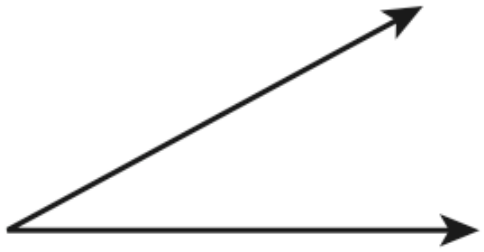
acre A measure of land area. An acre is equal to 4,840 square yards.

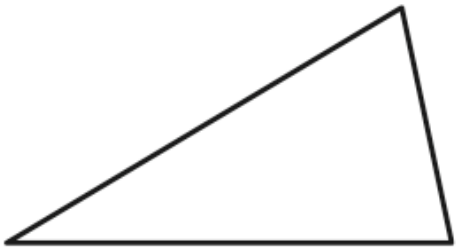
acute angle An angle smaller than a right angle.



acre

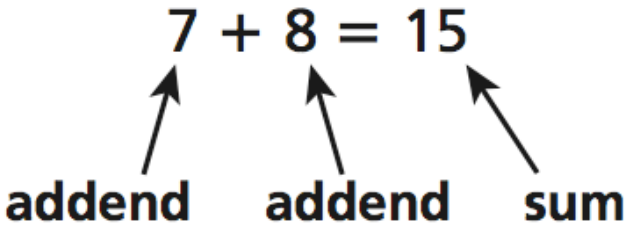
acute angle

acute triangle A triangle with three acute angles.



addend One of two or more numbers added together to find a sum.

Example:

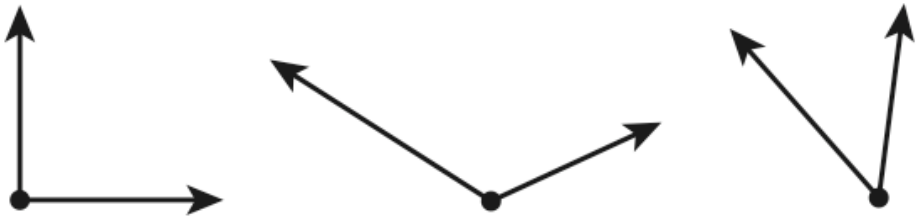


acute triangle

addend

analog clock A clock with a face and hands.

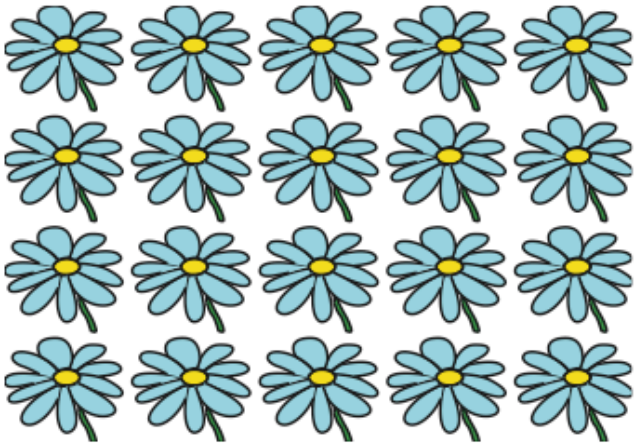
angle A figure formed by two rays with the same endpoint.



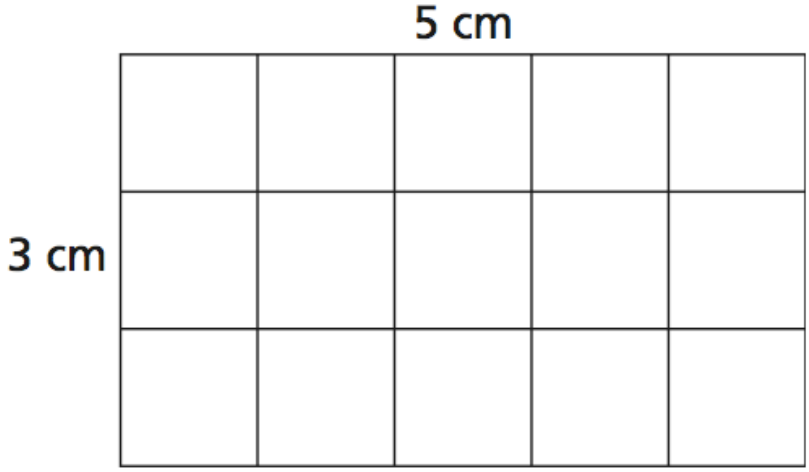
analog clock

angle

array An arrangement of objects, symbols, or numbers in rows and columns.



area The amount of surface covered or enclosed by a figure measured in square units.



array

area

Associative Property of Addition
Grouping the addends in different ways does not change the sum.

Example: $3 + (5 + 7) = 15$
$(3 + 5) + 7 = 15$

Associative Property of Multiplication Grouping the factors in different ways does not change the product.

Example: $3 \times (5 \times 7) = 105$
$(3 \times 5) \times 7 = 105$

Associative Property of Addition

Associative Property of Multiplication

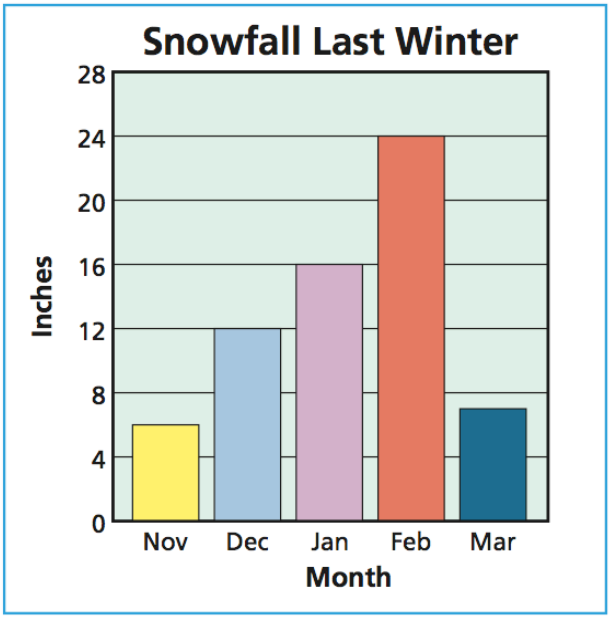
average (mean) The size of each of *n* equal groups made from *n* data values. It is calculated by adding the values and dividing by *n*.

Example: 75, 84, 89, 91, 101

$75 + 84 + 89 + 91 + 101 = 440$,

then $440 \div 5 = 88$. The average is 88.

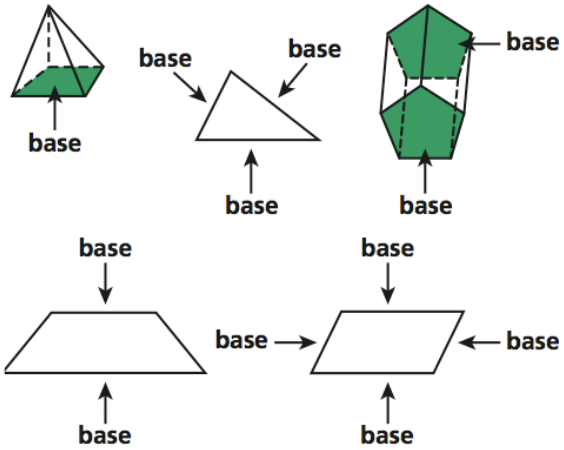
bar graph A graph that uses bars to show data. The bars may be vertical or horizontal.



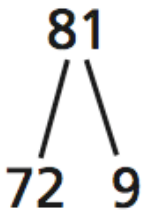
average (mean)

bar graph

base For a triangle or parallelogram, a base is any side. For a trapezoid, a base is either of the parallel sides. For a prism, a base is one of the congruent parallel faces that may not be rectangular. For a pyramid, the base is the face that does not touch the vertex of the pyramid.



break-apart drawing A diagram that shows two addends and the sum.



base

break-apart
drawing

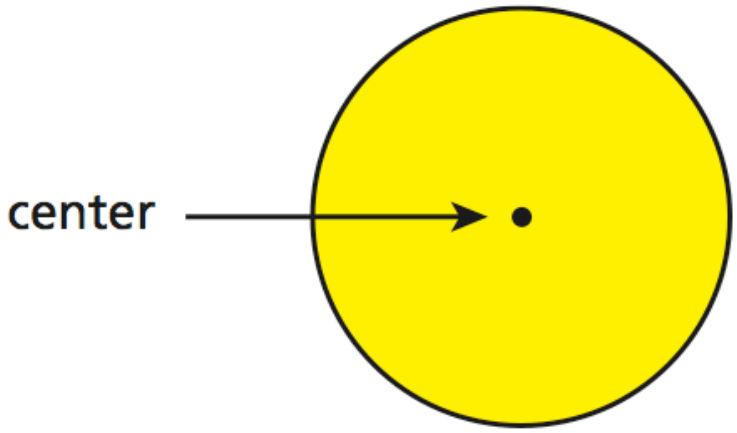
capacity A measure of how much a container can hold.

