

Glossary

A

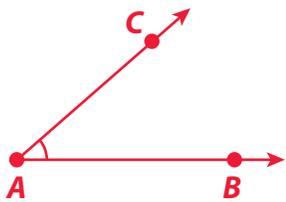
AM morning, or the time from midnight until noon.

acute angle an angle with a measure less than 90° .

acute triangle a triangle that has three acute angles.

addend a number being added.

angle two rays that share an endpoint.



area the amount of space inside a closed, two-dimensional figure. Area is measured in square units such as square centimeters.

array a set of objects grouped in equal rows and equal columns.

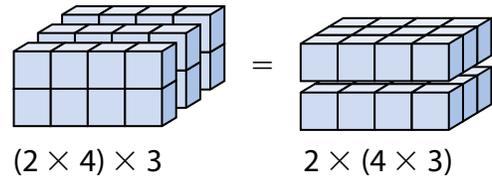


associative property of addition Changing the grouping of three or more addends does not change the sum.

$$\begin{array}{c} \bullet \bullet \bullet \\ \bullet \bullet \bullet \end{array} + \begin{array}{c} \bullet \bullet \\ \bullet \bullet \end{array} = \begin{array}{c} \bullet \\ \bullet \bullet \end{array} + \begin{array}{c} \bullet \bullet \bullet \\ \bullet \bullet \bullet \end{array}$$
$$(2 + 3) + 4 = 2 + (3 + 4)$$

associative property of multiplication

Changing the grouping of three or more factors does not change the product.



attribute a characteristic of an object.

Attributes of a shape include the number of sides and the length of the sides.

B

base ten the number system we use everyday using ten digits. The value of a digit depends on its place value. The value of each place is 10 times the value of the place to the right.

benchmark fraction a common fraction that you might compare other fractions to.

For example, $\frac{1}{2}$ can be used as a benchmark.

braces { } a grouping symbol; they group parts of an expression that should be evaluated after brackets.

brackets [] a grouping symbol; they group parts of an expression that should be evaluated after parentheses.

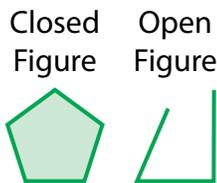
C

capacity the amount of liquid a container can hold. Capacity is measured in the same units as liquid volume.

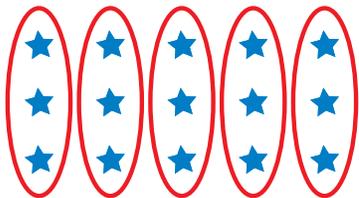
Glossary

centimeter (cm) a unit of length in the metric system. Your little finger is about 1 centimeter across. 100 centimeters is equivalent to 1 meter.

closed figure a two-dimensional figure that begins and ends at the same point.

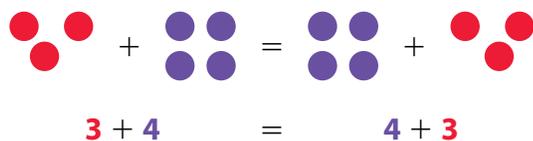


column a top-to-bottom line of objects in an array.

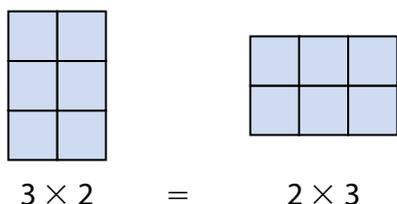


common denominator a number that is a common multiple of the denominators of two or more fractions.

commutative property of addition Changing the order of the addends does not change the sum.



commutative property of multiplication Changing the order of the factors does not change the product.



compare to decide if one number is greater than ($>$), less than ($<$), or equal to ($=$) another number. Also, to tell how much more one number is than another number, or how many times as many one number is than another number.

compose to make by combining parts.

