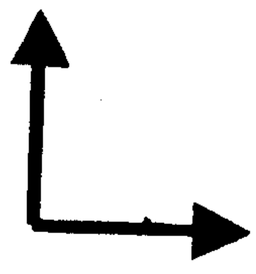
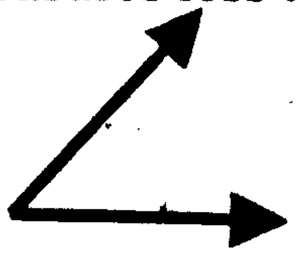
Angles

Right Angle – looks like an "L" , measures 90°

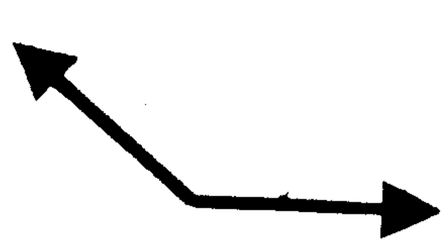


Acute Angle-measures less than 90°, (cute-think about a small baby)



Obtuse Angle-measures greater than 90°, o-obtuse

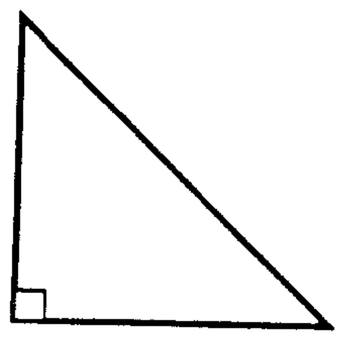
o-open



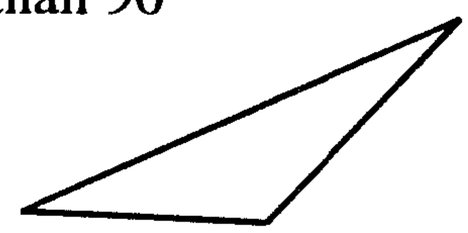
Straight Angle-measures 180°

Triangles

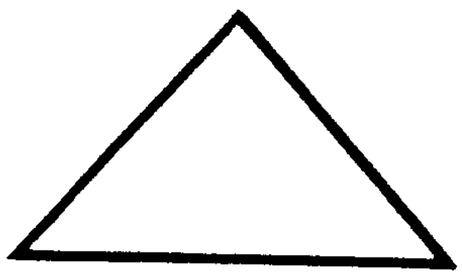
Right Triangle- has a right angle



Obtuse Triangle- has at least one angle that is greater than 90°

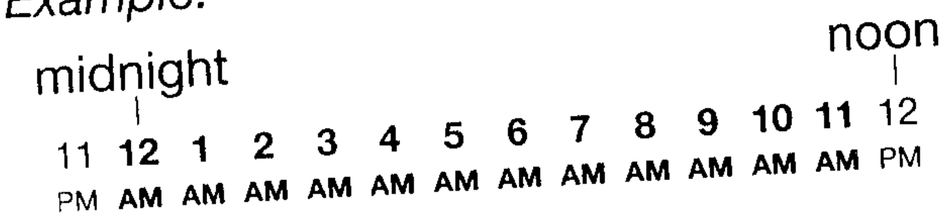


Acute Triangle-angles are less than 90°



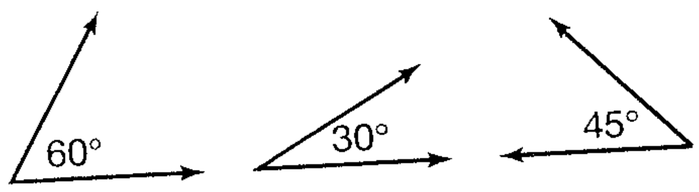
A.M. Times from midnight to noon.

Example:



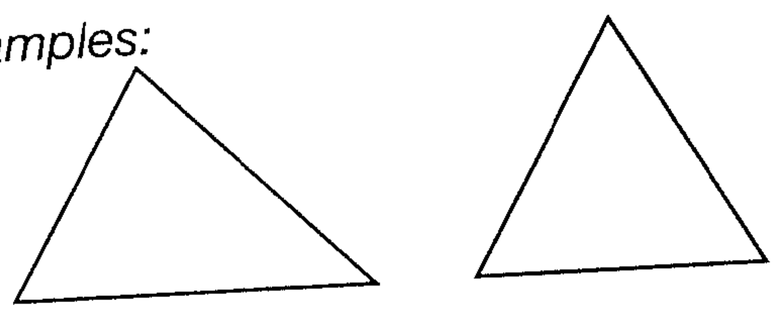
acute angle An angle that is less than a right angle.

Examples:



acute triangle A triangle with all angles less than right angles.

Examples:



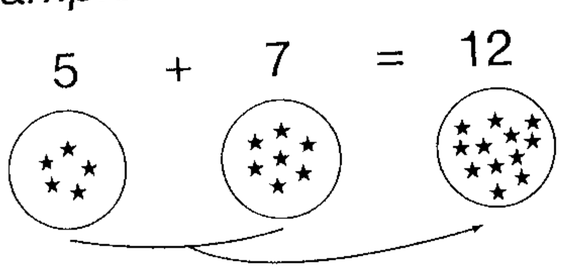
addend A number added to find a sum.

Example: addends

$2 + 7 = 9$

addition An operation that gives the total number when you put together two or more numbers.

Examples:



$$\begin{array}{r} {\scriptstyle 1} \\ 438 \\ +\,725 \\ \hline 1{,}163 \end{array}$$

algebra A branch of mathematics in which arithmetic relations are explored using variables to represent numbers.

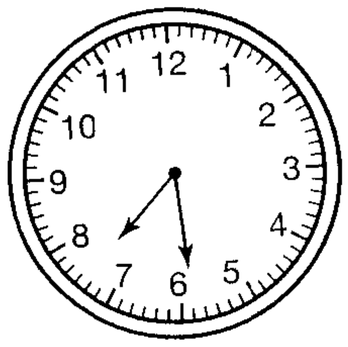
algebraic expression An expression that contains a variable.

Examples:

$n + 8$ $\quad 4 \times n$ $\quad n - 2$

analog clock A clock that displays time using hands.