Celsius The metric temperature scale.

capacity

Celsius

center The point that is the same distance from every point on the circle.



centimeter A unit of measure in the metric system that equals one hundredth of a meter. 1 cm = 0.01 m

center

centimeter

change minus A change situation that can be represented by subtraction. In a change minus situation, the starting number, the change, or the result will be unknown.

Example:

Unknown Start	Unknown Change	Unknown Result
$n - 2 = 3$	$5 - n = 3$	$5 - 2 = n$

change plus A change situation that can be represented by addition. In a change plus situation, the starting number, the change, or the result will be unknown.

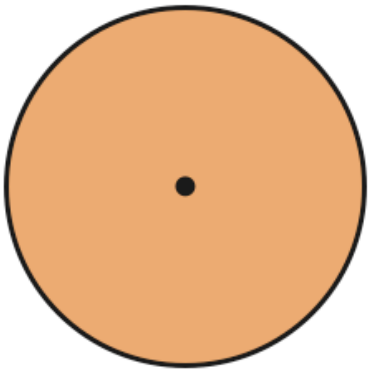
Example:

Unknown Start	Unknown Change	Unknown Result
$n + 2 = 5$	$3 + n = 5$	$3 + 2 = n$

change minus

change plus

circle A plane figure that forms a closed path so that all the points on the path are the same distance from a point called the center.



circle graph A graph that uses parts of a circle to show data.

Example:

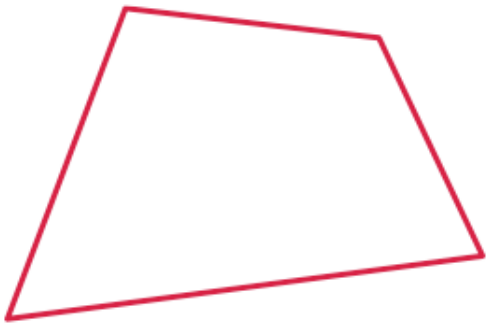
Favorite Fiction Books

circle

circle graph

circumference The distance around a circle.

closed Having no endpoints.



closed

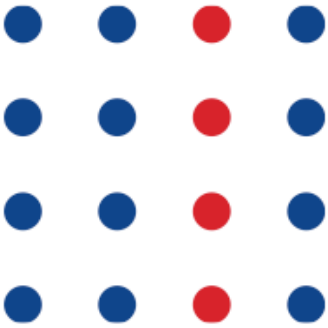
not closed

circumference

closed

Collection Situations Situations that involve putting together (joining) or taking apart (separating) groups.

column A part of a table or array that contains items arranged vertically.



Collection Situations

column

combination situation A situation in which the number of possible different combinations is determined. A table can sometimes be used to show all possible combinations; multiplication can be used to calculate the number of combinations.

Example:

Different Sandwich Combinations

	peanut butter	cheese	turkey
wheat bread	peanut butter on wheat bread	cheese on wheat bread	turkey on wheat bread
white bread	peanut butter on white bread	cheese on white bread	turkey on white bread

Number of combinations = 3 × 2 = 6

common denominator A common multiple of two or more denominators

Example: A common denominator of $\frac{1}{2}$ and $\frac{1}{3}$ is 6 because 6 is a multiple of 2 and 3.

combination situation

common denominator

Commutative Property of Addition
Changing the order of addends does not change the sum.

Example: $3 + 8 = 11$
$8 + 3 = 11$

Commutative Property of Multiplication Changing the order of factors does not change the product.

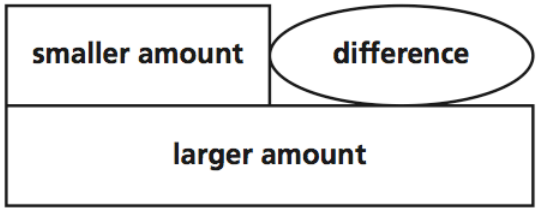
Example: $3 \times 8 = 24$
$8 \times 3 = 24$

Commutative Property of Addition

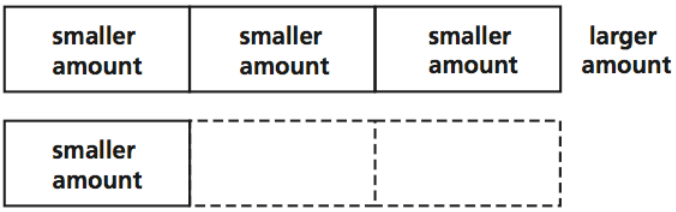
Commutative Property of Multiplication

comparison bars Bars that represent the larger amount and smaller amount in a comparison situation.

For addition and subtraction:



For multiplication and division:

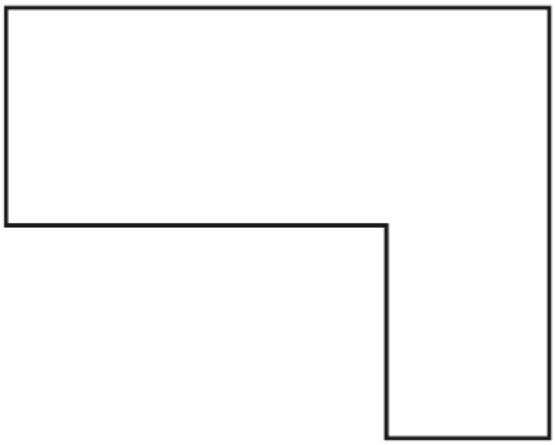


comparison situation A situation in which two amounts are compared by addition or by multiplication. An additive comparison situation compares by asking or telling how much more (how much less) one amount is than another. A multiplicative comparison situation compares by asking or telling how many times as many one amount is as another. The multiplicative comparison may also be made using fraction language. For example, you can say, "Sally has one fourth as much as Tom has," instead of saying "Tom has 4 times as much as Sally has."

comparison bars

comparison situation

complex figure A figure made by combining simple geometric figures like rectangles and triangles. The factor pairs of 18 are 1 and 18, 2 and 9, 3 and 6.

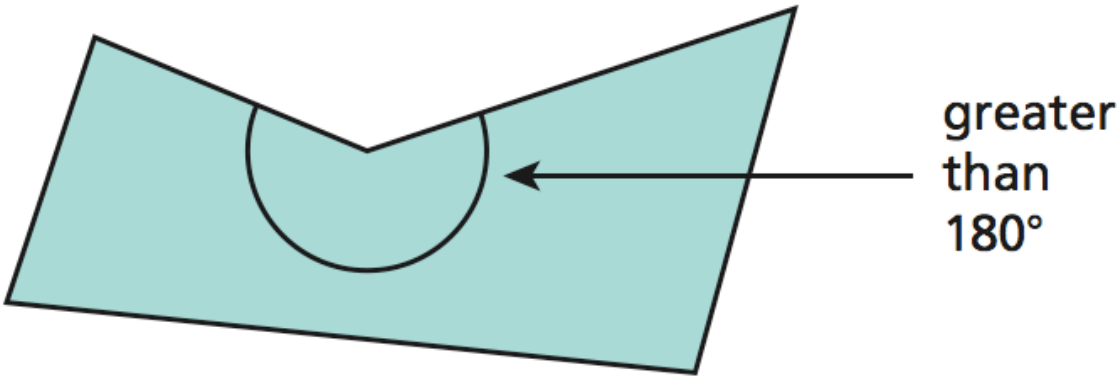


composite number A number greater than 1 that has more than one factor pair. Examples of composite numbers are 10 and 18. The factor pairs of 10 are 1 and 10, 2 and 5. The factor pairs of 18 are 1 and 18, 2 and 9, 3 and 6.

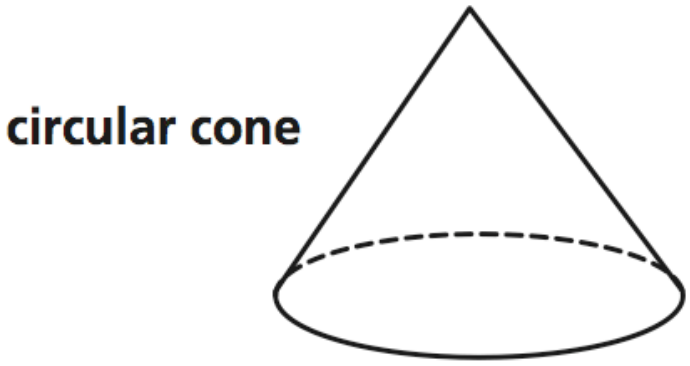
complex figure

composite number

concave A polygon is concave if the inside angle for at least one vertex is greater than 180°.



cone A solid figure with a curved base and a single vertex.