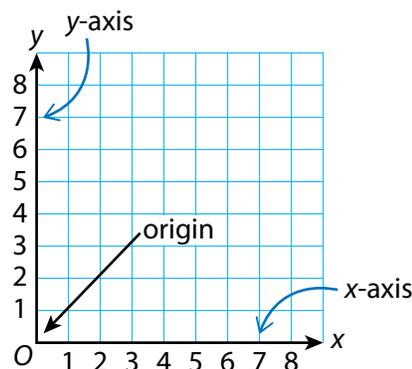
composite number a number greater than 0 that has more than one pair of factors.

concave polygon a polygon with at least one inside angle with a measure greater than 180° .

convert to change from one measurement unit to another.

convex polygon a polygon with all inside angles with measures less than 180° .

coordinate plane a two-dimensional space formed by two perpendicular number lines called axes.



corresponding terms (in two related patterns) the numbers that have the same position. For example, the second term in one pattern and the second term in a related pattern are corresponding terms.

cubic unit a cube with edge lengths of 1 unit. Cubic units are used to measure the volume of a solid figure.

cup (c) a unit of liquid volume in the customary system. Four cups is equivalent to 1 quart.

customary system the measurement system commonly used in the United States. It measures length in inches, feet, yards, and miles; liquid volume in cups, pints, quarts, and gallons; and weight in ounces and pounds.

D

data information, often numerical information such as a list of measurements.

data set a group of collected information; often numerical information such as measurements.

decimal a number containing a decimal point that separates the ones place from the tenths place.

decimal point the period or dot used in a decimal that separates the ones place from the tenths place.

decompose to break up into parts.

degree (°) a unit used to measure angles. There are 360° in one circle.

denominator the number below the line in a fraction. It tells how many equal parts are in the whole.

$$\frac{2}{5} \leftarrow \text{denominator}$$

difference the result of subtraction.

digit a symbol used to write numbers. The digits are 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9.

dimension length in one direction. A figure may have one, two, or three dimensions.

distribution (of data) how spread out or clustered pieces of data are.

distributive property When one of the factors of a product is written as a sum, multiplying each addend by the other factor before adding does not change the product.

$$2 \times (3 + 6) = (2 \times 3) + (2 \times 6)$$

divide to separate into equal groups.

dividend the number that is divided in a division problem.

division an operation used to separate a number of items into equal-sized groups.

divisor the number you divide by in a division problem.

E

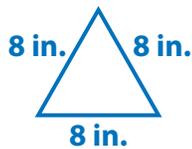
elapsed time the time that has passed between a start time and an end time.

equal (=) having the same value, same size, or same amount.

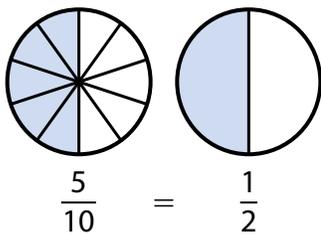
equation a mathematical statement that uses an equal sign (=) to show that two expressions have the same value.

Glossary

equilateral triangle a triangle that has all three sides the same length.



equivalent fractions two or more fractions that have the same value. They name the same part of a whole and the same point on a number line.



estimate (noun) a close guess made using math thinking.

estimate (verb) to make a close guess based on math thinking.

evaluate to find the value of an expression.

even number a whole number that ends in the digit 0, 2, 4, 6, or 8. Even numbers have 2 as a factor.

expanded form the way a number is written to show the place value of each digit.

$$254.3 = 200 + 50 + 4 + \frac{3}{10}$$

exponent the raised number in an expression such as 10^3 . The exponent tells you how many times to use the base as a factor.

$$10^3 \leftarrow \text{exponent}$$

$$10^3 = 10 \times 10 \times 10, \text{ or } 1,000$$

expression numbers or unknowns combined with operation symbols. For example, $5 + a$ or 3×6 .

F

fact family a group of related math facts that all use the same numbers. The group of facts shows the relationship between addition and subtraction, or between multiplication and division.

$$5 \times 4 = 20$$

$$4 \times 5 = 20$$

$$20 \div 4 = 5$$

$$20 \div 5 = 4$$

factor a number that is multiplied.

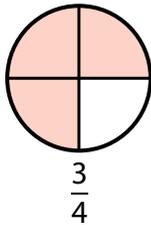
factor pair two numbers that are multiplied together to give a particular product. For example, 1 and 12, 2 and 6, and 3 and 4 are all factor pairs of 12.

factors of a number whole numbers that multiply together to get the given number.

foot (ft) a unit of length in the customary system. One foot is equivalent to 12 inches.

formula a mathematical relationship that is expressed in the form of an equation. For example, the formula for the area of a rectangle is $A = \ell \times w$.

fraction a number that names equal parts of a whole; a fraction names a point on the number line and can also represent the division of two numbers.



gallon (gal) a unit of liquid volume in the customary system. One gallon is equal to 4 quarts.

gram (g) a unit of mass in the metric system. A paper clip has a mass of about 1 gram. 1,000 grams is equivalent to 1 kilogram.

greater than symbol (>) a symbol used to compare two numbers when the first has greater value than the second.



hexagon a polygon with exactly six sides and six angles.



hierarchy a ranking of categories based on properties.

hour (h) a unit of time. One hour is equivalent to 60 minutes.