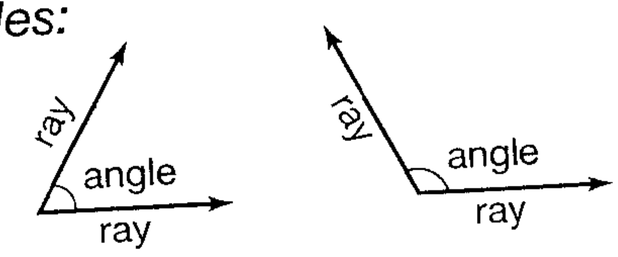
Example:



7:29

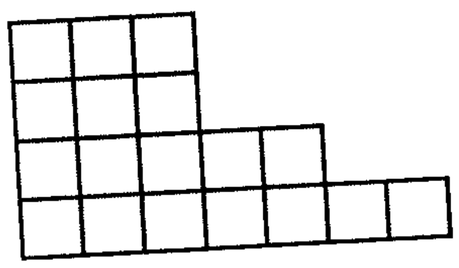
angle Two rays with a common endpoint.

Examples:



area The number of square units needed to cover a closed figure.

Example:



Area is 18 square units.

array Objects arranged in rows and columns.

Examples:

✻ ✻ ✻ ✻ ✻	✻ ✻ ✻
✻ ✻ ✻ ✻ ✻	✻ ✻ ✻
✻ ✻ ✻ ✻ ✻	✻ ✻ ✻
	✻ ✻ ✻
	✻ ✻ ✻
an array showing 3 groups of 5	an array showing 5 groups of 3

associative (grouping) property When the grouping of addends or factors is changed, the sum or product stays the same.

Examples:

$$(5 + 2) + 3 = 5 + (2 + 3)$$

$$(3 \times 2) \times 1 = 3 \times (2 \times 1)$$

average The number found when the sum of two or more numbers is divided by the number of addends. Also called the *mean.*

Example:

Find the average (mean) of 12, 14, 16, and 18.

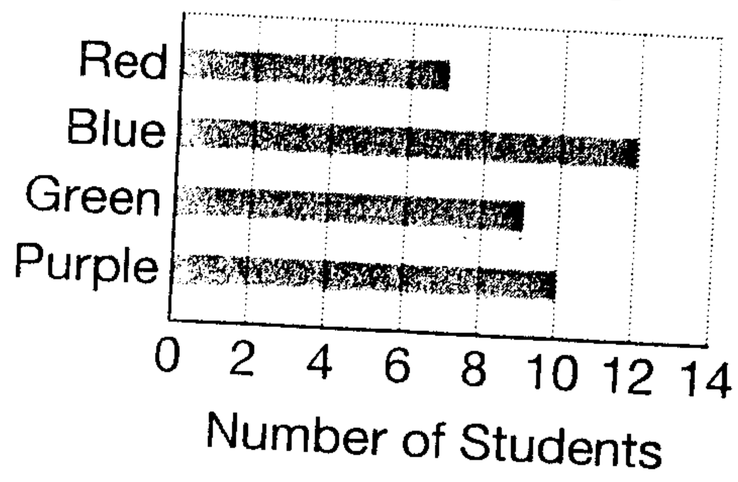
$$\begin{array}{r} 12 \\ 14 \\ 16 \\ +\ 18 \\ \hline 60 \end{array} \qquad \begin{array}{r} 15 \\ 4\overline{)60} \\ -4 \\ \hline 20 \\ -\ 20 \\ \hline 0 \end{array}$$

The average is 15.

axes See *x-axis* and *y-axis.*

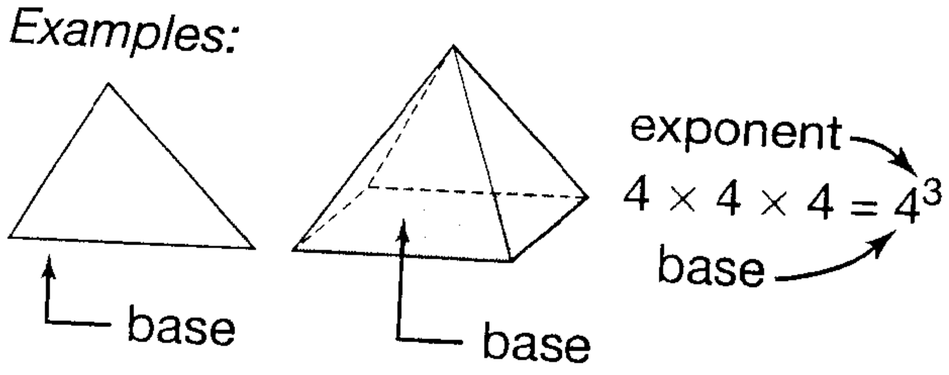
bar graph A graph that uses bars to show data.

Example:



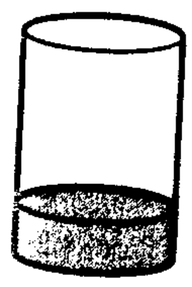
base The bottom of a polygon or solid. Also, in 4^3, 4 is the base.

Examples:



benchmark A known measurement that is used to estimate other measurements. Also, a number that is easy to work with, such as 10, 50, 100, 500, 1,000, or 1,000,000, used to help do mental math.

Examples:



3×99 Rewrite 99 as $100 - 1$.

$$3 \times 99 = 3 \times (100 - 1)$$
$$= (3 \times 100) - (3 \times 1)$$
$$= 300 - 3$$
$$= 297$$

$$3 \times 99 = 297$$

binary number system A base-2 place value system.

Example:

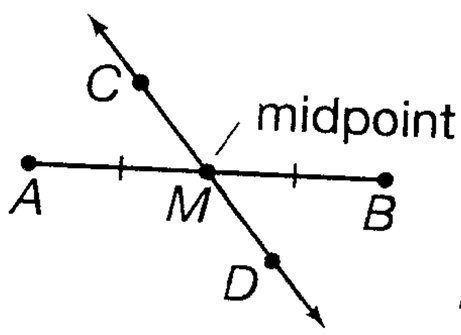
In the binary number system, 1011 is equal to 11 in the decimal (base 10) number system.

	Eights place	Fours place	Twos place	Ones place
Base 2	1	0	1	1
Place value	8	4	2	1
Product	1×8=8	0×4=0	1×2=2	1×1=1

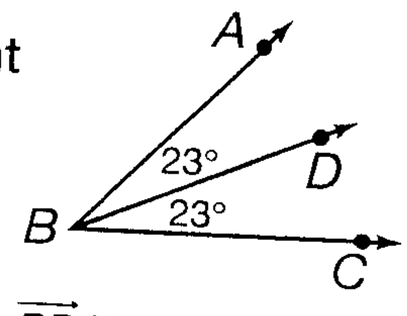
$(1 \times 8) + (0 \times 4) + (1 \times 2) + (1 \times 1) = 8 + 0 + 2 + 1 = 11$

bisect To divide an angle or segment into two congruent angles or segments.