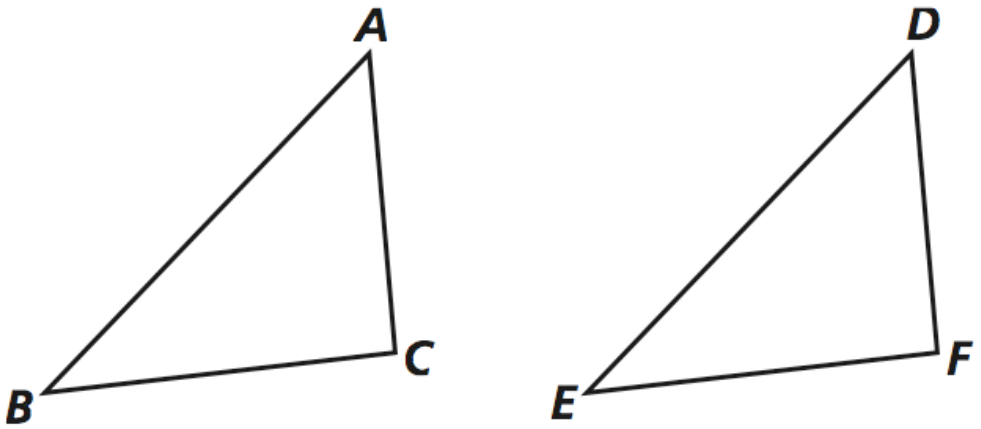


concave

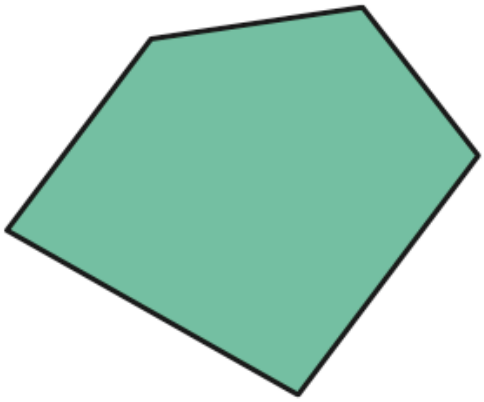
cone

congruent Exactly the same size and shape.

Example: Triangles *ABC* and *PQR* are congruent.



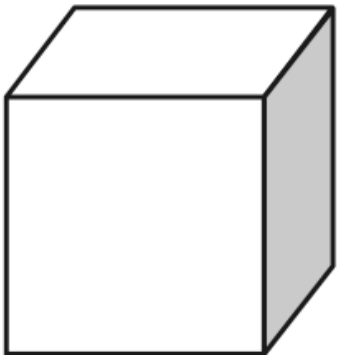
convex A polygon is convex if each inside angle measures less than 180°.



congruent

convex

cube A solid figure that has 6 faces that are congruent squares.



cubic centimeter A metric unit for measuring volume. It is the volume of a cube with one-centimeter edges.

cube

cubic centimeter

cubic foot A unit for measuring volume. It is the volume of a cube with one-foot edges.

cubic inch A unit for measuring volume. It is the volume of a cube with one-inch edges.

cubic foot

cubic inch

cubic meter A metric unit for measuring volume. It is the volume of a cube with one-meter edges.

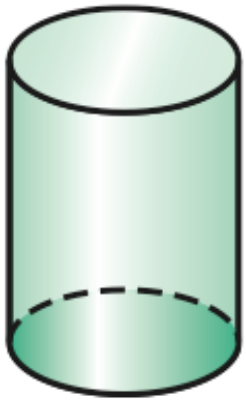
cubic yard A unit for measuring volume. It is the volume of a cube with one-yard edges.

cubic meter

cubic yard

cylinder A solid figure with two congruent curved bases.

circular cylinder



data A collection of information.

cylinder

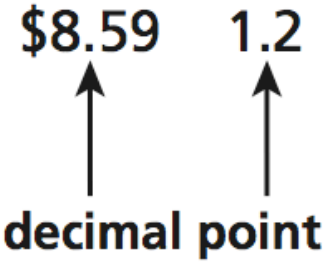
data

decimal number A representation of a number using the numerals 0 to 9, in which each digit has a value 10 times the digit to its right. A dot or **decimal point** separates the whole-number part of the number on the left from the fractional part on the right.

Examples: 1.23 and 0.3

decimal point A symbol used to separate dollars and cents in money amounts or to separate ones and tenths in decimal numbers.

Examples:



decimal number

decimal point

decimeter A unit of measure in the metric system that equals one tenth of a meter. 1 dm = 0.1 m

denominator The number below the bar in a fraction. It shows the total number of equal parts in the fraction.

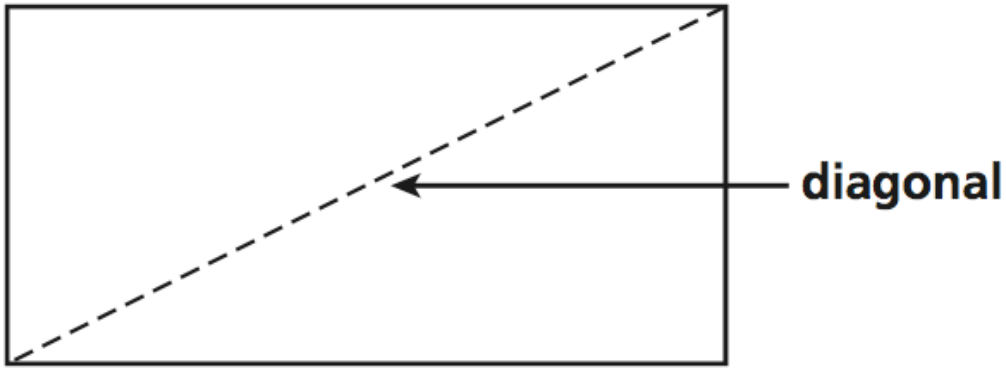
Example:

$\frac{3}{4}$ ← **denominator**

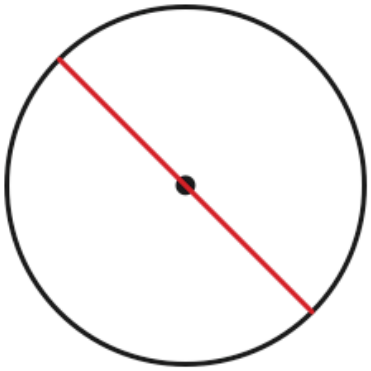
decimeter

denominator

diagonal A line segment that connects vertices of a polygon, but is not a side of the polygon.



diameter A line segment from one side of a circle to the other through the center. Also the length of that segment.



diagonal

diameter

difference The result of a subtraction.

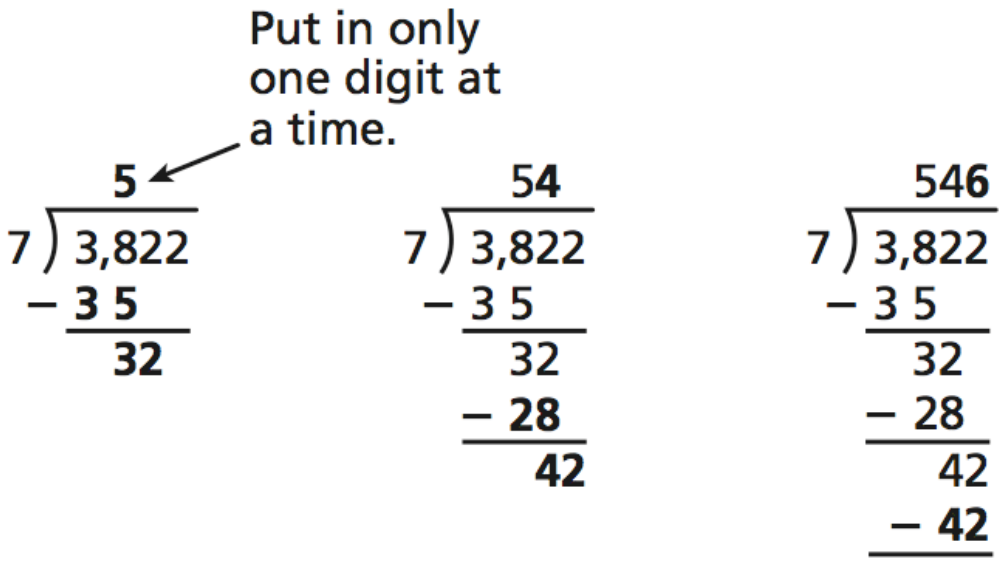
Example: $54 - 37 = 17$ ← difference

digital clock A clock that shows us the hour and minutes with numbers

difference

digital clock

Digit-by-Digit A method used to solve a division problem.



dimension The height, length, or width.

Examples:

A line segment has only length, so it has *one* dimension.

A rectangle has length and width, so it has *two* dimensions.

A cube has length, width, and height, so it has *three* dimensions.

Digit-by-Digit

dimension

Distributive Property You can multiply a sum by a number, or multiply each addend by the number and add the products; the result is the same.

Example:

$$3 \times (2 + 4) = (3 \times 2) + (3 \times 4)$$
$$3 \times 6 = 6 + 12$$
$$18 = 18$$

dividend The number that is divided in division.

Example: $9\overline{)63}$, 63 is the dividend.

Distributive Property

dividend

divisor The number you divide by in division.

