivalent	Equal in value. [1]	pah pëyakwan iyikohk
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$\frac{2}{3} = \frac{4}{6}$

Estimate	An answer that is an approximation. [1]	eyoko nantow
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Evaluate	To find the value of a mathematical expression. [1]	kikway koyakihtamihk
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$3(5 + 4) - 7 = 39 - 7 = 27 - 7 = 20$

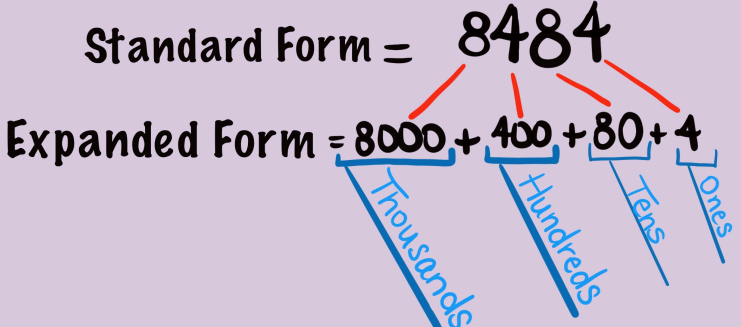
Even numbers	A whole number that is divisible by 2. [1]	nani-akihtāsona
		

Expanded form	A way of writing numbers that shows the value of each digit. [3]	taswikasta
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Expanded Form

Standard Form = 8484

Expanded Form = 8000 + 400 + 80 + 4



Exponent	A number placed to the top right of another number (base) to indicate the number of times the base is multiplied by itself. [1]	akihtāson kākitwam mena
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⁴ — **Exponent**

$2^4 = 2 \times 2 \times 2 \times 2 = 16$

Expression (mathematical)	A numeric or algebraic representation of a quantity. An expression may include numbers, variables, and operations. [3]	kwayaskowewin
$12 - 52$ $3x - 7$ $x^3 - 2y$		

6.



Factor	Factors are numbers we can multiply together to get another number	piskic akitāsona
$4 \times 5 = 20$; 4 and 5 are factors of 20 $2 \times 3 \times 7 = 42$; 2, 3 and 7 are factors of 42		

Factoring	A number or expression that is multiplied by another to yield a product (e.g., a factor of 24 is 8 because $8 \times 3 = 24$, and a factor of $3n$ is n because $3 \cdot n = 3n$). [1]	pa piskicipita
$5x - 20 = 5(x - 4)$ $24 = 4 \times 6$ $36 = 2 \times 2 \times 3 \times 3$		

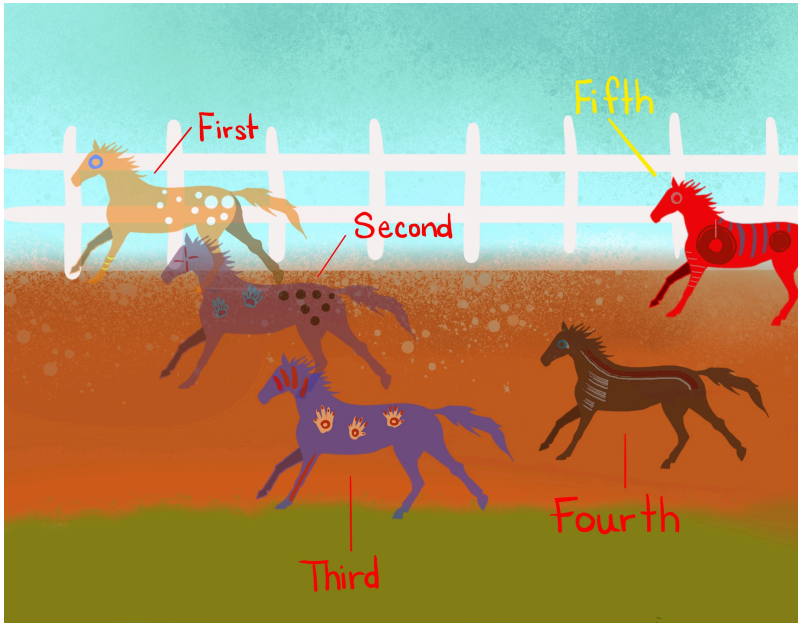
Fifteen

15

neyânanosâp



15 Blackberries

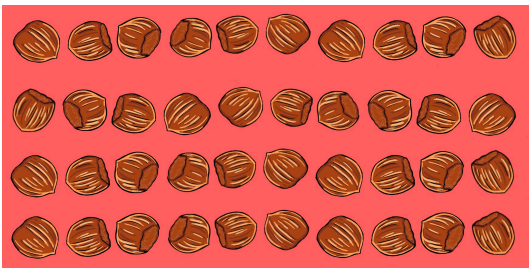
Fifth	Constituting number five in a sequence.	mweciniyānan
 <p>The illustration shows five horses running in a sequence from left to right. The background is a light blue sky and a white fence. The ground is brown and green. The horses are: 1. A yellow horse with white spots, labeled 'First' in red. 2. A purple horse with black spots, labeled 'Second' in red. 3. A blue horse with yellow spots, labeled 'Third' in red. 4. A black horse with white stripes, labeled 'Fourth' in red. 5. A red horse with black stripes, labeled 'Fifth' in yellow.</p>		