Examples:



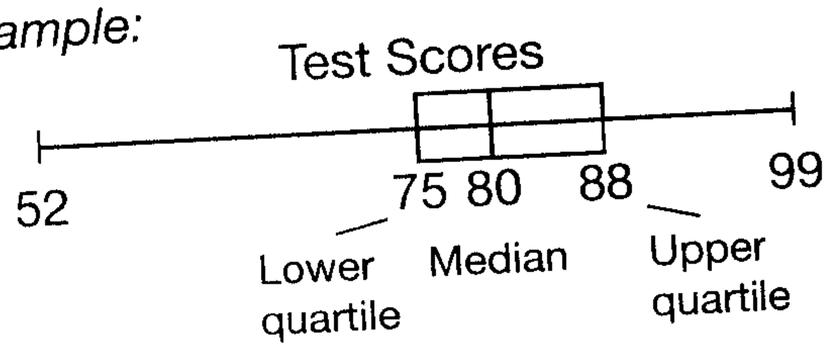
$\overleftrightarrow{CD}$ bisects $\overline{AB}$.



$\overrightarrow{BD}$ bisects $\angle ABC$.

box-and-whisker plot A visual way of showing how a collection of data is distributed. The example below is based on the following ten test scores: 52, 64, 75, 79, 80, 80, 81, 88, 92, 99.

Example:



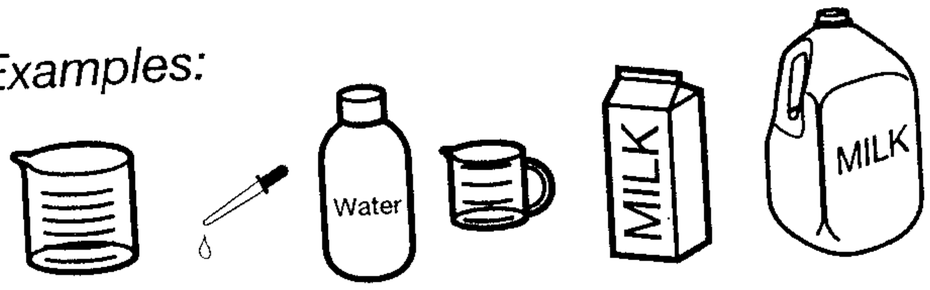
calendar A chart that shows months, days, and dates.

Example:

MAY						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

capacity The amount of liquid a container can hold.

Examples:



1000 mL 1 mL 1 L 1 cup 1 quart 1 gallon

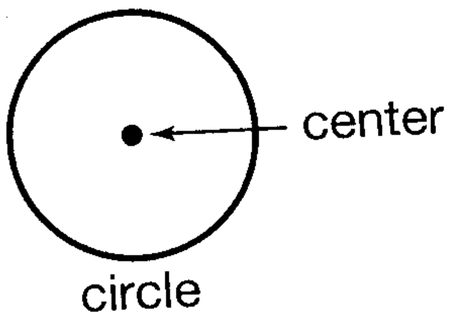
cent (¢) Unit of money. 100 cents equal 1 dollar.

Example:

A penny is 1¢.

center The point from which all points on a circle are equally distant.

Example:

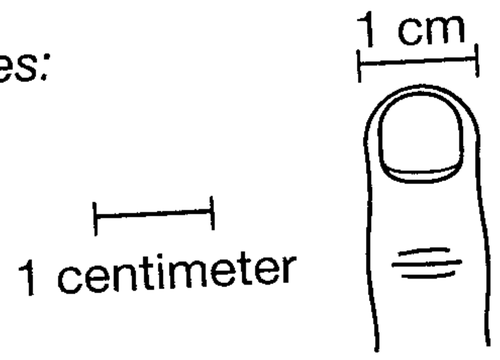


centi- A prefix meaning $\frac{1}{100}$.

Example: 1 centimeter $= \frac{1}{100}$ meter

centimeter (cm) A unit for measuring length in the metric system.

Examples:



certain Definitely will happen.

Example:

The month after February is certain to be March.

chances The probability that a particular event will occur.

Example:

When you toss a coin you have the same chance of getting a tail as you do a head.

Head

Tail

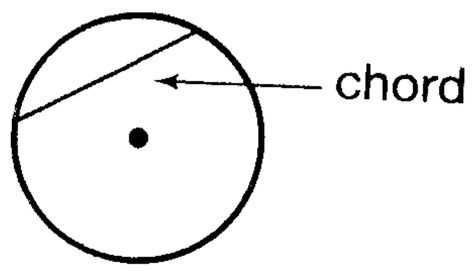
change The amount of money you receive back when you pay with more money than something costs.

Example:

Money given to clerk		Cost of item		Change
$1.00	−	0.75	=	$0.25

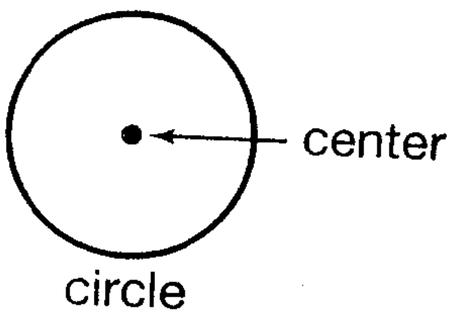
chord A line segment with both endpoints on a circle.

Example:



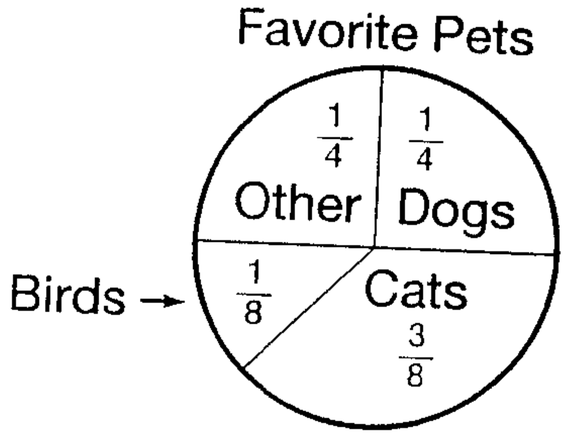
circle A plane figure in which all the points are the same distance from a point called the center.