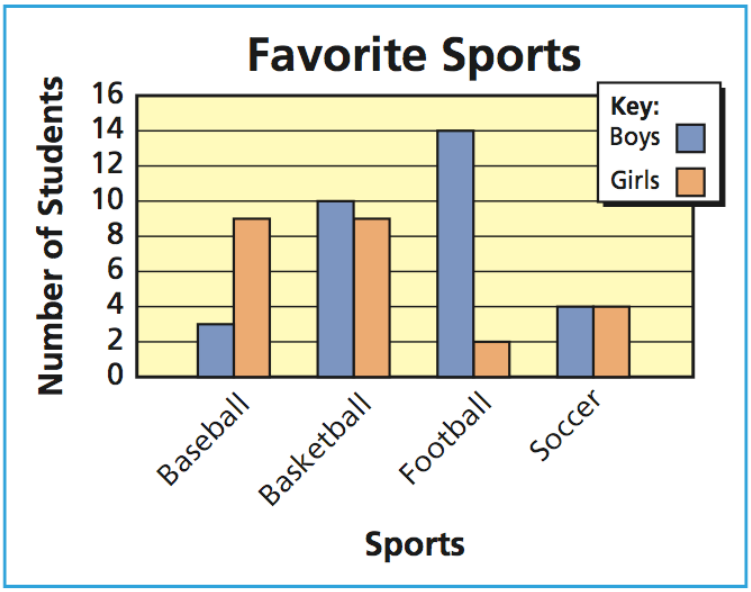
Example: $9\overline{)63}$, 9 is the divisor.

dot array An arrangement of dots in rows and columns.

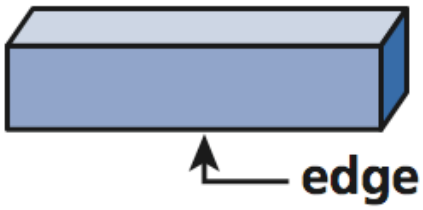
divisor

dot array

double bar graph Data is compared by using pairs of bars drawn next to each other.



edge The line segment where two faces of a three-dimensional figure meet.



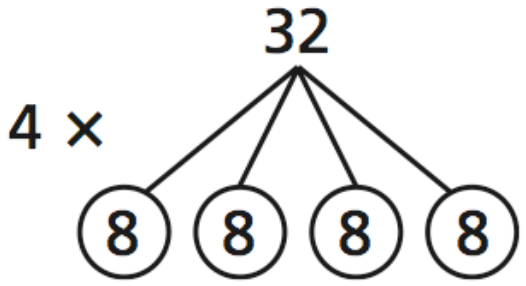
double bar graph

edge

equally likely In probability, equally likely means having the same chance of occurring.

Example: When flipping a coin, the coin is **equally likely** to land on heads or tails.

Equal-Shares Drawing A diagram that shows a number separated into equal parts.



equally likely

Equal-Shares Drawing

equation A statement that two expressions are equal. It has an equals sign.

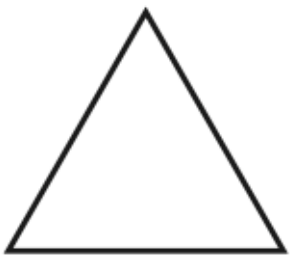
Examples: $32 + 35 = 67$

$67 = 32 + 34 + 1$

$(7 \times 8) + 1 = 57$

equilateral Having all equal sides.

Example: An equilateral triangle



equation

equilateral

equivalent fractions Two or more fractions that represent the same number.

Example: $\frac{2}{4}$ and $\frac{4}{8}$ are equivalent because they both represent one half.

estimate A number close to an exact amount or to find about how many or how much.

equivalent fractions

estimate

expanded form A way of writing a number that shows the value of each of its digits.

Example: Expanded form of 835:

800 + 30 + 5

8 hundreds + 3 tens + 5 ones

Expanded Notation A method used to solve multiplication and division problems.

Examples:

43 × 67

$$
\begin{array}{r}
67 = 60 + 7 \\
\times\ 43 = 40 + 3 \\
\hline
40 \times 60 = 2400 \\
40 \times 7 = 280 \\
3 \times 60 = 180 \\
3 \times 7 = +\ 21 \\
\hline
2{,}881
\end{array}
$$

3,822 ÷ 7

$$
\begin{array}{r}
6 \\
40 \\
500
\end{array}
\Big)\ 546
$$

$$
\begin{array}{r|l}
7 & 3{,}822 \\
-\ 3\,500 & \\
\hline
322 & \\
-\ 280 & \\
\hline
42 & \\
-\ 42 & \\
\hline
0 &
\end{array}
$$

expanded form

Expanded Notation

expression One or more numbers, variables, or numbers and variables with one or more operations.

Examples: 4

$6x$

$6x - 5$

$7 + 4$

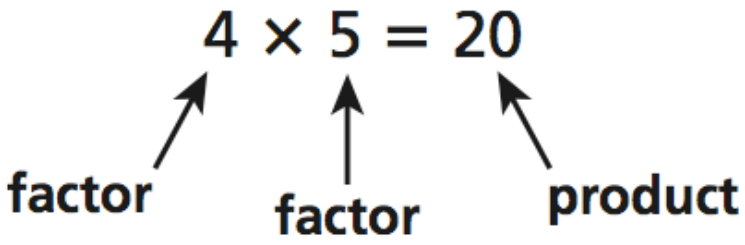
face A flat surface of a three-dimensional figure.

expression

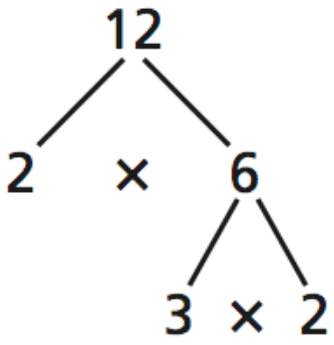
face

factor One of two or more numbers multiplied to find a product.

Example:



Factor Fireworks Shows how a whole number can be broken down into a product of prime factors.



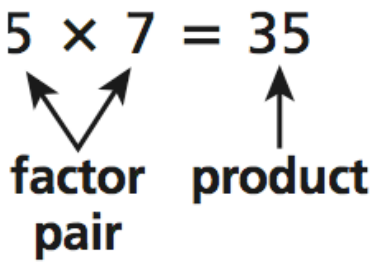
This is also called a **Factor Tree.**

factor

Factor Fireworks

factor pair A factor pair for a number is a pair of whole numbers whose product is that number.

Example:



Factor Triangle A diagram that shows a factor pair and the product.

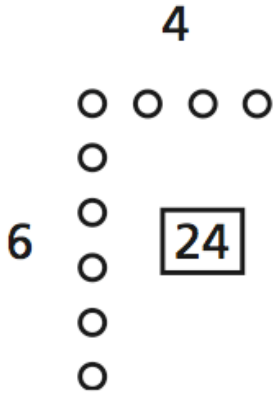
Example:

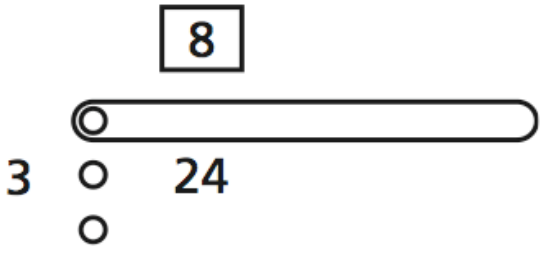
factor pair

Factor Triangle

Fahrenheit The temperature scale used in the United States.

Fast Array A numerical form of an array that shows an unknown factor or unknown product.





Fahrenheit

Fast Array

fraction A number that is the sum of unit fractions, each an equal part of a set or part of a whole.

Examples: $\frac{3}{4} = \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$

$\frac{5}{4} = \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$

frequency table A table that shows how many times each event, item, or category occurs.

Frequency Table	
Height	Frequency
47	1
48	2
49	4
50	3
51	1
52	0
53	2
Total	13

fraction

frequency table

function A set of ordered pairs of numbers such that for every first number there is only one possible second number.

Example: The relationship between yards and feet.

Yards	1	2	3	4	5	6	7
Feet	3	6	9	12	15	18	21

function table A table of ordered pairs that shows a function.

Rule: add 2	
Input	Output
1	3
2	4
3	5
4	6

Heads	1	2	3	4
Legs	2	4	6	8

function

function table

gram The basic unit of mass in the metric system.

greater than (>) A symbol used to compare two numbers. The greater number is given first below.

Example: 33 > 17

33 is greater than 17.

gram

greater than (>)

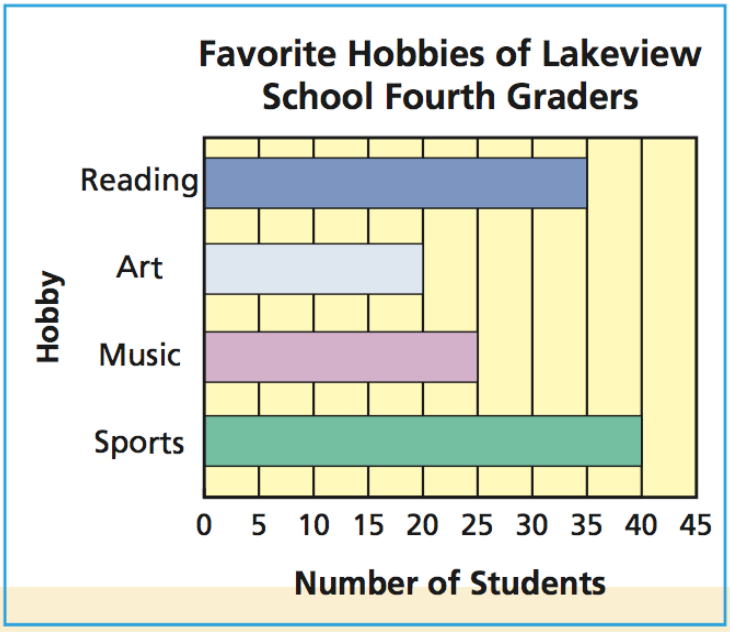
greatest Largest. Used to order three or more quantities or numbers.

height The perpendicular distance from a base of a figure to the highest point.