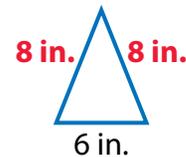
hundredths the parts formed when a whole is divided into 100 equal parts.



inch (in.) a unit of length in the customary system. A quarter is about 1 inch across. Twelve inches is equivalent to 1 foot.

inverse operations operations that undo each other. For example, addition and subtraction are inverse operations, and multiplication and division are inverse operations.

isosceles triangle a triangle that has at least two sides with the same length.



kilogram (kg) a unit of mass in the metric system. One kilogram is equivalent to 1,000 grams.

kilometer (km) a unit of length in the metric system. One kilometer is equivalent to 1,000 meters.

Glossary

L

length a measurement that tells the distance from one point to another, or how long something is.

less than symbol (<) a symbol used to compare two numbers when the first has less value than the second.

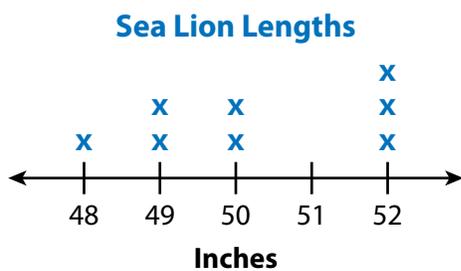
line (in geometry) a straight row of points that goes on forever in both directions.

line graph a data display that shows data points connected by line segments.

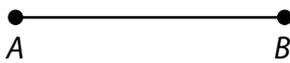
line of symmetry a line that divides a shape into two mirror images



line plot a data display that uses a number line to show measurement data.



line segment a straight row of points that starts at one point and ends at another point, or, a part of a line.



liquid volume the amount of space a liquid takes up.

liter (L) a unit of liquid volume in the metric system. One liter is equivalent to 1,000 milliliters.

M

mass the amount of matter in an object. Measuring the mass of an object is one way to measure how heavy it is. Units of mass include the gram and kilogram.

meter (m) a unit of length in the metric system. One meter is equivalent to 100 centimeters.

metric system the measurement system that measures length based on meters, liquid volume based on liters, and mass based on grams.

mile (mi) a unit of length in the customary system. One mile is equivalent to 5,280 feet.

milliliter (ml) a unit of liquid volume in the metric system. 1,000 milliliters is equivalent to 1 liter.

minute (min) a unit of time equivalent to 60 seconds.

mixed number a number with a whole part and a fractional part.

$$4\frac{1}{2}$$

multiple the product of a number and any other whole number. For example, 4, 8, 12, 16, and so on, are multiples of 4.

multiplication an operation used to find the total number of items in equal-sized groups.

multiplicative comparison a comparison that tells how many times as many. For example, $7 \times 3 = 21$ means 21 is 3 times as many as 7, and 21 is 7 times as many as 3.

multiply to find the total number of items in equal-sized groups.

N

numerator the number above the line in a fraction. It tells how many equal parts are described.

$\frac{2}{5}$ ← numerator

O

obtuse angle an angle that measures more than 90° but less than 180° .

obtuse triangle a triangle that has one obtuse angle.

odd number a whole number that ends in the digit 1, 3, 5, 7, or 9. Odd numbers do not have 2 as a factor.

operation a mathematical action such as addition, subtraction, multiplication, and division.

ordered pair a pair of numbers, (x, y) , that describes the location of a point on a coordinate plane. The first number tells the point's horizontal distance from the origin, and the second number tells the point's vertical distance from the origin.

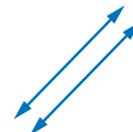
origin the point $(0, 0)$ where the x -axis and the y -axis intersect on a coordinate plane.

ounce (oz) a unit of weight in the customary system. A slice of bread weighs about one ounce. Sixteen ounces are equivalent to 1 pound.

P

PM the time from noon until midnight.

parallel lines two or more lines that are always the same distance apart and will never cross.



parallelogram a quadrilateral with opposite sides parallel and equal in length.

parentheses () a grouping symbol; they group parts of an expression that should be evaluated before others.