Example:



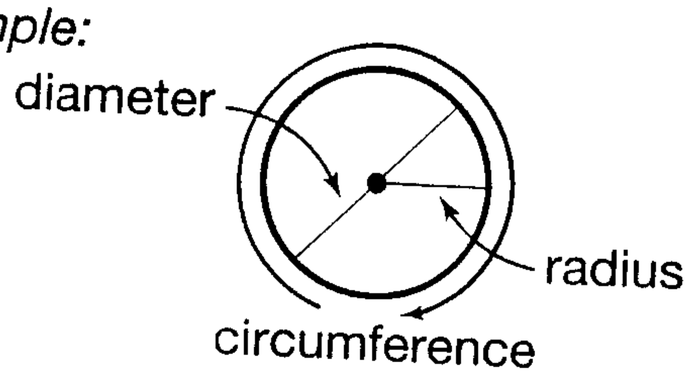
circle graph A graph in the form of a circle that shows how the whole is divided into parts.

Example:



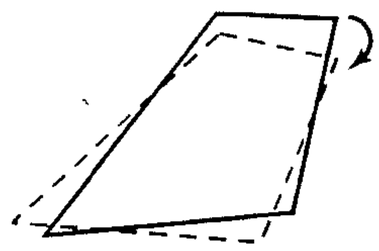
circumference The distance around a circle. $C = 2 \times \pi \times r$ or $C = \pi \times d$

Example:



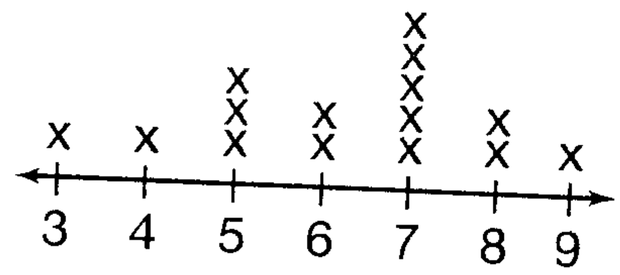
clockwise The direction of rotation when the top of a figure turns to the right.

Example:



cluster Data that group around one value of a line plot.

Example:



The line plot has a cluster at 7.

clustering An estimation method where numbers that are approximately equal are treated as if they were equal.

Example:

26 + 24 + 23 is about 25 + 25 + 25, or 3 × 25.

common denominator A number that is a denominator of two or more fractions.

Example: $\frac{1}{8}$ $\frac{3}{8}$ $\frac{6}{8}$

8 is the common denominator.

common factor A number that is a factor of each of two or more different numbers.

Example:

3 is a factor of 6.

3 is a factor of 9.

3 is a common factor of 6 and 9.

common multiple A number that is a multiple of two or more different numbers.

24 is a multiple of 6.

24 is a multiple of 8.

24 is a common multiple of 6 and 8.

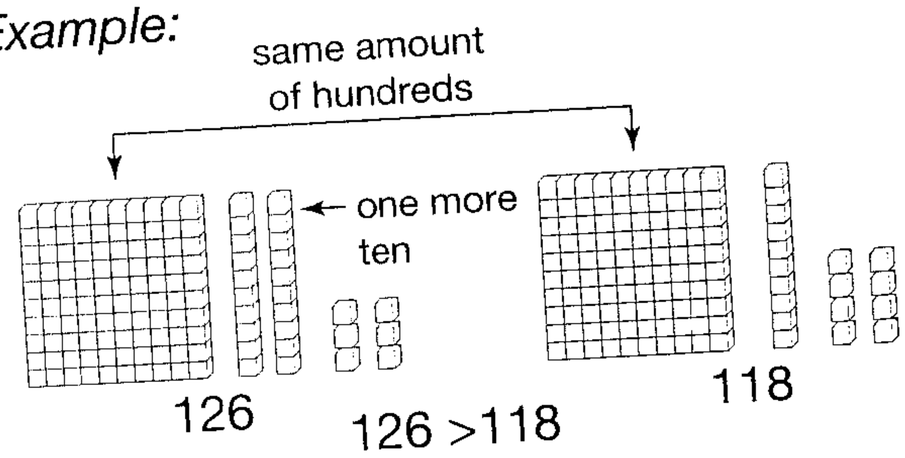
commutative (order) property Changing the order of addends or factors does not change the sum or product.

Examples:

$8 + 5 = 5 + 8$ $3 \times 6 = 6 \times 3$

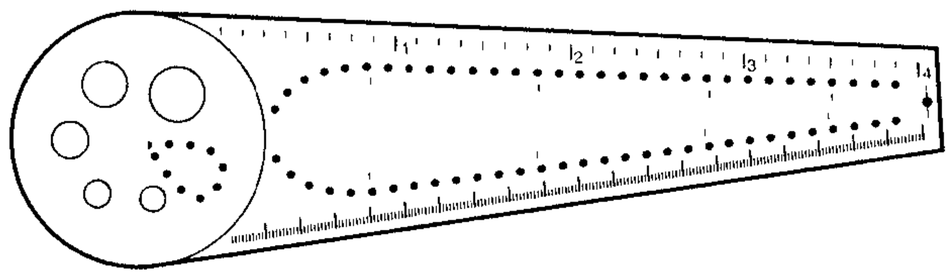
compare To decide which of two numbers is greater.

Example:



compass An instrument used to make circles.

Example:



compatible numbers Numbers that are easy to compute with mentally.

Examples:

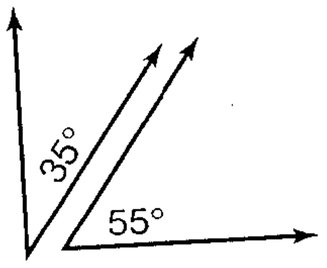
$25 + 175$ 5×20 $360 \div 9$

compensation The mental math strategy of choosing numbers close to the numbers in a problem, and then adjusting the answer to compensate for the numbers chosen.

Example: $99 \times 4 = (100 \times 4) - (1 \times 4)$
$= 400 - 4$
$= 396$

complementary angles Two angles whose measures add up to 90°.

Example:



$35° + 55° = 90°$

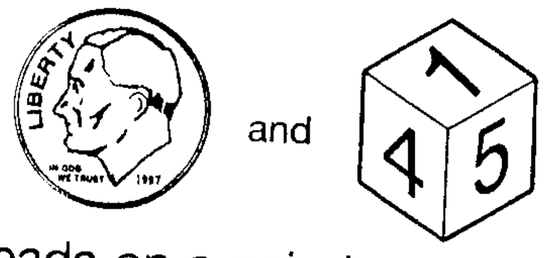
composite number A whole number greater than 1 with more than two different factors.

Example:

6 is a composite number. Its factors are 1, 2, 3, and 6.

compound event Event that is the combination of two or more single events.