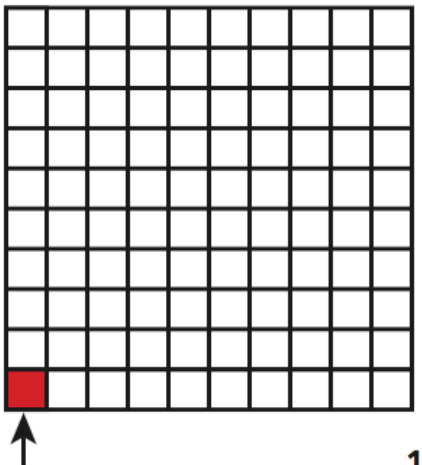
greatest

height

horizontal bar graph A bar graph with horizontal bars.



hundredth A unit fraction representing one of one hundred parts, written as 0.01 or $\frac{1}{100}$.



one hundredth = $\frac{1}{100}$ = 0.01

7.634

hundredth

horizontal bar graph

hundredth

Identity Property of Multiplication
The product of 1 and any number equals that number.

Example: $10 \times 1 = 10$

improper fraction A fraction that is greater than or equal to 1. The numerator is greater than or equal to the denominator.

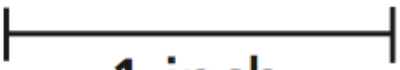
Examples: $\frac{13}{4}$ or $\frac{4}{4}$

Identity Property of Multiplication

improper fraction

inch A U.S. customary unit of length.

Example:



inequality A statement that two expressions are not equal.

Examples: $2 < 5$

$4 + 5 > 12 - 8$

inch

inequality

inverse operations Opposite or reverse operations that undo each other. Addition and subtraction are inverse operations. Multiplication and division are inverse operations.

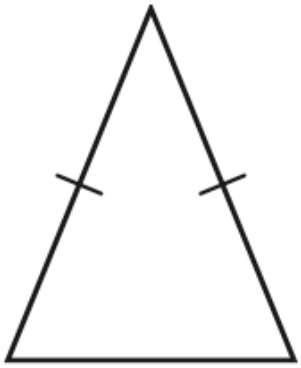
Examples: $4 + 6 = 10$ so, $10 - 6 = 4$ and $10 - 4 = 6$.
$3 \times 9 = 27$ so, $27 \div 9 = 3$ and $27 \div 3 = 9$.

isosceles trapezoid A trapezoid with a pair of opposite congruent sides.

inverse operations

isosceles trapezoid

isosceles triangle A triangle with at least two congruent sides.



kilogram A unit of mass in the metric system that equals one thousand grams. 1 kg = 1,000 g

isosceles triangle

kilogram

kiloliter A unit of capacity in the metric system that equals one thousand liters.
1 kL = 1,000 L

least Smallest. Used to order three or more quantities or numbers.

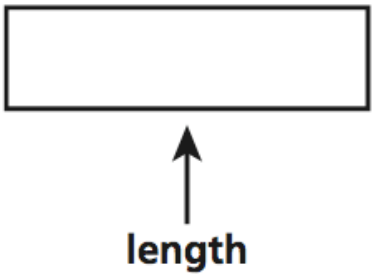
kiloliter

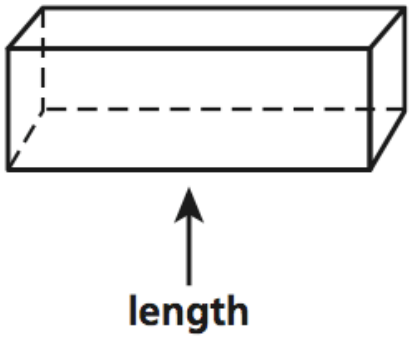
least

least common denominator The least common multiple of two or more denominators.

Example: The least common denominator of $\frac{1}{2}$ and $\frac{1}{6}$ is 6 because 6 is the smallest multiple of 2 and 3.

length The measure of a line segment.





least common denominator

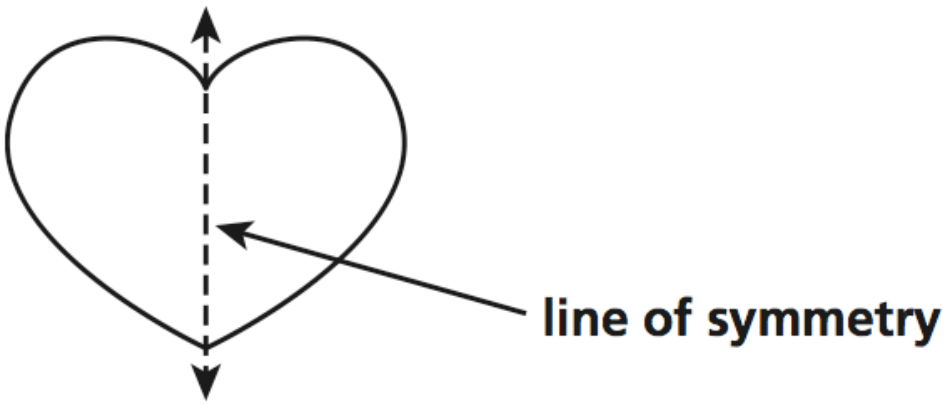
length

less than (<) A symbol used to compare two numbers. The smaller number is given first below.

Example: $54 < 78$

54 is less than 78.

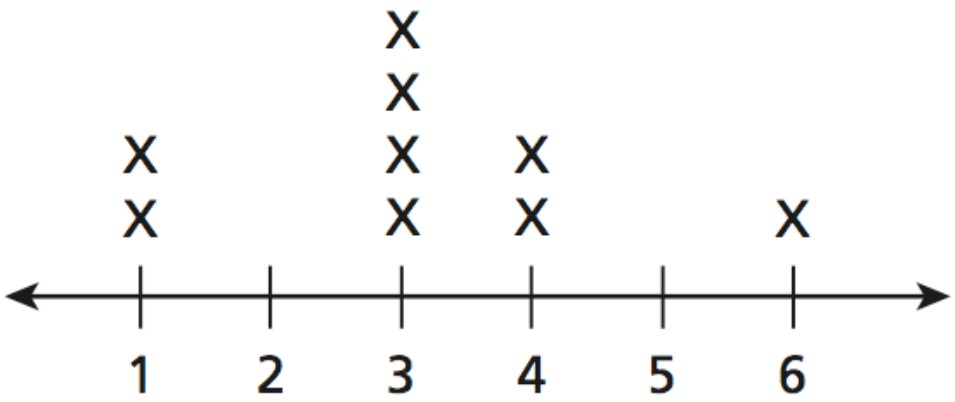
line of symmetry A line that divides a figure into two congruent parts.



less than (<)

line of symmetry

line plot A diagram that shows the frequency of data on a number line.

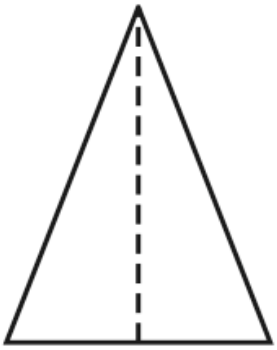


line segment Part of a line that has two endpoints.

line plot

line segment

line symmetry A figure has line symmetry if it can be folded along a line to create two halves that match exactly.



liter The basic unit of capacity in the metric system. 1 liter = 1,000 milliliters.

line symmetry

liter

mass The measure of the amount of matter in an object.

mean (average) The size of each of *n* equal groups made from *n* data values. It is calculated by adding the values and dividing by *n*.

Examples: 75, 84, 89, 91, 101

75 + 84 + 89 + 91 + 101 = 440,

then 440 ÷ 5 = 88. The mean is 88.

mass

mean (average)

measure of central tendency The mean, median, or mode of a set of numbers.

median The middle number in a set of ordered numbers. For an even number of numbers, the median is the average of the two middle numbers.

Examples: 13 26 34 47 52

The median for this set is 34.

8 8 12 14 20 21

The median for this set is $(12 + 14) \div 2 = 13$.

measure of central tendency

median

meter The basic unit of length in the metric system.

mile A U.S. customary unit of length equal to 5,280 feet.

meter

mile

milligram A unit of mass in the metric system that equals one thousandth of a gram. 1 mg = 0.001 g

milliliter A unit of capacity in the metric system that equals one thousandth of a liter. 1 mL = 0.001 L

milligram

milliliter

millimeter A unit of length in the metric system that equals one thousandth of a meter. 1 mm = 0.001 m

misleading A comparing sentence containing language that may trick you into doing the wrong operation.

Example: John's age is 3 *more than* Jessica's. If John is 12, how old is Jessica?

millimeter

misleading

mixed number A number that can be represented by a whole number and a fraction.