Fifty	50	nīyānanomitanaw
		

First	Before anything else, constituting number one in a sequence.	mwecipeyakwâw
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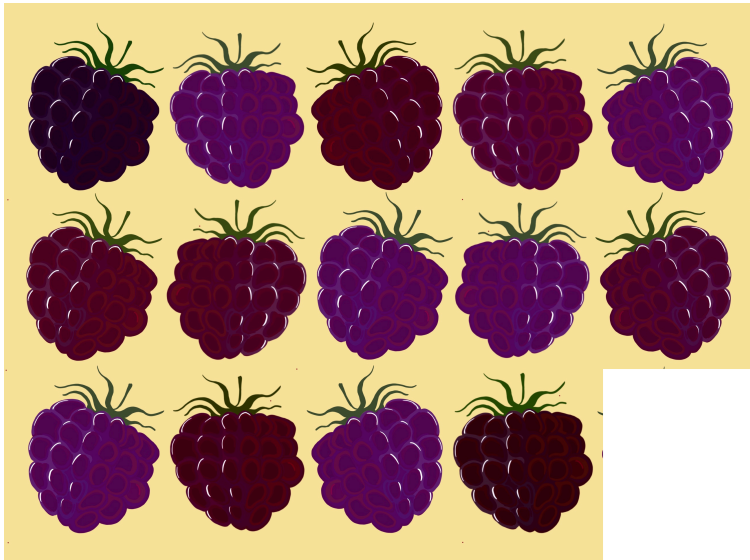
Five	5	niyânan



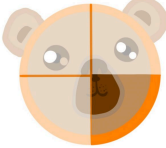

Form	The manner or style of arranging and coordinating parts. [6]	kayisenakwahk
<p style="text-align: center;"> standard form: $3x + 2y = 7$ exponential form: $33333 = 3^5$ expanded form: $537 = 5100 + 310 + 71$ </p>		

Forty	40	nêwomitanaw
		

Four	4	nêwo
		

Fourth	Constituting number four in a sequence.	mwecinewiyihk
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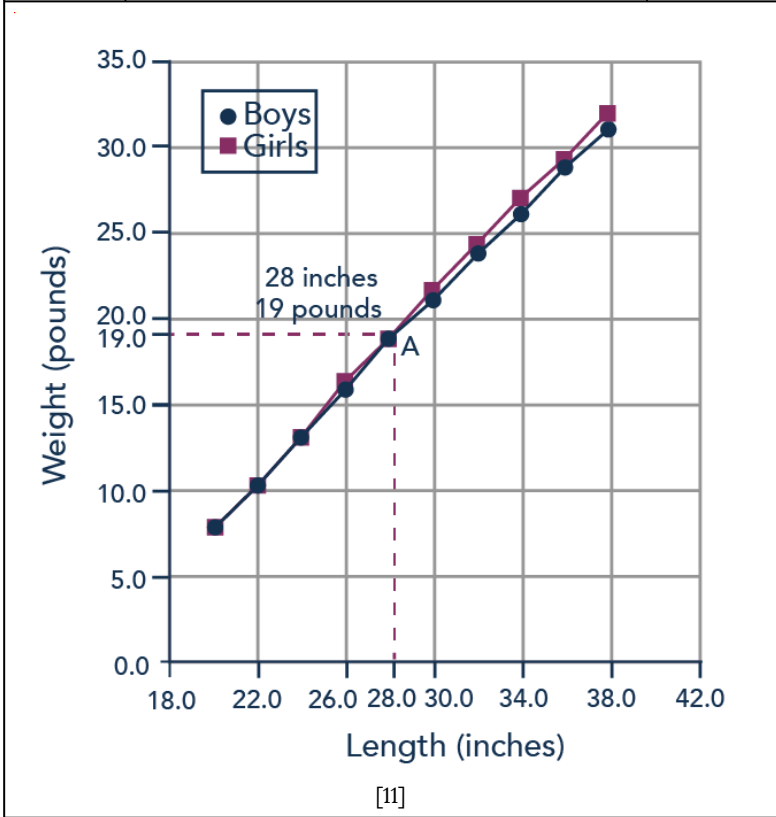
Fourteen	14	nêwosâp
		

Fraction	A ratio of numbers or variables.	pahki akihtâson
<p data-bbox="373 889 653 954" style="text-align: center;">Fractions</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div data-bbox="171 963 338 1154" style="text-align: center;">  <p data-bbox="256 1117 270 1149">1</p> </div> <div data-bbox="354 963 521 1154" style="text-align: center;">  <p data-bbox="434 1117 455 1154">$\frac{1}{2}$</p> </div> <div data-bbox="537 963 704 1154" style="text-align: center;">  <p data-bbox="617 1117 638 1154">$\frac{1}{4}$</p> </div> <div data-bbox="720 963 887 1154" style="text-align: center;">  <p data-bbox="800 1117 821 1154">$\frac{3}{4}$</p> </div> </div> <div style="text-align: center; margin-top: 20px;"> $\frac{x}{2y}, \frac{2x-1}{3x^2+7}$ </div>		

7.




Graph	A visual representation of data. [3]	isinakwak
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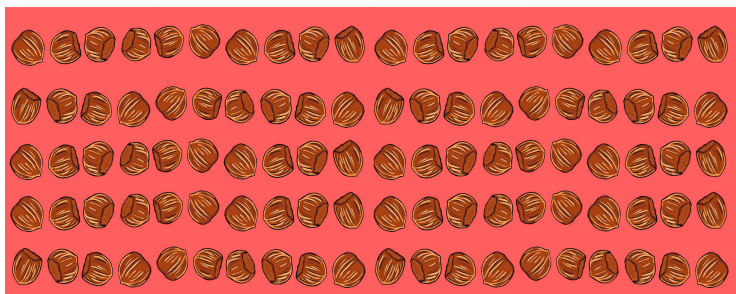


Group	Any collection or assemblage of persons or things. [6]	ka âmawiyaktihk
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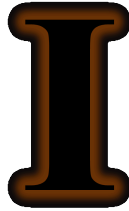
8.



Horizontal	A line extending left and right without extending up and down; a line parallel to the horizon. [1]	kispaskihk
		

Hundred	100	mitâhtomitanaw
		

9.