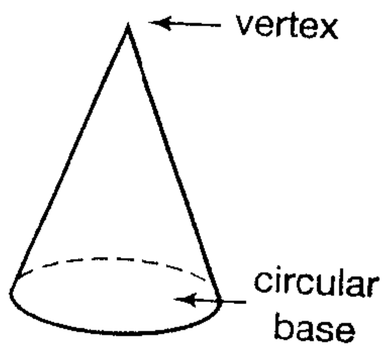
Example:



Getting heads on a coin toss and rolling a 1 with a number cube is a compound event.

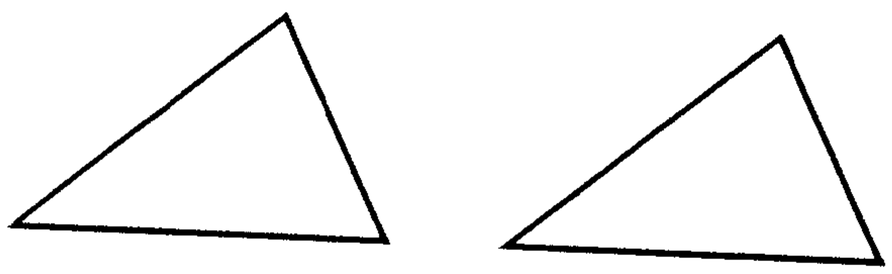
cone A solid figure with one circular base and one vertex.

Example:



congruent figures Figures that have the same size and shape.

Example:



congruent triangles

constant A quantity that does not change.

Example:

In the algebraic expression $x + 7$, 7 is a constant.

conversion factor A measurement equivalence used to convert quantities from one unit to another. It is often expressed as a fraction.

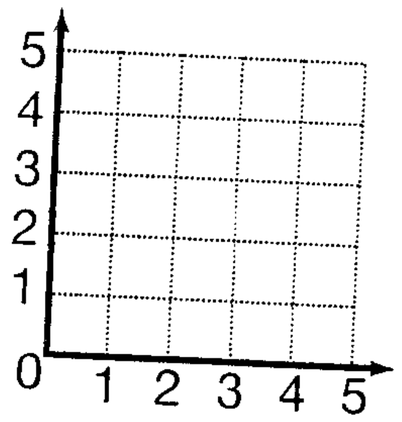
Examples:

12 inches = 1 foot; $\frac{12 \text{ inches}}{1 \text{ foot}}$

4 quarts = 1 gallon; $\frac{4 \text{ quarts}}{1 \text{ gallon}}$

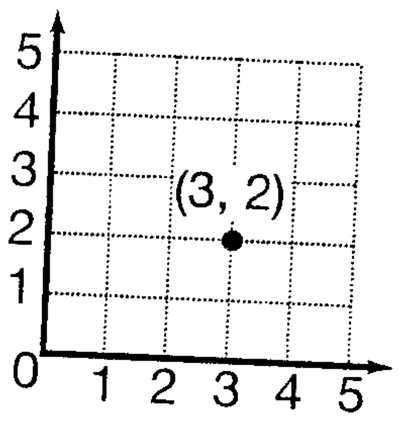
coordinate grid A graph used to locate points.

Example:



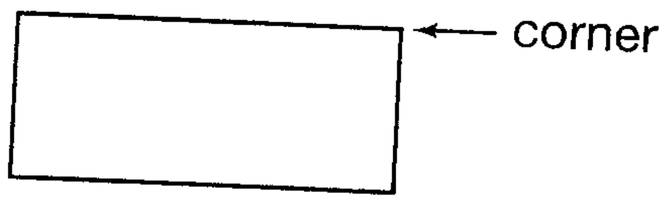
coordinates A pair of numbers used to locate a point on a graph. *See also* ordered pair.

Example:



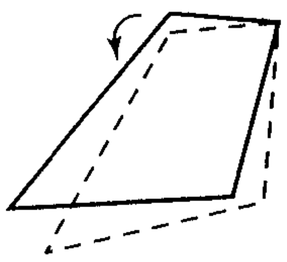
corner Where two sides meet.

Example:



counterclockwise The direction of rotation when the top of a figure turns to the left.

Example:



cross product The product of the numerator of one ratio with the denominator of another.

Example:

$\frac{1}{3} \times \frac{2}{5}$

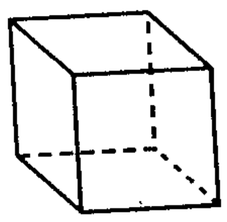
cross products:

$1 \times 5 = 5$

$3 \times 2 = 6$

cube A solid figure whose six faces are all squares.

Example:



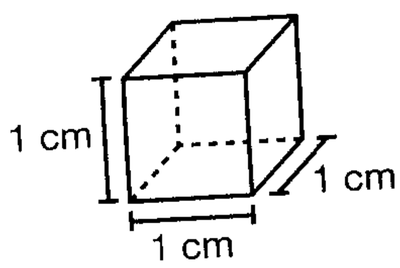
cubed Raised to the third power.

Example:

2 cubed $= 2^3 = 2 \times 2 \times 2 = 8$

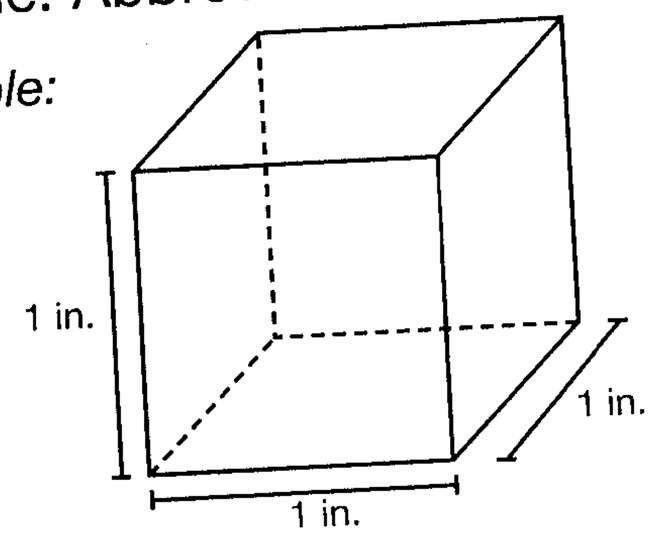
cubic centimeter A cube with edges 1 centimeter long. Unit for measuring volume. Abbreviated as cm^3.

Example:



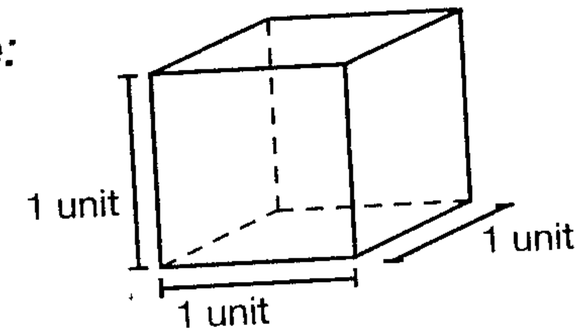
cubic inch A cube with edges 1 inch long. Unit for measuring volume. Abbreviated as in^3.

