GLOSSARY

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A

Actual

Something that is real and not just imagined.

Acute

A triangle for which all interior angles are acute – less than 90degrees.

Addends

Any of the numbers that are added together. Example: In 2 + 3 = 5, the 2 and the 3 are addends.

Additive (inverse)

The number you add to another number to get zero. The negative of a number.For example: The additive inverse of -5 is 5, because -5 + 5 = 0. Also the additive inverse of 5 is -5.

Affected

Acted upon; influenced. Numbers can be affected in a variety of ways, e.g through computation.

Approximately

Almost exact or correct

Area

The size of a surface. The amount of space inside the boundary of a flat (2-dimensional) object such as a triangle or circle.

Arrange

To place in proper, desired, or convenient order; adjust properly:

Average

The average could be any single number that represents the center of a set of values.

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Axis

A line of symmetry for a graph. The two sides of a graph on either side of the axis of symmetry look like mirror images of each other.

An axis is also a reference line drawn on a graph (you can measure from it to find values).

C

Calculate

To solve (one or more problems) by a mathematical procedure; compute.

Circumference

The distance around the edge of a circle (or any curvy shape).

Combinations

A collection of things, in which the order does not matter.

Commutative

Is the Law that says you can swap numbers around and still get the same answer when you add or when you multiply.

> Examples:
> You can swap when you add: 3 + 6 = 6 + 3
> You can swap when you multiply: 2 × 4 = 4 × 2

Complete

Having all parts or elements; lacking nothing.

Composite

A Composite Number can be divided evenly by numbers other than 1 or itself. Example: 9 can be divided evenly by 1, 3 and 9, so 9 is a composite number.

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Congruent

Exactly equal in size and shape. Congruent sides or segments have the exact same length. Congruent angles have the exact same measure. For any set of congruent geometric figures, corresponding sides, angles, faces, etc. are congruent.

Consider

Think carefully about (something), typically before making a decision.

D

Data

A collection of facts, such as values or measurements.

Decimal

The numbers we use in everyday life are decimal numbers, because there are 10 of them (0,1,2,3,4,5,6,7,8 and 9). Often "decimal number" is also used to mean a number that uses a decimal point followed by digits as a way of showing values less than one.

Example: 1.9 is a decimal number (one and nine tenths)

Degree

A unit of angle measure equal to $\frac{1}{360}$ of a complete revolution. There are 360 degrees in a circle. Degrees are indicated by the ° symbol, so 35° means 35 degrees.

Describe

Give an account in words of (someone or something), including all the relevant characteristics, qualities, or events.

Determine

To find out or come to a decision about by investigation, reasoning, or calculation.

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Diagonal

A straight line inside a shape that goes from one corner to another (but not an edge). So, if you join two vertices of a polygon which are not already joined by an edge, you get a diagonal.

Diameter

A straight line going through the center of a circle connecting two points on the circumference.

Digit

A symbol used to make numerals. **0, 1, 2, 3, 4, 5, 6, 7, 8** and **9** are the ten digits we use in everyday numbers. Example: the numeral 153 is made up of 3 digits ("1", "5" and "3").

Dilation (of scale)

A transformation in which a figure grows larger. Dilations may be with respect to a point (dilation of a geometric figure) or with respect to the axis of a graph (dilation of a graph). Some school textbooks erroneously use the word *dilation* to refer to all transformations in which the figure changes size, whether the figure becomes larger or smaller. Unfortunately the English language has no word that refers collectively to both stretching and shrinking.

Dimensions

A measurement of length in one direction. Examples: width, depth and height are dimensions.

Display

To present or hold up to view.

Divisible

Capable of being divided, usually with no remainder.

E

Edge

The line where two surfaces meet. It can also be the boundary of a shape, such as the circumference of a circle.

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End Points

Either of two points marking the end of a line segment.

Equilateral

A triangle with three congruent sides.

Equivalent

Something that is essentially equal to another.

Estimate

A close guess of the actual value, usually with some thought or calculation involved. Example: Alex estimated there were 10,000 sunflowers in the field by counting rows.

Evaluate

To calculate the value of. Example: Evaluate the cost of each pie if 3 pies cost $6. Answer: $2 each.

Explain

To make plain or comprehensible.