Inequality	A mathematical statement indicating that two quantities (or expressions) are not in balance. [1]	patos akītewa
$12 > 3$ $x < 4$ 75		

Input	Contribution of information, ideas, opinions, or the like. [6]	ascikīy
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Integer	The set of numbers consisting of the whole numbers (e.g., 1, 2, 3, 4, . . .), their opposites (e.g., -1, -2, -3, -4, . . .), and 0. [1]	kīci-akīta sona
-17, 5, 0, 120		

Inverse	An element of a set that gives the identity element when combined with another given element. [4]	kwēski akītason
<p style="text-align: center;">-5 is the inverse of 5 with respect to addition</p> <p>$\frac{1}{5}$ is the inverse of 5 with respect to multiplication</p>		

IO.



Less	A smaller amount; The symbol "<" means "less than"	astamik
$2 < 7$ $x < 11$		

Like	Of the same form, appearance, kind, character, amount. [6]	mwecipeyokwan
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Line	An infinite set of points in opposite directions forming a straight path; it has only one dimension, length. [1]	tipâpâniyâpiy

II.



Match	A person or thing that is an exact counterpart of another. [6]	tīpitin
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Minus	Refers to subtraction or the symbol of subtraction. [1]	pahki otinamakewin
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Money	Coins and paper bills used for buying and selling. [5]	sôniyâw
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More	Greater in number, size, or extent. [4]	ayiwâk
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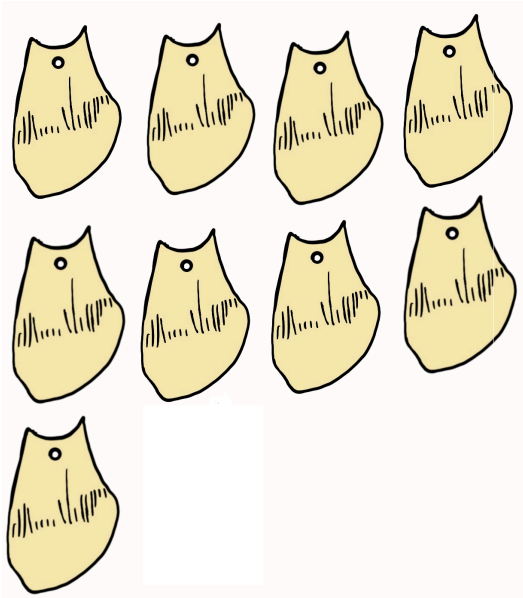
Multiple	The product of a given whole number and any other whole number. [1]	piskic akihtâsona
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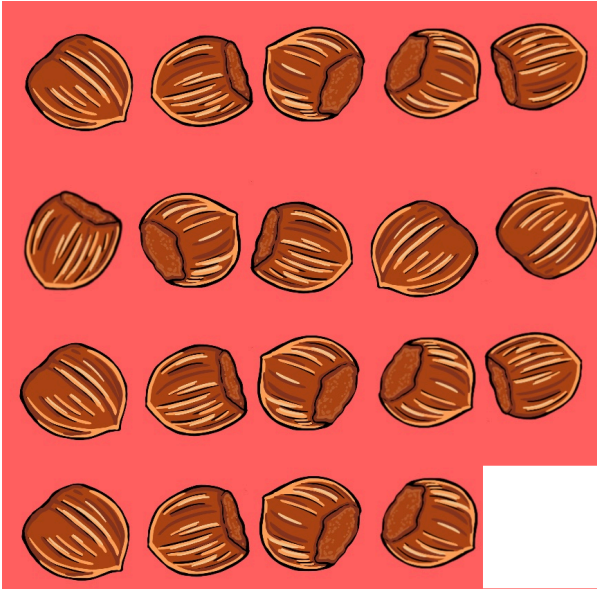
18 is a multiple of 6 (since $6 \times 3 = 18$).
 18 is a multiple of 18 (since $18 \times 1 = 18$).
 18 is NOT a multiple of 8.

Multiplication	A mathematical operation of combining groups of equal amounts; repeated addition; the inverse of division. [1]	mihcetowakihcikewi
$123 = 36$		

I2.