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

mode The number that appears most frequently in a set of numbers.

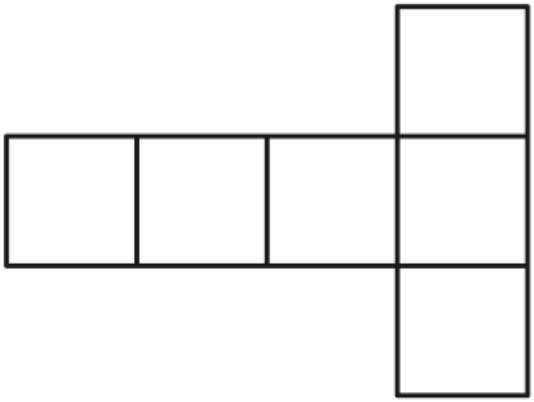
Example: 2, 4, 4, 4, 5, 7, 7

4 is the mode in this set of numbers.

mixed number

mode

net A flat pattern that can be folded to make a solid figure.



net for a cube

number sentence A mathematical statement that uses =, <, or > to show how numbers or expressions are related. The types of number sentences are equations and inequalities.

Example: 25 + 25 = 50

13 > 8 + 2

net

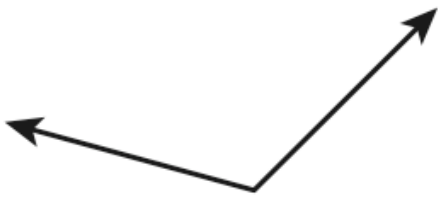
number sentence

numerator The number above the bar in a fraction. It shows the number of equal parts.

Example:

$\frac{3}{4}$ ← **numerator** $\frac{3}{4} = \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$

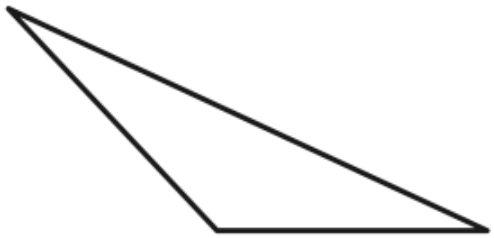
obtuse angle An angle greater than a right angle and less than a straight angle.



numerator

obtuse angle

obtuse triangle A triangle with one obtuse angle.



Order of Operations A set of rules that state the order in which operations should be done.

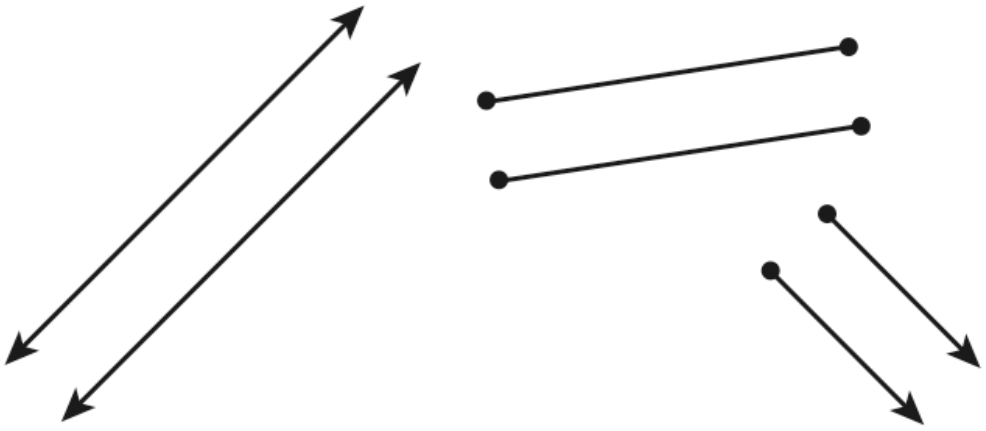
STEPS: -Compute inside parentheses first.
-Multiply and divide from left to right.
-Add and subtract from left to right.

obtuse triangle

Order of Operations

ounce A unit of weight equal to one sixteenth of a pound. A unit of capacity equal to one eighth of a cup (also called a fluid ounce).

parallel Lines in the same plane that never intersect are parallel. Line segments and rays that are part of parallel lines are also parallel.



ounce

parallel

parallelogram A quadrilateral with both pairs of opposite sides parallel.

Partial-Quotients Method A method used to solve division problems where the partial quotients are written next to the division problem instead of above it.

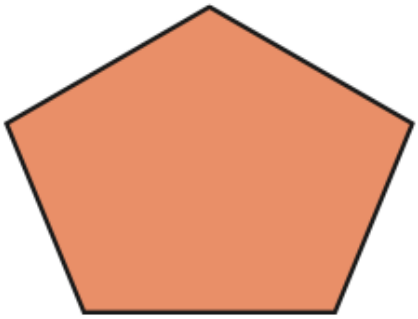
Example:

8)178		
− 160	20	
18		
− 16	2	
2	22	
22 R2		

parallelogram

Partial-Quotients Method

pentagon A polygon with five sides.



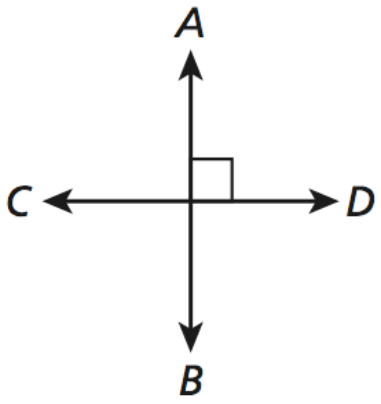
perimeter The distance around a figure.

pentagon

perimeter

perpendicular Lines, line segments, or rays are perpendicular if they form right angles.

Example: These two line segments are perpendicular.

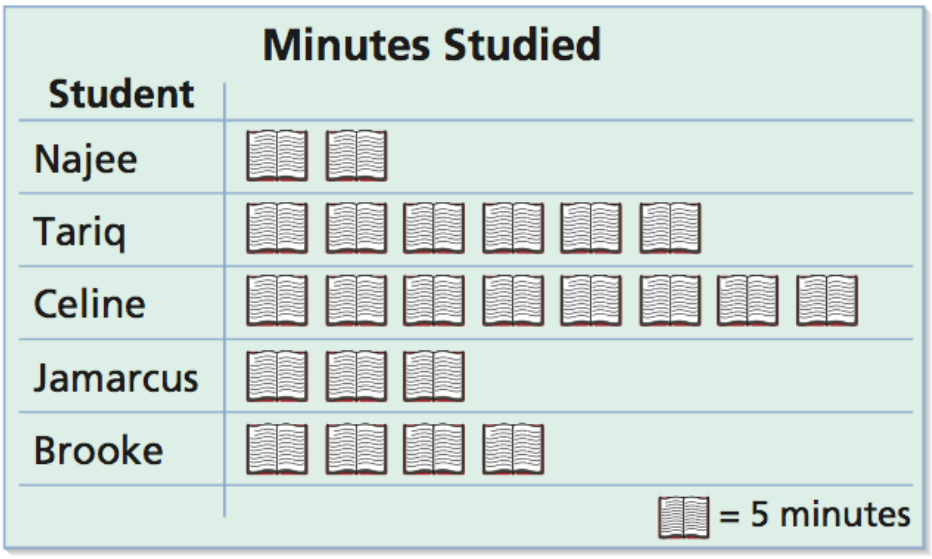


pi A special number equal to the circumference of a circle divided by its diameter. Pi can be represented by the symbol π and is approximately 3.14.

perpendicular

pi

pictograph A graph that uses pictures or symbols to represent data.



place value The value assigned to the place that a digit occupies in a number.

Example: 235

The 2 is in the hundreds place, so its value is 200.

pictograph

place value

plane A flat surface that extends without end.

polygon A closed plane figure with sides made of straight line segments.

plane

polygon

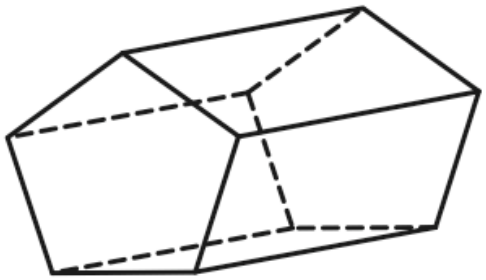
pound A unit of weight in the U.S. customary system.

prime number A number greater than 1 that has 1 and itself as the only factor pair. Examples of prime numbers are 2, 7, and 13. The only factor pair of 7 is 1 and 7.

pound

prime number

prism A solid figure with two congruent parallel bases joined by rectangular faces. Prisms are named by the shape of their bases.

pentagonal prism 

probability A number between 0 and 1 that represents the chance of an event happening.

prism

probability

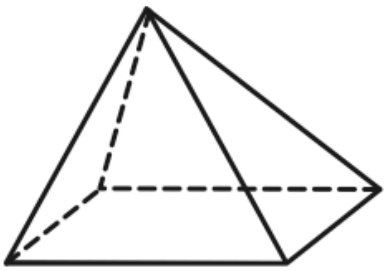
product The answer to a multiplication.