Glossary

partial products a strategy used to multiply multi-digit numbers. The products you get in each step are called “partial products”.

$$\begin{array}{r}
 218 \\
 \times 6 \\
 \hline
 48 \text{ (6} \times \text{8 ones)} \\
 60 \text{ (6} \times \text{1 ten)} \\
 1200 \text{ (6} \times \text{2 hundreds)} \\
 \hline
 1308
 \end{array}$$

partial quotients a strategy used to divide multi-digit numbers. The quotients you get in each step are called “partial quotients”.

pattern a series of numbers or shapes that follow a rule to repeat or change.



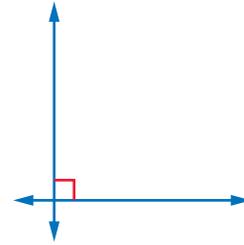
pentagon a polygon with exactly five sides and five angles.

perimeter the distance around a two-dimensional shape. The perimeter is equal to the sum of the lengths of the sides.

period a group of three related place values, usually separated by commas. Examples are the ones period, the thousands period, and the millions period.

Thousands Period			Ones Period		
Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
4	6	7	8	8	2

perpendicular lines two lines that meet to form a right angle, or a 90° angle.



pint (pt) a unit of liquid volume in the customary system. One pint is equivalent to 2 cups.

place value the value of a digit based on its position in a number. For example, the 2 in 324 is in the tens place and has a value of 2 tens, or twenty.

plane figure a two-dimensional figure, such as a circle, triangle, or rectangle.

point a single location in space. Two lines cross at a point, and two sides of a triangle meet at a point.

polygon a two-dimensional closed figure made with three or more straight line segments that do not cross over each other.

Polygons		Not Polygons	

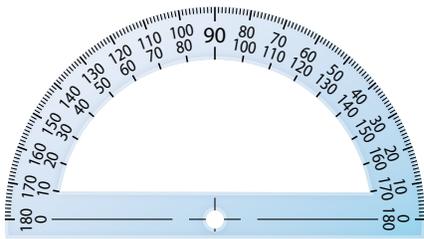
pound (lb) a unit of weight in the customary system. One pound is equivalent to 16 ounces.

power of ten a number that can be written as a product of tens. For example, 100 and 1,000 are powers of ten because $100 = 10 \times 10$ and $1,000 = 10 \times 10 \times 10$.

prime number a whole number greater than 1 whose only factors are 1 and itself. For example, 2, 3, 5, 7, and 11 are prime numbers.

product the result of multiplication.

protractor a tool used to measure angles.



Q

quadrilateral a polygon with exactly four sides and four angles.

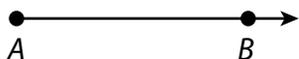
quart (qt) a unit of liquid volume in the customary system. One quart is equivalent to 4 cups.

quotient the result of division.

R

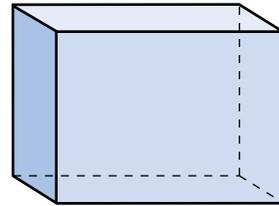
range the difference between the greatest and least values in a data set.

ray a straight row of points that starts at one point and goes on forever in one direction.



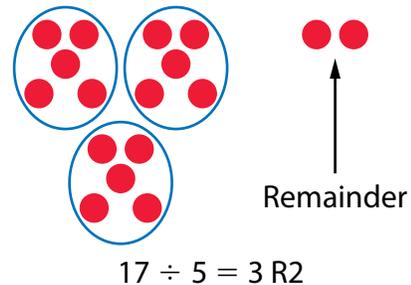
rectangle a parallelogram with four right angles. Opposite sides of a rectangle are the same length.

rectangular prism a solid figure with six rectangular faces.



regroup to compose or decompose tens, hundreds, thousands, and so forth. For example, 10 tenths can be regrouped as 1 whole, or 1 tenth can be regrouped 10 hundredths.

remainder in division, the amount left over after equal groups have been made.



rhombus a parallelogram with four equal sides.

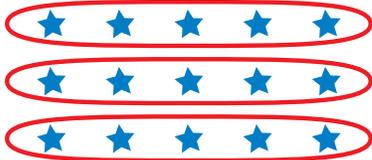
right angle an angle that looks like a square corner and measures 90° .

right triangle a triangle with one right angle.