N

Nine	9	kikâmitâht
		

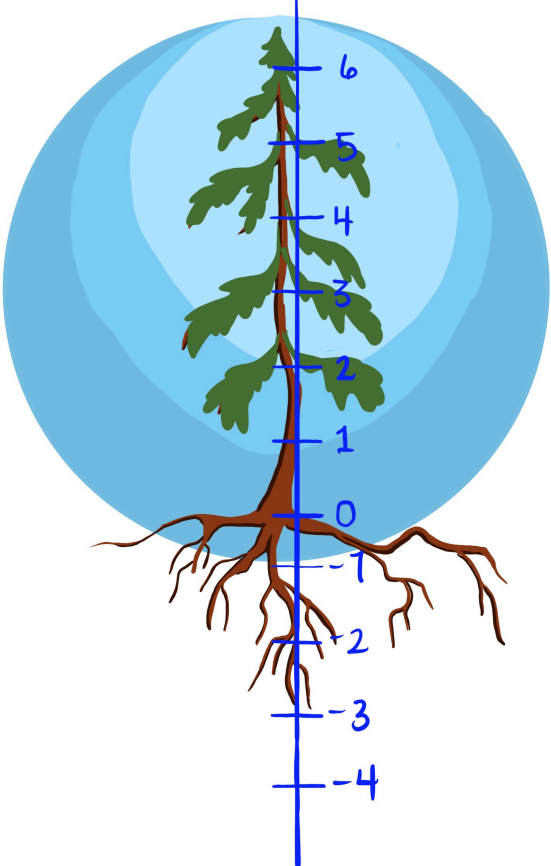


Ninety	90	kîkâmitâhtomitanaw
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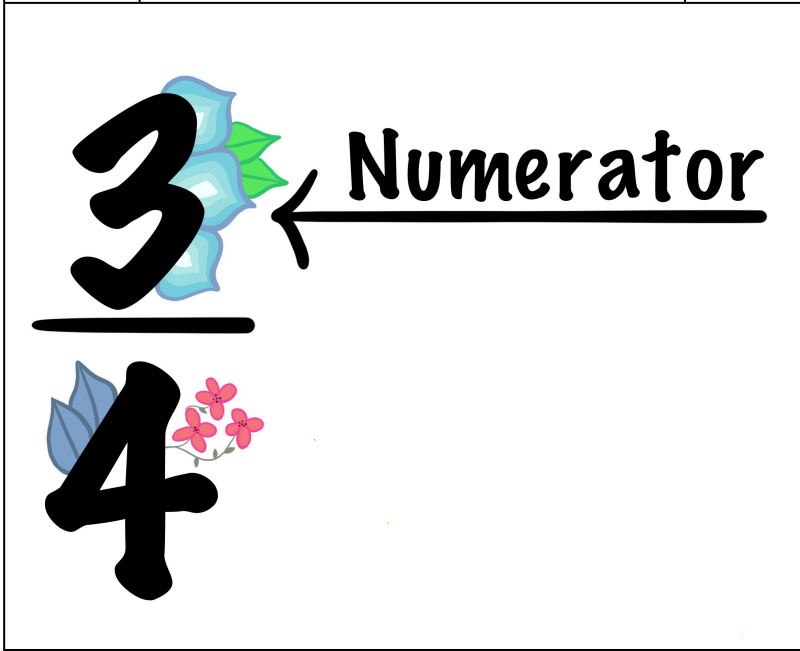


Ninth	9th	mweçikîkâmitâht
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Number	The concept of an amount, quantity, or how many items there are in a collection. [1]	akihtâson
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Number line	A line (vertical or horizontal) on which each point represents a number. [1]	akihtāson tipapekinikan
 <p>The diagram illustrates a number line using a tree as a visual metaphor. A vertical blue line passes through the center of the tree. The line is marked with integers from -4 to 6. The ground level is marked as 0. The tree's canopy extends from approximately 1 to 6, and its roots extend from 0 down to -4.</p>		

Numerator	The number above the line in a fraction that can state one of the following: the number of elements taken from a set or from equal parts.	tahkoc akitason
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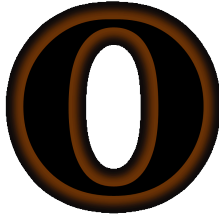
Numerical	Involving numbers or a number system. [1]	akihtāsowina
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Numerical expression	Any combination of numerals and/or operation symbols. Also, known as an <i>arithmetic expression</i> . [1]	akihtāsona-itēwina
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<p>35</p> <p>4.5 – 1.2</p> <p>54 – 4</p>		
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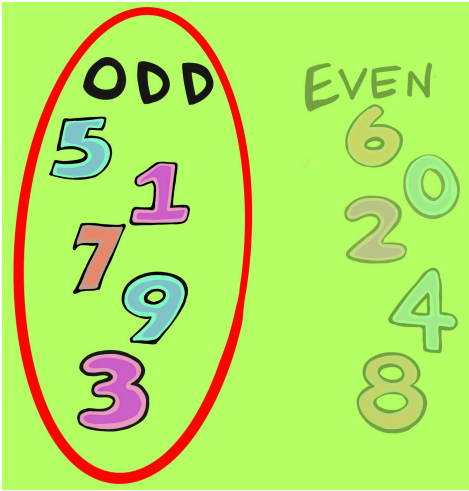
Numerical pattern	A sequence of numbers following a certain rule	akihtâso kaskomakâki
<p style="text-align: center;">1, 5, 9, 13, ... (arithmetic progression) 2, 6, 18, 54, ... (geometric progression) 0, 1, 1, 2, 3, 5, 8, 13, ... (Fibonacci Sequence)</p>		

13.



Object	A thing, person, or matter to which thought or action is directed [6]	pimâmeyihtam
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Odd		mitoni pahtos
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Odd numbers	A number that is not divisible by 2. [1]	ayacināwan
		

One	1	piyak
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Ones	The place value located one place to the left of the decimal point in a number; shows how many ones are in a number. [1]	papiyako
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Operation (mathematical)	Procedures used to combine numbers, expressions, or polynomials into a single result (e.g., addition, subtraction, multiplication, division, exponents). [1]	oyēyhtamō akihtāsōwin
+ - × ÷		

Opposite	Two things that are located or facing directly across. Two opposite numbers are the two numbers that are equidistant from the origin on a number line but in opposite directions from the origin. [4]	kwiskitakitew
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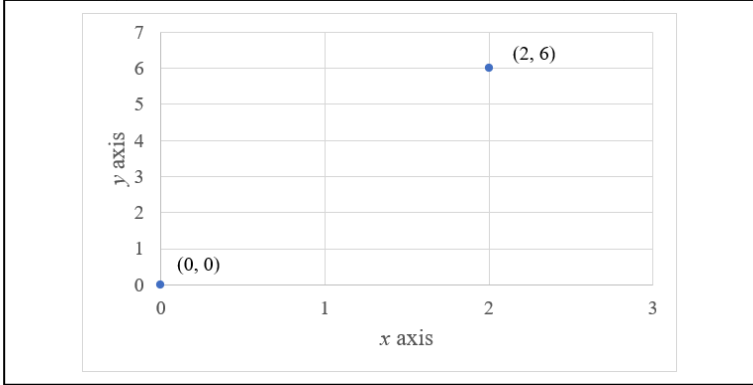
Order	To place numbers or objects in a sequential arrangement (e.g., least to greatest or heaviest to lightest). [1]	îyaskohtascikêwin
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Order of operations	<p>A specified sequence in which mathematical operations are expected to be performed. An arithmetic expression is evaluated by following these ordered steps:</p> <ol style="list-style-type: none"> 1. Simplify within grouping symbols such as parentheses or brackets, starting with the innermost. 2. Apply exponents—powers and roots. 3. Perform all multiplications and divisions in order from left to right. 4. Perform all additions and subtractions in order from left to right. <p>A common way to remember this is to use the acronym BEDMAS: Brackets, Exponents, Division, Multiplication, Addition, Subtraction. Division and multiplication (and addition and subtraction) are to be completed in the order in which they appear from left to right in the expression or equation. [1]</p>	oyastewaw akîcikiwina
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$$\begin{aligned}
 &5 - (2 + 11) \times 3 + 5^2 \div 4 \\
 &= 5 - 13 \times 3 + 25 \div 4 \\
 &= 5 - 39 + 6.25 \\
 &= -34 + 6.25 \\
 &= -27.75
 \end{aligned}$$

Ordered pairs	Two numbers, in order, that are used to describe the location of a point on a plane, relative to a point of origin (0,0); for example, (2, 6). On a coordinate plane, the first number is the horizontal coordinate of a point, and the second is the vertical coordinate of the point. [3]	nāh-nāway
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Output	The material produced or yield; product [6]	ispayow
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Outside	Beyond the boundary of or limits. [5]	wayawitimihk
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14.