Example: $9 \times 7 = 63$

↑

product

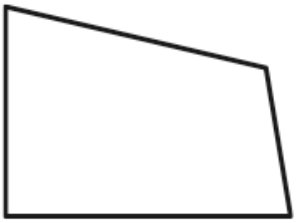
pyramid A solid with a polygon for a base whose faces meet at a point called the vertex.



product

pyramid

quadrilateral A polygon with four sides.



quotient The answer to a division problem.

Example: $9\overline{)63}$; 7 is the quotient.

quadrilateral

quotient

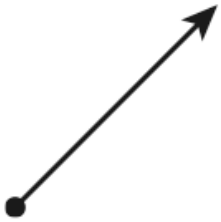
radius A line segment that connects the center of a circle to any point on that circle. Also the length of that line segment.

range The difference between the greatest number and the least number in a set.

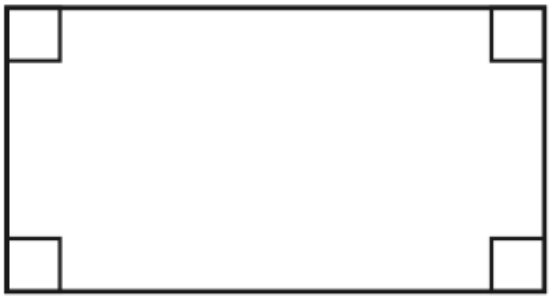
radius

range

ray Part of a line that has one endpoint and extends without end in one direction.



rectangle A parallelogram with four right angles.

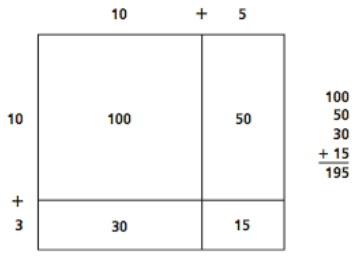


ray

rectangle

Rectangle Sections A method using rectangle drawings to solve multiplication or division problems.

13×15



$330 \div 5$

a.

$$5\overline{)330}$$

b.

$$\begin{array}{r} 60 \\ 5\overline{)330} \\ -300 \\ \hline 30 \end{array}$$

c.

$$\begin{array}{r} 60 + \\ 5\overline{)330} \\ -300 \\ \hline 30 \end{array}$$

d.

$$\begin{array}{r} 60 + \\ 5\overline{)330\ \ 30} \\ -300 \\ \hline 30 \end{array}$$

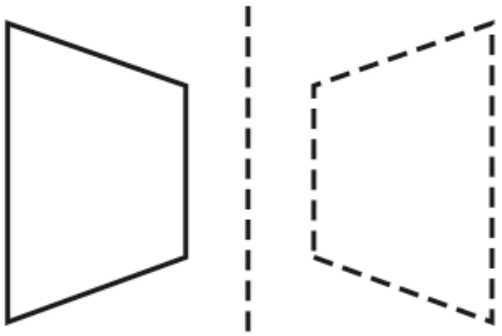
e.

$$\begin{array}{r} 60 + 6 \\ 5\overline{)330\ \ 30} \\ -300\ \ -30 \\ \hline 30 \end{array}$$

f.

$$\begin{array}{r} 60 + 6 = 66 \\ 5\overline{)330\ \ 30} \\ -300\ \ -30 \\ \hline 30\ \ 0 \end{array}$$

reflection A transformation that flips a figure onto a congruent image. Sometimes called a *flip*.

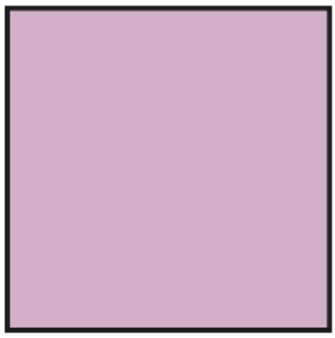


Rectangle Sections

reflection

regular polygon Having all sides and angles congruent.

Example: A square is a regular quadrilateral.



remainder The number left over after dividing two numbers that are not evenly divisible.

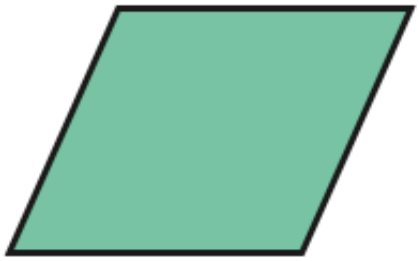
Example: $5\overline{)43}$ 8 R3 The remainder is 3.

regular polygon

remainder

Repeated Groups situation A multiplication situation in which all groups have the same number of objects.

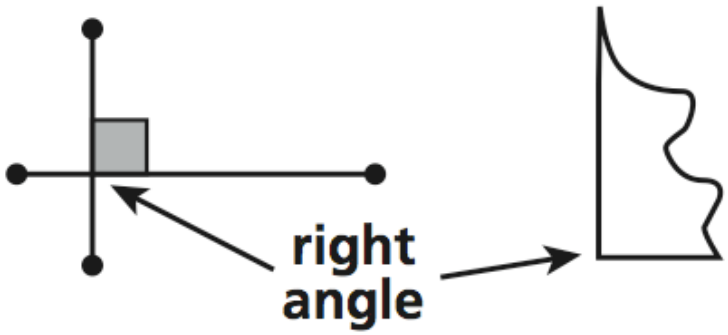
rhombus A parallelogram with congruent sides.



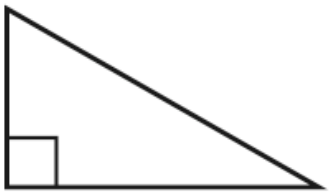
repeated groups

rhombus

right angle One of four congruent angles made by perpendicular lines.



right triangle A triangle with one right angle.



right angle

right triangle

round To find the nearest ten, hundred, thousand, or some other place value. The usual rounding rule is to round up if the next digit to the right is 5 or more and round down if the next digit to the right is less than 5.

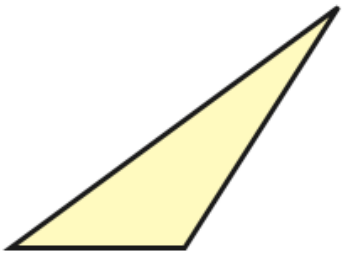
Examples: 463 rounded to the nearest ten is 460.
463 rounded to the nearest hundred is 500.

row A part of a table or array that contains items arranged horizontally.

round

row

scalene A triangle with no equal sides is a scalene triangle.



simplest form A fraction is in simplest form if there is no whole number (other than 1) that divides evenly into the numerator and denominator.

Examples: $\frac{3}{4}$ This fraction is in simplest form because no number divides evenly into 3 and 4.

scalene

simplest form

simplify a fraction To divide the numerator and the denominator of a fraction by the same number to make an equivalent fraction made from fewer but larger unit fractions.

Example: $\frac{5}{10} = \frac{5 \div 5}{10 \div 5} = \frac{1}{2}$

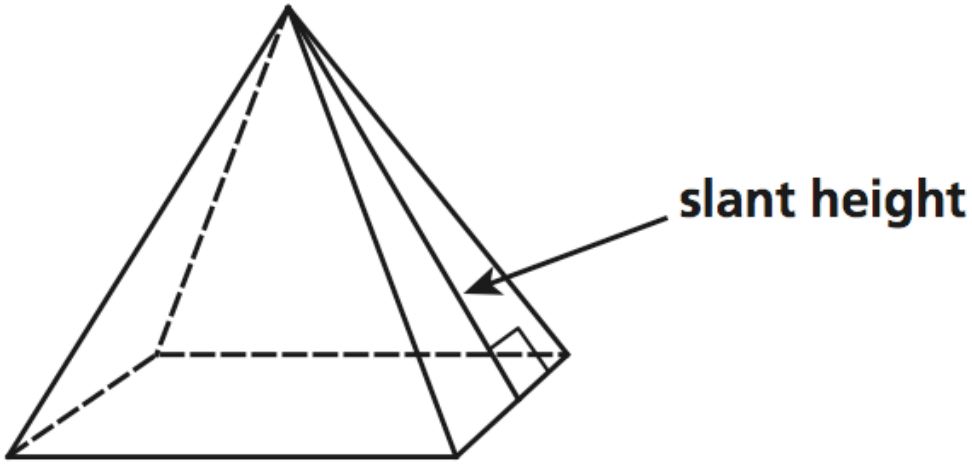
situation equation An equation that shows the action or the relationship in a problem.

Example: $35 + n = 40$

simplify a fraction

situation equation

slant height The height of a triangular face of a pyramid.



solution equation An equation that shows the operation to perform in order to solve the problem.

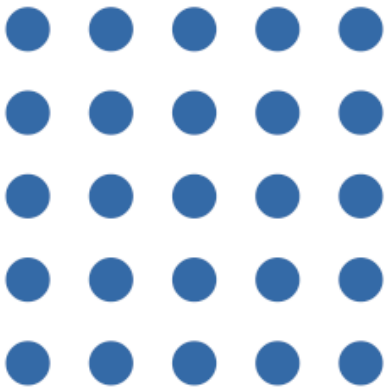
Examples: $n = 40 - 35$

slant height

solution equation

sphere A solid figure shaped like a ball.

square array An array in which the number of rows equals the number of columns.



sphere

square array

square centimeter A unit of area equal to the area of a square with one-centimeter sides.

square decimeter A unit of area equal to the area of a square with one-decimeter sides.

square centimeter

square decimeter

square foot A unit of area equal to the area of a square with one-foot sides.

square inch A unit of area equal to the area of a square with one-inch sides.

square foot

square inch

square kilometer A unit of area equal to the area of a square with one-kilometer sides.

square meter A unit of area equal to the area of a square with one-meter sides.

square kilometer

square meter

square mile A unit of area equal to the area of a square with one-mile sides.

square millimeter A unit of area equal to the area of a square with one-millimeter sides.

square mile

square millimeter

square number The product of a whole number and itself.