Exponent

The exponent of a number shows you how many times the number is to be used in a multiplication. It is written as a small number to the right and above the base number. In this example: $8^2 = 8 \times 8 = 64$ (Another name for exponent is index or power)

Expression

Numbers, symbols and operations (such as + and ×) grouped together that show the value of something. Example 2×3 is an expression

Extend

To stretch or spread (something) out to greater or fullest length.

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F

Formula

Numbers and symbols that show how to work something out. For example, the formula for finding the volume of a box is "$V = w \times d \times h$"
(V stands for volume, w for width, d for depth and h for height. If w=4, d=5 and h=10, then V = 4×5×10 = 200.) It is a special type of equation that shows the relationship between different variables.

Function

A function is a special relationship between values: Each of its input values gives back exactly one output value. It is often written as "f(x)" where x is the value you give it. Example: $f(x) = x/2$ ("f of x is x divided by 2") is a function, because for every value of "x" you get another value "x/2". So:
* $f(2) = 1$
* $f(16) = 8$
* $f(-10) = -5$

G

Greatest (common factor- GCF)

The highest number that divides exactly into two or more numbers. If you find all the factors of two or more numbers, and you find some factors are the same ("common"), then the largest of those common factors is the Greatest Common Factor. Example: the GCF of 12 and 30 is 6, because 1, 2, 3 and 6 are factors of both 12 and 30, and 6 is the greatest.

I

Illustrate

To clarify, as by use of examples or comparisons.

Integers

All positive and negative whole numbers (including zero).

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Inverse

Opposite in effect. The reverse of. The inverse of adding 9 is subtracting 9. The inverse of multiplying by 5 is dividing by 5.

Irregular (polygon)

A polygon that does not have all sides equal and all angles equal. A polygon is "regular" only if all angles are equal and all sides are equal otherwise it is irregular.

Isosceles

A triangle with two sides that are the same length.

L

Least (common multiple)

A common multiple is a number that is a multiple of two or more numbers. The common multiples of 3 and 4 are 0, 12, 24, ... The least common multiple (LCM) of two numbers is the smallest number (not zero) that is a multiple of both.

Line graph

Line graphs compare two variables. Each variable is plotted along an **axis** . A line graph has a vertical axis and a horizontal axis.

M

Matrix

A matrix (plural **matrices**, or less commonly matrixes) is a rectangular array of numbers, symbols, or expressions. The individual items in a matrix are called its *elements* or *entries*. An example of a matrix with six elements is

$$\begin{bmatrix} 1 & 9 & 13 \\ 20 & 55 & 6 \end{bmatrix}.$$

Matrices of the same size can be added or subtracted element by element.

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Mean

Another word for average. To find the mean, you add up all the numbers and then divide by the number of numbers.

Median

The "median" is the "middle" value in a list of numbers. To find the median, your numbers have to be listed in numerical order.

Mode

The "mode" is the number that occurs most often in a list of numbers. If no number is repeated, then there is no mode for the list.

Models

Models represent patterns found in graphs and/or data.

Multiplicative (property)

The product of any number and one is that number. For example 5 x 1 = 5.

N

Numeral

A symbol or name that stands for a number. Examples: 3, 49 and twelve are all numerals

O

Obtuse (triangle)

A triangle which has an obtuse angle as one of its interior angles. An obtuse angle has measure more than 90° and less than 180°.

Ordered Pair

Two numbers written in a certain order. Usually written in parentheses like this: (4,5)

Glossary

Can be used to show the position on a graph, where the "x" (horizontal) value is first, and the "y" (vertical) value is second.

P

Parabola

A special curve, shaped like an arch.

Parallel

Lines on a plane that never meet. They are always the same distance apart.

Parentheses

Parentheses or "round brackets" are the familiar ( ) symbols used in pairs to group things together. For example, (3 + 2) x (6 - 4) = 5 x 2 = 10

Pattern

Things that are arranged following a rule or rules. Example: there is a pattern in these numbers: 2, 7, 12, 17, 22, … The rule is "start at 2 and add 5 each time"

Percent

Percent means parts per 100. The symbol is %. Example: 25% means 25 per 100

Perimeter

The distance around a two-dimensional shape. The perimeter of a circle is called the circumference.

(To) Plot

To draw on a graph or map.

Polygon

A plane shape (two-dimensional) with straight sides, such as triangles, rectangles and pentagons. A circle is not a polygon because it has a curved side).