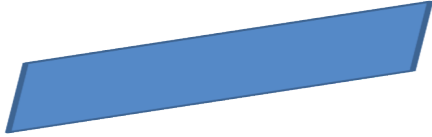
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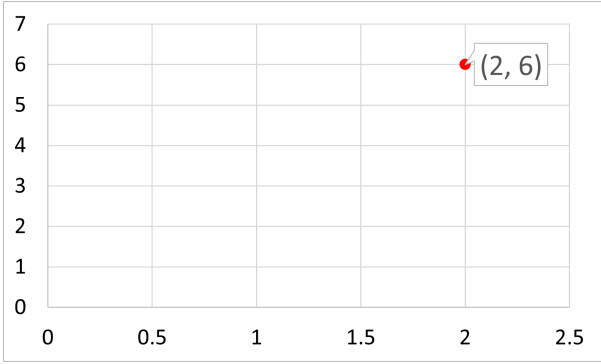
Pair	Two identical, similar, or corresponding things that are matched for use together [6]	nisotomākana
		

Parentheses	A pair of signs, “(” and “)”, is used to indicate that the operation(s) on the quantities enclosed should be carried out first. [4]	wawi cakpaykanahk
$3 \times (5 - 2) + 1 = 3 \times 3 + 1 = 9 + 1 = 10$		

Pattern	A design (geometric) or sequence (numerical or algebraic) that is predictable because some aspect of it repeats [1]	masinisâwân isi-askotomakak
Algebraic sequence: 3, 7, 11, 15, 19,... Geometric sequence: 2, 6, 18, 54, 162,... Fibonacci sequence: 0, 1, 1, 2, 3, 5,...		

Penny	The coin that represents the smallest unit of money in the United States and Canada, which is equal to 1 cent. [4]	piyak-pîwâpiskos
		

Plane	A set of points forming a flat surface that extends without end in all directions [1]	môhkocikêwâkan
		

Point (on a graph)		cacipiyikan
		

Product (mathematical)	The number obtained when two or more factors are multiplied. [1]	māmwi-akîtāk
<p>in $1.2 \times 3 = 3.6$, 3.6 is the product</p>		

15.



Quantity	An amount [5]	itahto
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Quarter (one-fourth of a number)	One of the four equal or equivalent part [6]	peyak sōnyas
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16.



Range	The set of all possible values for the output of the function. [4]	êh isi tahtipêwakintek
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Relationship (between quantities)	A connection or association [6]	êhwîciyawê-kihtêk
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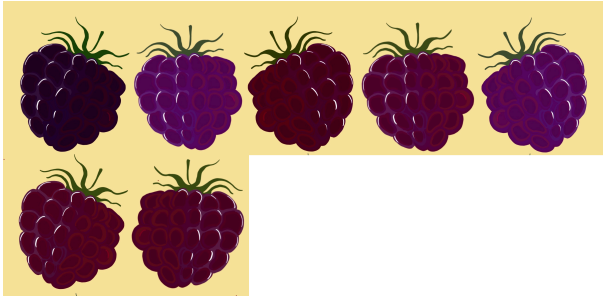
Rule (mathematical)	A principle or regulation governing conduct, action, procedure [6]	wiyasiwêwin
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17.

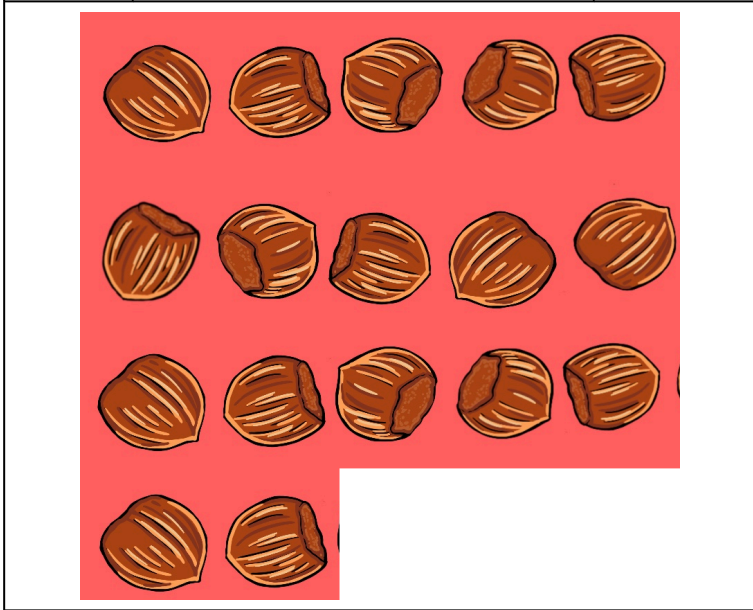


Second	2nd	niswâw
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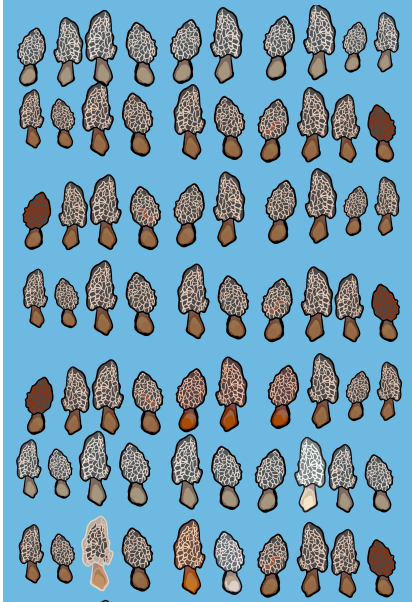
Sequence	A pattern of numbers that are connected by some rule. [3]	iyaskohc
1, 1, 2, 3, 5, 8, 13, ... (Fibonacci Sequence)		