Example:



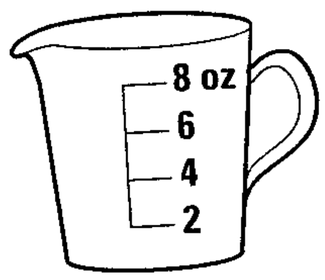
cubic unit A cube with edges 1 unit long. Unit for measuring volume.

Example:



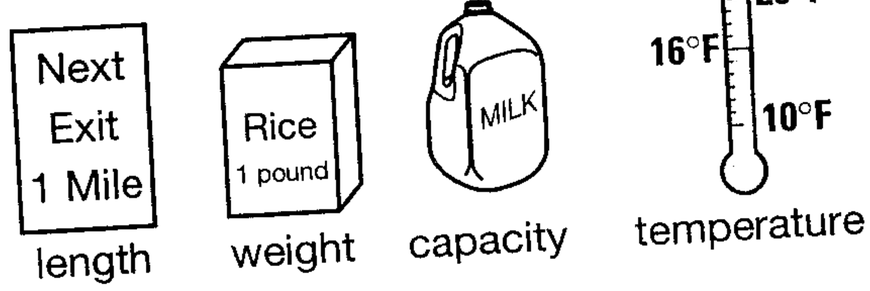
cup (c) A unit for measuring capacity in the customary system.

Example:



customary units of length, weight, capacity, and temperature

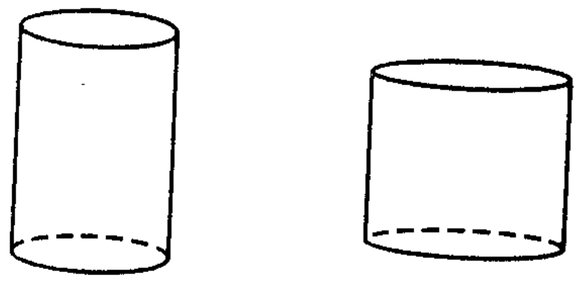
Examples:



length weight capacity temperature

cylinder A solid figure with two congruent circular faces.

Examples:



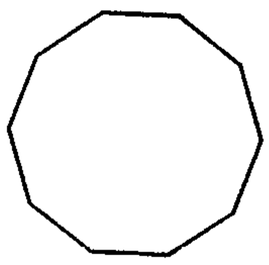
data Information used to make calculations.

Example:

The students in the class recorded the daily high temperatures for 5 days: 74°F, 79°F, 82°F, 85°F, 80°F.

decagon A polygon with 10 sides.

Example:



deci- A prefix meaning $\frac{1}{10}$.

Example: 1 decimeter $= \frac{1}{10}$ meter

decimal A number that uses a decimal point to show tenths, hundredths, and so on.

Examples:

3.142 0.5 15.19

decimal addition Adding two or more decimals.

Example:

$$\begin{array}{r} {\scriptstyle 1\quad 1\quad\ } \\ 36.29 \\ +\ 25.12 \\ \hline 61.41 \end{array}$$

decimal division Dividing two decimals.

Example:

$$\begin{array}{r} 2.564 \\ 7\overline{)17.948} \\ -14 \\ \hline 39 \\ -35 \\ \hline 44 \\ -42 \\ \hline 28 \\ -28 \\ \hline 0 \end{array}$$

decimal multiplication Multiplying two or more decimals.

Example:

$$\begin{array}{r} 2.75 \leftarrow \text{2 decimal places} \\ \times\ 0.3 \leftarrow \text{1 decimal place} \\ \hline 0.825 \leftarrow \text{3 decimal places} \end{array}$$

decimal point A symbol used to separate the ones place from the tenths place in decimals, or dollars from cents in money.

Example : 4.57 $2.13

decimal point

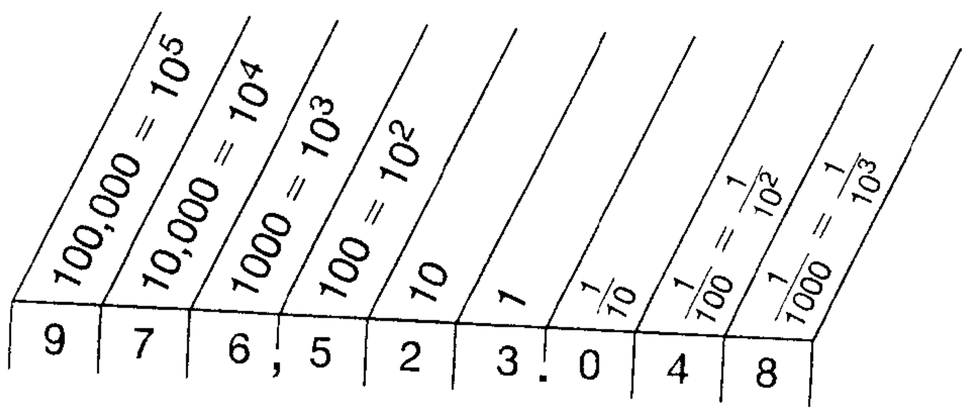
decimal subtraction Subtracting two decimals.

Example:

$$\begin{array}{r} {\scriptstyle 5\ 12\ } \\ 86.27 \\ -\ 2.85 \\ \hline 83.42 \end{array}$$

decimal system A base-10 place value system.

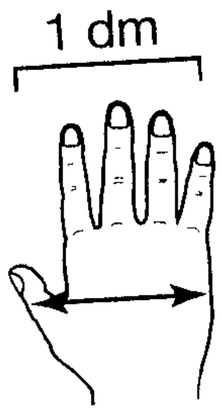
Example:



decimeter (dm) A unit for measuring length in the metric system.

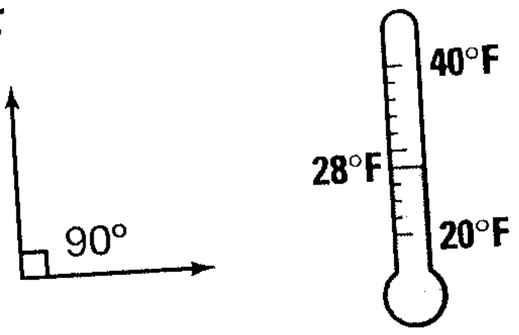
Example:

1 decimeter =
10 centimeters



degree (°) A unit of measure for angles and temperature.