Example: $3 \times 3 = 9$

9 is a square number.

square unit A unit of area equal to the area of a square with one-unit sides.

square number

square unit

square yard A unit of area equal to the area of a square with one-yard sides.

standard form The form of a number written using digits.

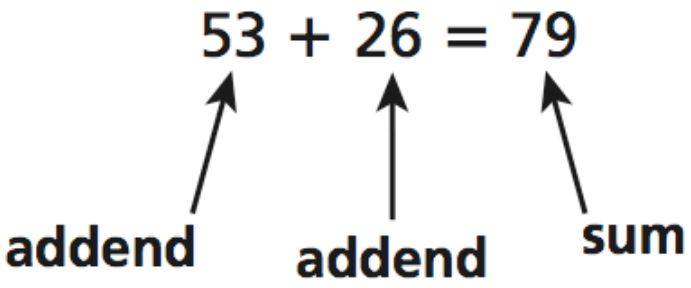
Example: 2,145

square yard

standard form

sum The answer when adding two or more addends.

Example:



surface area The total area of the two-dimensional surfaces of a three-dimensional figure.

sum

surface area

table Data arranged in rows and columns.

tally chart A chart that uses tally marks to record and organize data.

Tally Chart	
Height (inches)	Tally
47	///
48	𝍸
49	//
50	
51	𝍸 /
52	////
53	//

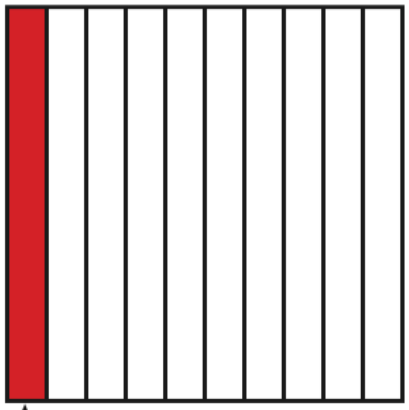
/ is 1

𝍸 is 5

table

tally chart

tenth A unit fraction representing one of ten equal parts of a whole, written as 0.1 or $\frac{1}{10}$.



one tenth = $\frac{1}{10}$ = 0.1

12.34

tenth

thousandth A unit fraction representing one of one thousand equal parts of a whole, written as 0.001 or $\frac{1}{1{,}000}$.

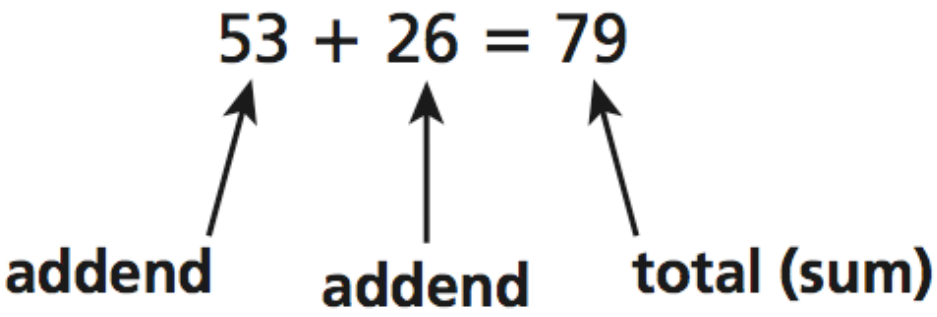
tenth

thousandth

ton A unit of weight that equals 2,000 pounds.

total Sum. The result of addition.

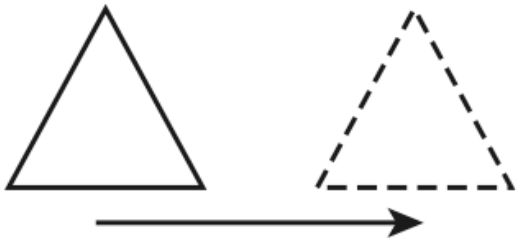
Example:



ton

total

translation A transformation that moves a figure along a straight line without turning or flipping. Sometimes called a *slide*.



trapezoid A quadrilateral with one pair of parallel sides.

translation

trapezoid

triangle A polygon with three sides.

unit A standard of measurement.

Examples: Centimeters, pounds, inches, and so on.

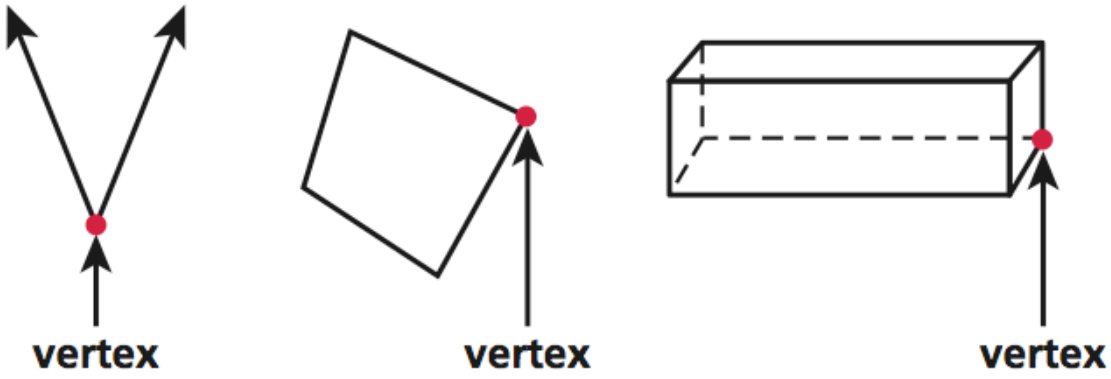
triangle

unit

unit fraction A fraction whose numerator is 1. It shows one equal part of a whole.

Example: $\frac{1}{4}$

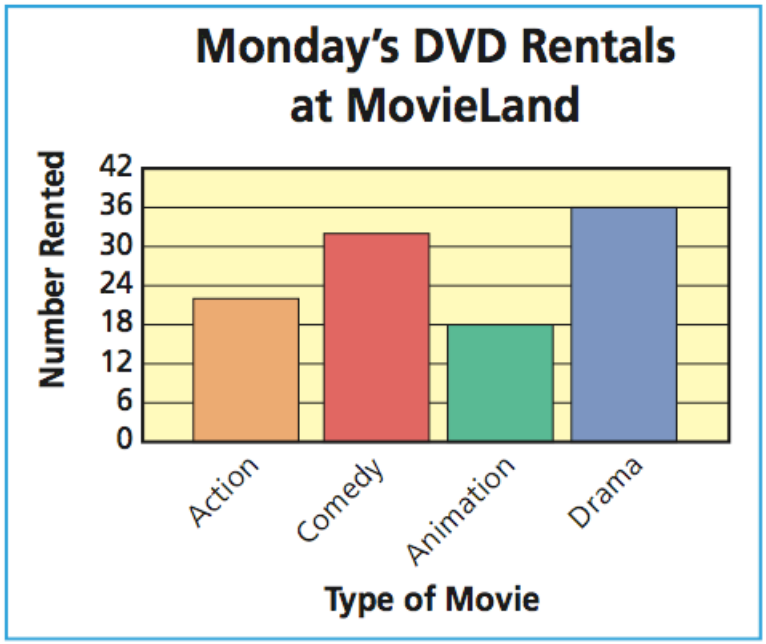
vertex A point that is shared by two sides of an angle, two sides of a polygon, or edges of a solid figure.



unit fraction

vertex

vertical bar graph A bar graph with vertical bars.

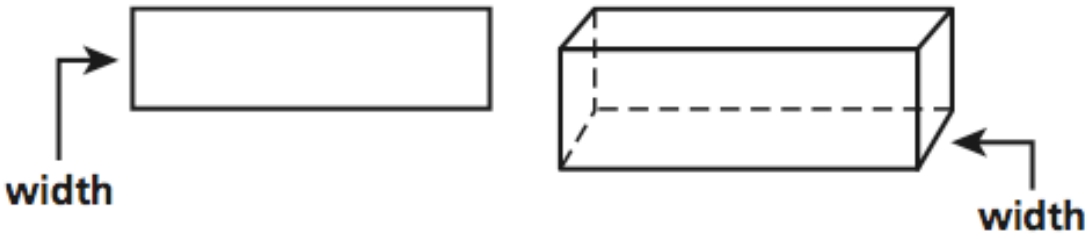


volume The number of cubic units of space occupied by a solid figure.

vertical bar graph

volume

width The measure of one side or edge of a figure.



word form The form of a number written using words instead of digits.

Example: Six hundred thirty-nine

width

word form

yard A U.S. customary unit of length equal to 3 feet.

yard