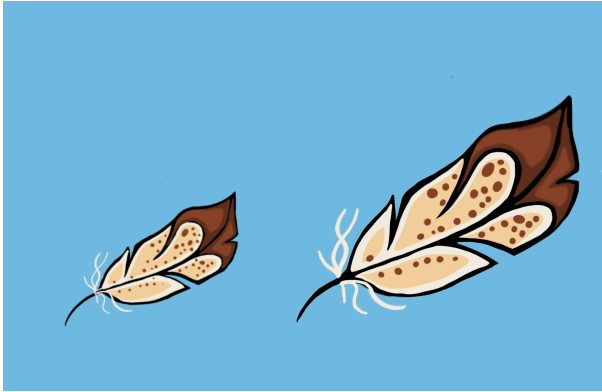
Seven	7	tepakohp
		

Seventeen	17	têpakohposâp
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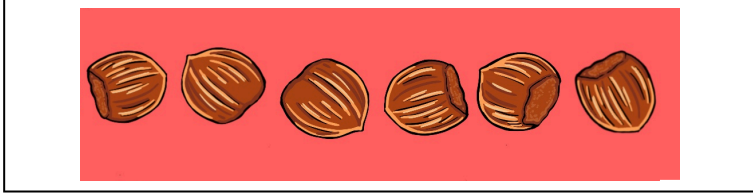
Seventh	7th	mwecitepakohp
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Seventy	70	tepakohpimitanaw
		

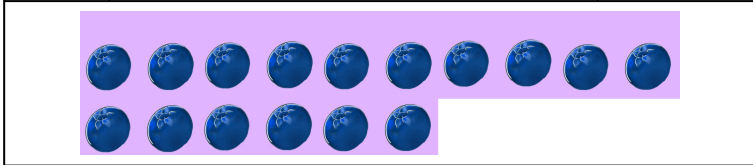
Similar	<p>Having the same shape but not always the same size. If one shape is similar to another shape, there exists a dilatation that will transform the first shape into the second shape. [3]</p>	peyakwan kekâc
		

Similarity	Denoting two or more figures that have the same shape but different sizes. [4]	tāpiskōc
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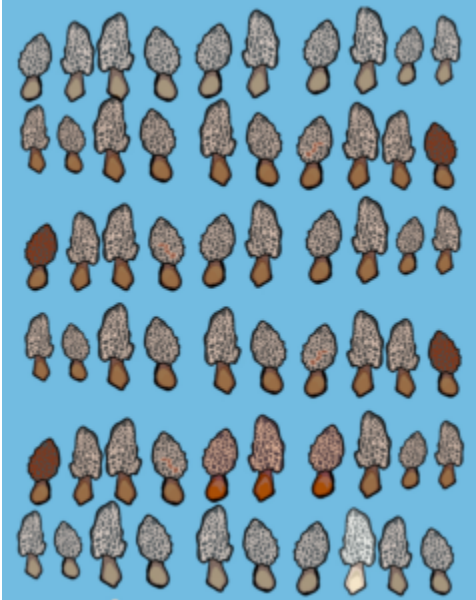
Six	6	nikotwāsik
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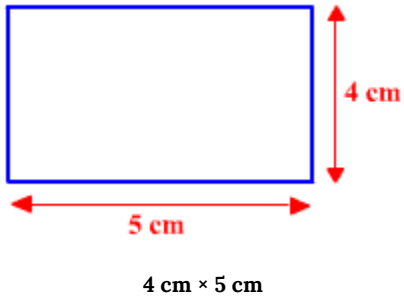


Sixteen	16	nikotwāsosâp
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Sixth	6th	mwecinikotwāsik
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Sixty	60	nikotwâsomitaw
		

Size	The spatial dimensions, proportions, magnitude, or bulk of anything. [6]	tânimayikohk kîspehcak
		

Skip (counting)	To count by a given number. [1]	ansko kwâskohtâkiciki
<p style="text-align: center;"><i>skip count by 2s: 2, 4, 6, 8, 10, . . .</i></p>		

Small (numbers)	Of low numerical value; denoted by a low number. [6]	apisci-akihtāsona
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Solution	The value or values that make an equation or open sentence true. [1]	miskawāhtowin
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Sort	To separate objects into groups according to properties or characteristics. [1]	(1) pahpiskihtascikewin (2) kikwayi
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Square	A rectangle with four equal sides	ē-ayisaweyaw
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Square root	Square root A factor that, when multiplied by itself, equals the number. [3]	akihtāswina kawi-akicikhkātik niswaw
--------------------	--	--

3 is a square root of 9, because $3 \times 3 = 9$

Squared	A quantity obtained by multiplying a number or variable by itself. [4]	akihtāswina ohci kakicikhkātik niswaw
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Standard	A reference against which others are compared. [4]	kikway ka nipawemakahk
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Subtract	To take one or more quantities away from another; to find one quantity known as the difference. [1]	ka pahkwenikehk
17 - 9		

Subtraction	Arithmetic operation	pahkwenikewin
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Minuend Subtrahend Difference