Example:



degree Celsius (°C) A unit for measuring temperature in the metric system.

Example:

Temperature on a cold day: −10°C
Normal body temperature: 37°C

degree Fahrenheit (°F) A unit for measuring temperature in the customary system.

Example:

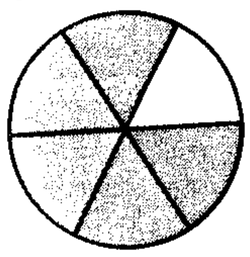
Temperature on a cold day: 14°F
Normal body temperature: 98.6°F

deka- A prefix meaning 10.

Example: 1 dekameter = 10 meters

denominator The bottom number of a fraction that tells the number of equal parts in all.

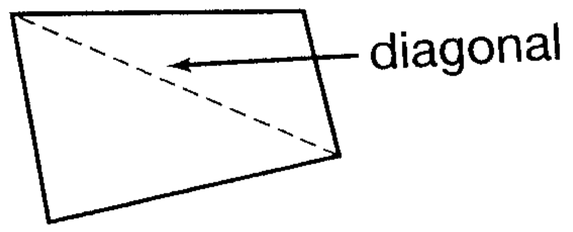
Example:



$\frac{5}{6}$ ← denominator

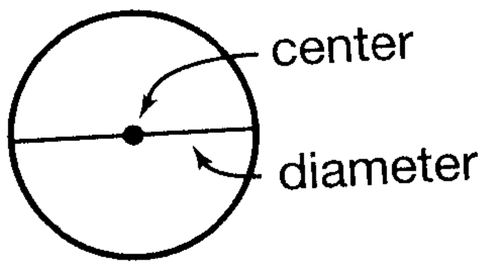
diagonal A line segment other than a side that connects two vertices of a polygon.

Example:



diameter A line segment that goes from one point on a circle through the center to another point on the circle.

Example:



difference The number that is the result of subtracting one number from another.

Example:

$6 - 4 = 2$ ← difference

digits The symbols used to show numbers: 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9.

digital clock A clock that displays time using numbers.

Example:

display The window on a calculator that shows the numbers as they are entered and the results of the calculations.

	Enter	Display
Example:	225 [+] 133 [=]	358

distributive property Multiplying a sum by a number is the same as multiplying each addend by the number and then adding the products.

Example: $3 \times (2 + 4) = 18$

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

dividend The number to be divided in a division number sentence.

Example:

$$9\overline{)63} \quad 7$$

$63 \div 9 = 7$

dividend

divisible Can be divided by another number without leaving a remainder.

Example: 18 is divisible by 6.

division An operation that tells how many groups there are or how many are in each group.

Examples:

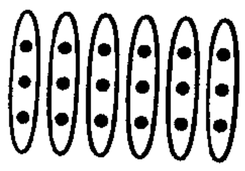
$$4\overline{)256} \quad 64$$

-24

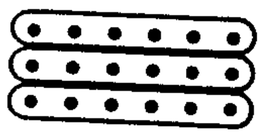
16

-16

0



$18 \div 6 = 3$



$18 \div 3 = 6$

divisor The number by which a dividend is divided.

Example:

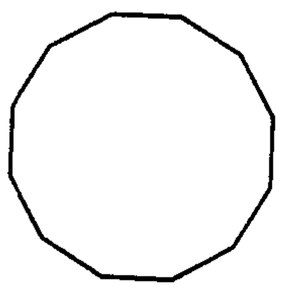
$$9\overline{)63} \quad 7$$

$63 \div 9 = 7$

divisor

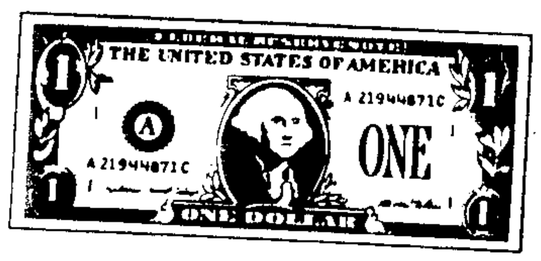
dodecagon A polygon with 12 sides.

Example:



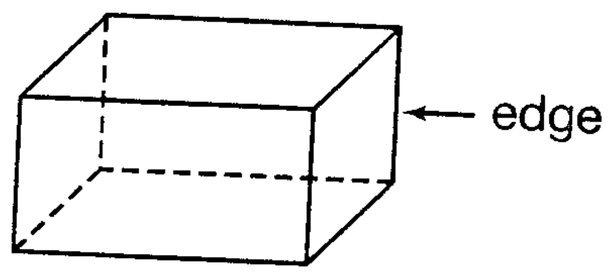
dollar ($) A bill or coin worth 100 cents.

Example:



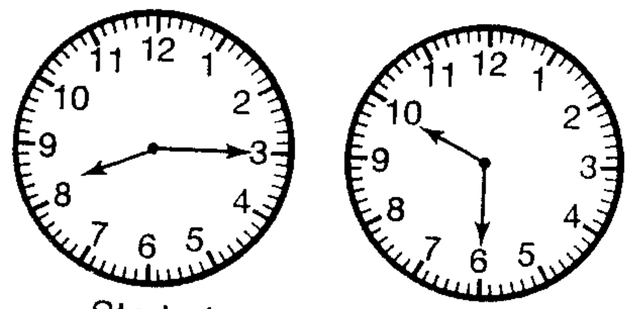
edge A line segment where two faces of a solid figure meet.

Example:



elapsed time The difference between two times.

Example:



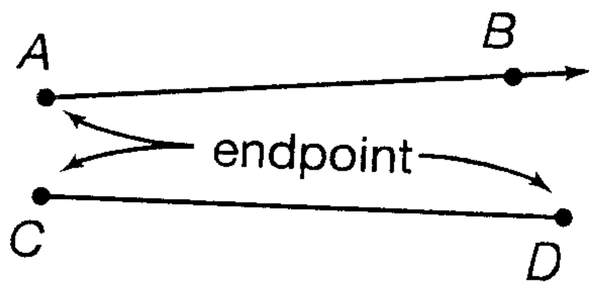
Start at 8:15 A.M.

End at 10:30 A.M.

Elapsed time is 2 hours 15 minutes.

endpoint A point at the start of a ray or at either end of a line segment.

Examples:



equality A mathematical relation of being exactly the same.

Examples:

$16 + 8 = 24$ $25 \div 5 = 5$

equally likely Just as likely to happen as not to happen.

Example:

When a coin is tossed it is equally likely that it will land on a head or a tail.

equal ratios Ratios that give the same comparison.