Glossary

round to find a number that is close in value to the given number by finding the nearest ten, hundred, or other place value.

row a side-to-side line of objects in an array.



rule in a pattern, a procedure that describes the relationship between one number or shape and the next.

S

scale on a graph, the difference between numbers labeling points on the axes.

scalene triangle a triangle that has no two sides with the same length.

scaling resizing a quantity by multiplying.

second (s) a unit of time. Sixty seconds is equivalent to 1 minute.

side one of the line segments that form two-dimensional figures.

solid figure a three-dimensional figure.

square a shape that has four sides of equal length and four right angles.

square unit a square with a side length of 1 unit that is used to measure area.

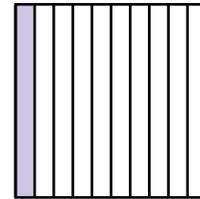
standard form the way a number is written using digits. For example, the standard form of *twelve* is 12.

sum the result of addition.

symbol any mark or drawing with a particular meaning, including numbers, letters, and operation signs. A symbol can be used to stand for an unknown number in an equation.

T

tenths the parts formed when a whole is divided into ten equal parts.



thousandths the parts formed when a whole is divided into one thousand equal parts.

three-dimensional solid, or having length, width and height. For example, cubes are three-dimensional.

trapezoid a type of quadrilateral. A trapezoid always has a pair of parallel sides.



triangle a polygon with exactly three sides and three angles.

two-dimensional flat, or having measurement in two directions, like length and width. For example, a rectangle is two-dimensional.

U

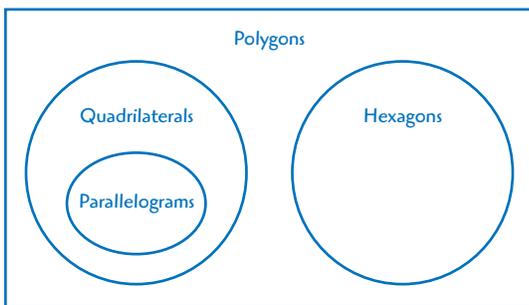
unit fraction a fraction with a numerator of 1. Other fractions are built from unit fractions.

For example, $\frac{1}{4}$ and $\frac{1}{10}$ are unit fractions.

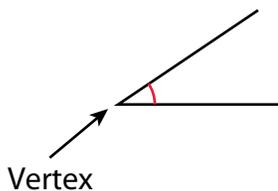
unknown the piece or pieces of a problem that you are not given or do not know.

V

Venn diagram a drawing that shows how sets of numbers or objects compare.



vertex the point where two rays or line segments meet to form an angle.



volume the amount of space inside a solid figure. Volume is measured in cubic units such as cubic inches.

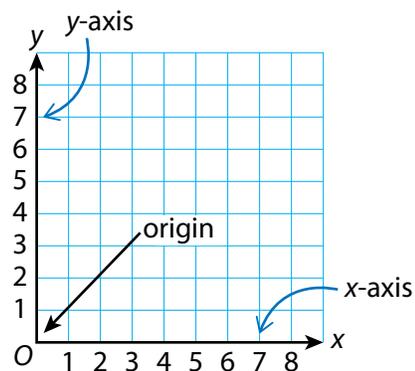
W

weight the measurement that tells how heavy an object is. Units of weight include ounces and pounds.

word form (of a number) the way a number is written with words, or said aloud. For example, the word form of 105.7 is *one hundred five and seven tenths*.

X

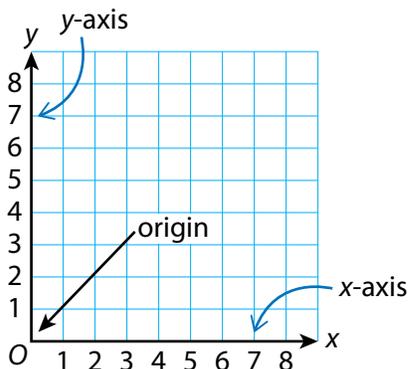
x-axis the horizontal number line in the coordinate plane.



x-coordinate the first number in an ordered pair. It tells the point's horizontal distance from the origin

Y

y-axis the vertical number line in the coordinate plane.



y-coordinate the second number in an ordered pair. It tells the point's vertical distance from the origin.

yard (yd) a unit of length in the U.S. customary system. One yard is equivalent to 3 feet.