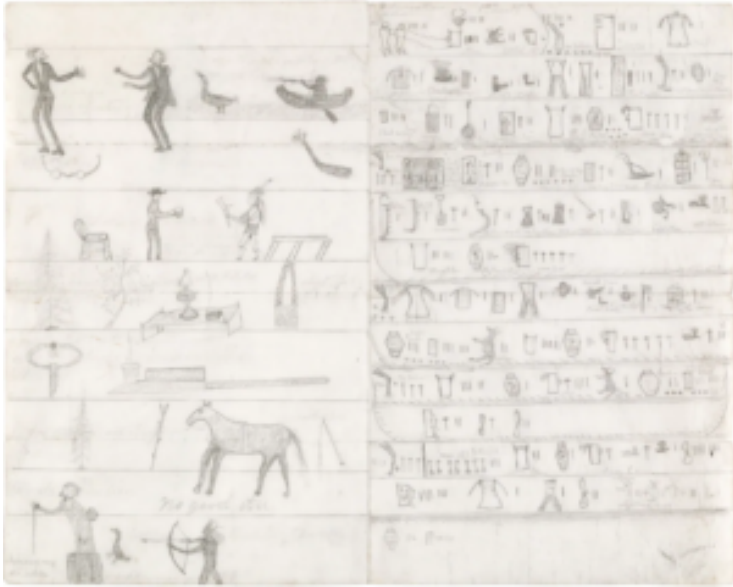
Subtraction

Sum	The result of adding two or more quantities. [1]	kā māmawōkimiht
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Addend + Addend = SUM

Addition

Symbol	A letter, figure or sign used to represent a quantity, sentence, relation, function, or an object or operation. [4]	ê-itwêmakahk
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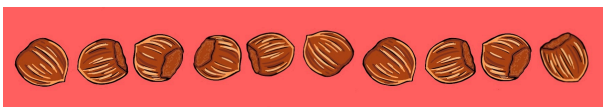
[10]

18.



Table (data, information)	A systematic or orderly list of values, usually presented in rows and columns. [1]	weyascikewnahtik
Student	Mass (kg)	Height (cm)
John	52	154
Ann	48	150
Helene	58	145
George	61	158
Jane	51	142


Tally	A recording of the number of items in a set; used to keep track of data being counted; usually consists of strokes grouped in fives. [1]	ka asatahk akihcikewin
		

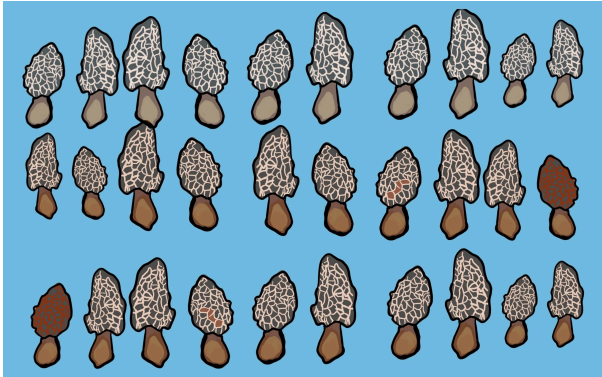
Ten	10	mitâtaht
		

Tens (number)	the place value located two places to the left of the decimal point in a number; shows how many tens are in a number. [1]	mitâtahtaw
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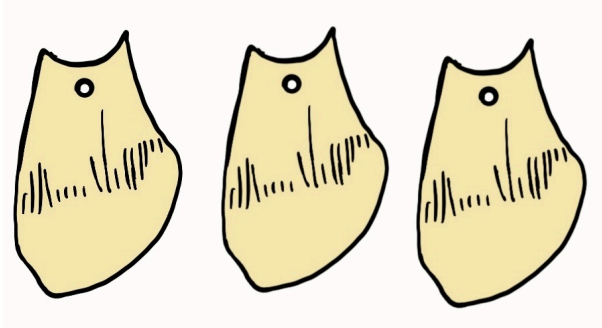
Tenth	10th	mweçimîtaht
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Third	3rd	mweçinîstwâw
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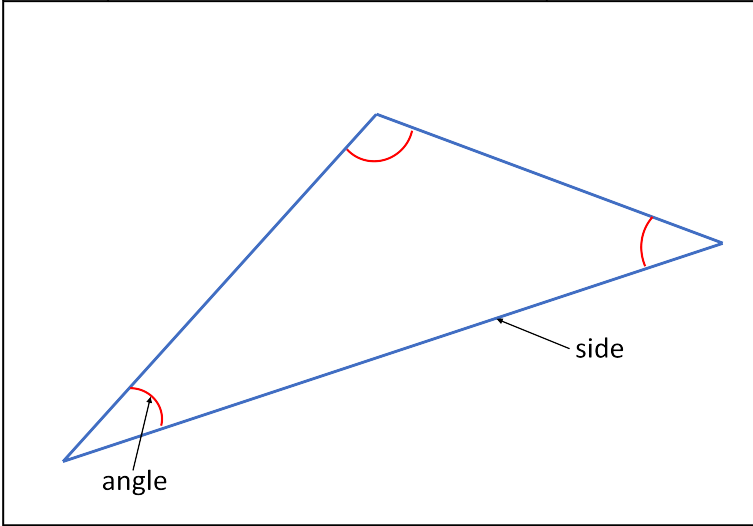
Thirteen	13	nîstosâp
		