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Polyhedron

A solid with flat faces (from Greek poly- meaning "many" and -edron meaning "face"), such as pyramids and prisms
Each flat surface (or "face") is a polygon.

Prime

A Prime Number can be divided evenly only by 1 or itself and it must be greater than 1.For example, 7 can be divided evenly only by 1 or 7, so it is a prime number.

Product

The answer when two or more numbers are multiplied together.

Property

An attribute or character that something has, such as color, height, weight, etc.

Protractor

An instrument used in measuring or drawing angles.

Pyramid

A solid object where the base is a polygon (a straight-sided flat shape) and the sides are triangles which meet at the top (the apex).

Q

Quadrant

A quarter of a circle (made by two radiuses at right angles and the connecting arc).

Quadrilateral

A flat shape with four straight sides.

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R

Radius

The distance from the center to the edge of a circle - it is half of the circle's diameter.

Range

The difference between the lowest and highest values. In {4, 6, 9, 3, 7} the lowest value is 3, and the highest is 9, so the range is 9-3 = 6.

Ratio

A ratio shows the relative sizes of two or more values. Ratios can be shown in different ways. Using the ":" to separate example values, or as a single number by dividing one value by the total.

    Example: if there is 1 boy and 3 girls you could write the ratio as:
    1:3 (for every one boy there are 3 girls)

Rectangular (prism)

A solid (3-dimensional) object which has six faces that are rectangles. It is a prism because it has the same cross-section along a length.

Regular (polygon)

If all angles are equal and all sides are equal, then it is a regular polygon (otherwise it is "irregular").

Respond

To make a reply; answer.

Right angled (triangle)

A triangle that has a right angle (90°)

Rounding

Rounding means reducing the digits in a number while trying to keep its value similar. The result is less accurate, but easier to use.

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Rules

The rules of mathematics are designed so everyone gets the same answer to a problem. Rules are based on basic properties of numbers and the four operations--addition, subtraction, multiplication and division.

S

Scale

The ratio of the length in a drawing (or model) to the length of the real thing – for example, in a drawing anything with the size of "1" might have a size of "10" in the real world, so a measurement of 150mm on the drawing would be 1500mm on the real item.

Scalene

A triangle with all sides of different lengths and no sides are equal and no angles are equal

Select

To take as a choice from among several; to pick out.

Similar

In Geometry, two shapes are similar if the only difference is size (and possibly the need to turn or flip one around).

Solve

To work out a correct solution to a problem.

Sum

The result of adding two or more numbers.

Symmetry

Symmetry is when one shape becomes exactly like another if you flip, slide or turn it. The simplest type of symmetry is "reflection" (or "mirror") symmetry.

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T

Terms

In algebra a term is either a single number or a variable, or numbers and variables multiplied together.

Time zones

The time in any of 24 time zones, usually the mean solar time at the central meridian of each zone. In the continental United States, there are four standard time zones: Eastern, using the 75th meridian; Central, using the 90th meridian; Mountain, using the 105th meridian; and Pacific, using the 120th meridian. The Alaskan time zone is at 135°W and used throughout Alaska except for the western Aleutian Islands. Also called *Alaska Time*.

Trapezoid

A trapezoid is a quadrilateral with one pair of opposite sides parallel. It is not a parallelogram because only one pair of sides is parallel. It is called a regular trapezoid if the sides that aren't parallel are equal in length and both angles coming from a parallel side are equal.

Triangular Prism

A solid object that has two identical ends and all flat sides. The cross section is the same all along its length. The shapes of the ends give the prism the name "triangular prism" because it has triangular ends. It is a polyhedron.

U

Units

How many ones. How many single items. Used to show the "ones" place value (units, tens, hundreds, etc). For example, 27 has two tens and 7 units.

V

Value

The result or 'output' of a calculation – for example: 3 × 4 gives the value of 12.

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Variable

A symbol for a number we don't know yet. It is usually a letter like x or y. for example: in x + 2 = 6, x is the variable

Variety

A number or collection of varied things, especially of a particular group; an assortment.

Vertex/Vertices

A point where two or more straight lines meet. For example, a corner of a polygon (2D) or of a polyhedron (3D).

W

Whole Numbers

The numbers {0, 1, 2, 3, ...} etc. There is no fractional or decimal part. And no negatives. For example: 5, 49 and 980 are all whole numbers.

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