Thirty	30	nistomitanaw
		

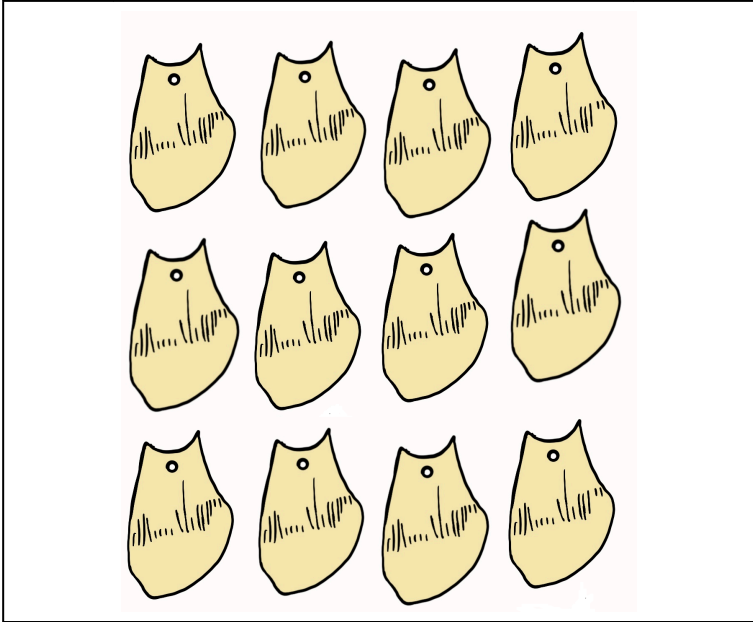
Thousand	1000	kihchi mitatahtomitanaw
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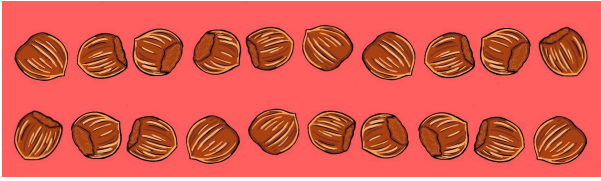
Three	3	nisto
		

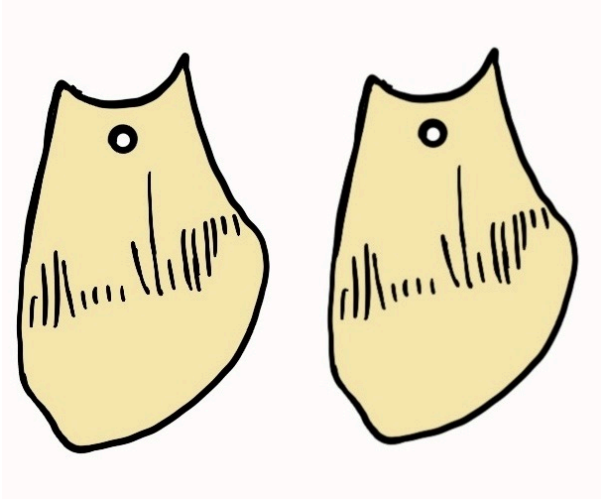
Triangle	A polygon with three sides and three angles. [1]	ē-nistowēyapiskāk
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Twelve	12	nīsosâp
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Twenty	20	nîstanaw
		

Two	2	nîso
		

19.



Unit	A reference value of a quantity used to measure or compare other values of the same quantity. [4]	peyak kíkway
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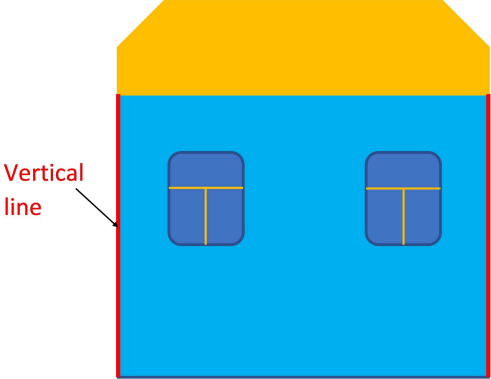
Unknown	a symbol representing an unknown quantity: in algebra, analysis, etc., frequently represented by a letter from the last part of the alphabet, as x, y, or z. [6]	ekâ ka nistaweyihtâkosihk
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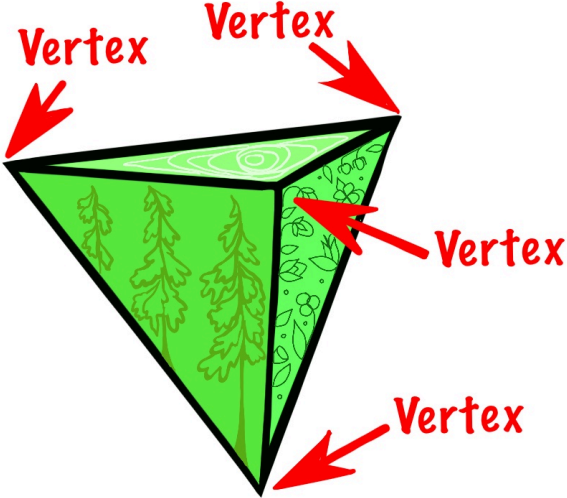
20.



Value	How much something is worth. [5]	iyitakitihk
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Variable	A symbol used to represent a number in an expression (e.g., $2n + 3$) or to represent an unknown value in an equation (e.g., $a + 3 = 5$) [1]	meskocipayiw
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Vertical	A line at right angles to the horizon; a line extending up and down without extending left and right; a line perpendicular to the horizon. [1]	kwayaskwaskitew
 <p>The diagram shows a house with a yellow roof and a blue body. Two windows are visible, each with a vertical yellow line through its center. A red vertical line is drawn along the right edge of the house. A red label 'Vertical line' with a pointer indicates this line.</p>		

Vertices	The points of intersection of two rays that form an angle, two sides of a polygon or two edges of a solid. [2]	kwayaskwakitiwa
 <p>The diagram shows a green triangular prism with a forest scene on its side. Four red arrows point to the vertices of the prism, each labeled 'Vertex' in red text.</p>		

2I.



Whole number	A number consisting of one or more units, without fractions. [2] The set of counting numbers plus 0 {0, 1, 2, 3, ... } [1]	kahkiyaw
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22.



Zero	The number that indicates no quantity, size, or magnitude; zero is neither negative nor positive; zero is the additive identity. [1]	namahkîway
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23.

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[2] Mathematics Glossary – Middle Years, Maxine Stinka, Saskatchewan Education, Curriculum and Instruction, Math Central, obtained from: <http://mathcentral.uregina.ca/RR/glossary/middle/glossaryab.html>

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