Example:

$\frac{1}{2}$ and $\frac{2}{4}$ are equal ratios.

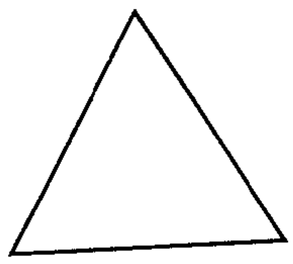
equation A number sentence that uses the equal sign (=) to show that two expressions have the same value. *See also* number sentence.

Examples:

$9 + 2 = 11$ $32 \div 4 = 8$

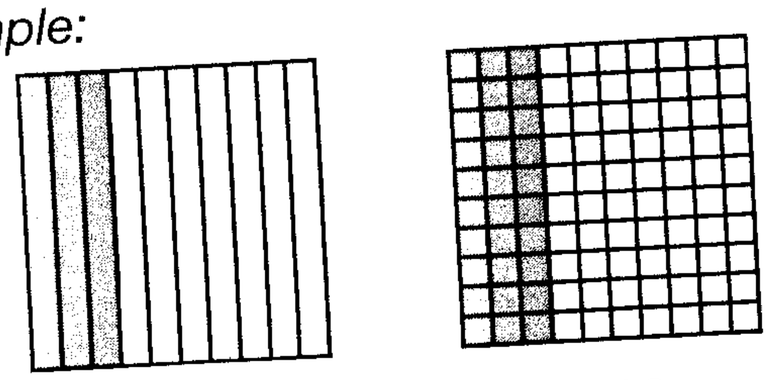
equilateral triangle A triangle with three equal sides.

Example:



equivalent decimals Decimals that name the same amount.

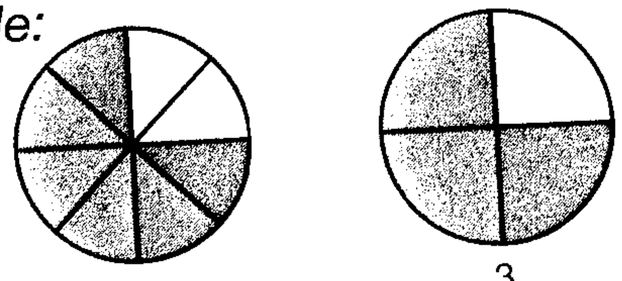
Example:



0.3 = 0.30

equivalent fractions Fractions that name the same region, part of a set, or part of a segment.

Example:



$\frac{6}{8}$ = $\frac{3}{4}$

estimate To find a number that is close to an exact answer.

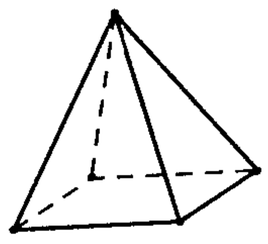
Example:

$$\begin{array}{rcr} 382 & \rightarrow & 400 \\ +\ 115 & \rightarrow & +\ 100 \\ \hline & & 500 \end{array}$$

estimated sum

Euler's formula A formula about the number of faces (F), vertices (V), and edges (E) of a polyhedron which states that $F + V - E = 2$.

Example:



For the triangular pyramid shown,

$5 + 5 - 8 = 2$

faces vertices edges

evaluate To find the number an algebraic expression names by replacing a variable with a given number.

Example:

Use $n = 3$ to evaluate $2 \times n + 5$.
Answer is $2 \times 3 + 5 = 6 + 5 = 11$.

even number A whole number that has 0, 2, 4, 6, or 8 in the ones place. A whole number divisible by 2.

Examples:

8 12 20 36 54

event An outcome or set of outcomes of an experiment or situation.

Example:

Event: Obtaining a 3 or higher when one number cube is rolled.

Possible outcomes for this event: 3, 4, 5, 6

expanded form A way to write a number that shows the place value of each digit.

Example:

Expanded form for 9,325:

$$9{,}000 + 300 + 20 + 5$$

expected probability The probability of a certain outcome if the number of trials is extended indefinitely.

Example:

The expected probability of heads on a coin toss is $\frac{1}{2}$.

experiment A test or trial.

Examples: toss a coin
roll a number cube
spin a spinner

experimental probability Probability based on the results of an experiment.

Example:

Two coins are tossed 50 times. The results:
2 heads: 13 times
2 tails: 15 times
1 head and 1 tail: 22 times
The experimental probability for 2 heads is $\frac{13}{50}$.

exponent A number that tells how many times another number is used as a factor.

Example:

$3 \times 3 \times 3 \times 3 = 3^4$ ← exponent

exponential notation A way of writing repeated multiplication of a number using exponents.

Examples: 2^8 5^2 9^3

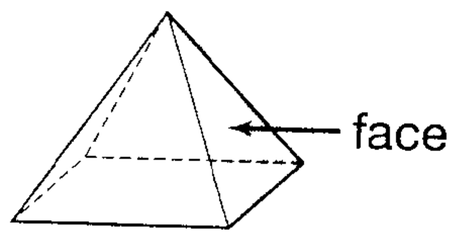
expression Numbers combined with one or more operations. *See also* algebraic expression.

Examples:

$4 + 5$ $6 \times 3 \times 2$ $8 \div 2 + 3$

face A flat surface of a solid figure.

Example:



fact family A group of related facts using the same set of numbers.

Example:

$4 + 3 = 7$
$3 + 4 = 7$
$7 - 3 = 4$
$7 - 4 = 3$

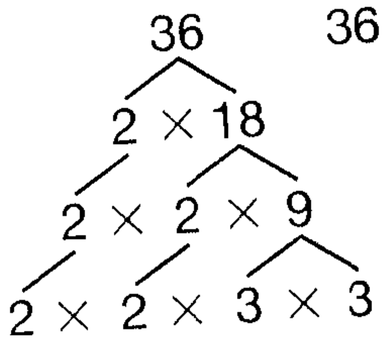
factors Numbers that are multiplied together to obtain a product.

Example:

factors
/ \
$7 \times 3 = 21$

factor tree A diagram used to find the prime factors of a number.

Example:



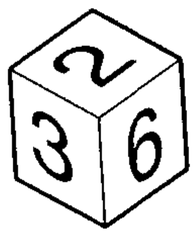
$36 = 2 \times 2 \times 3 \times 3$

fair All results are equally likely to happen.

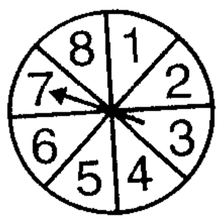
Examples:

Toss a coin and land on heads or tails.

Roll a number cube and land on 1, 2, 3, 4, 5, or 6.



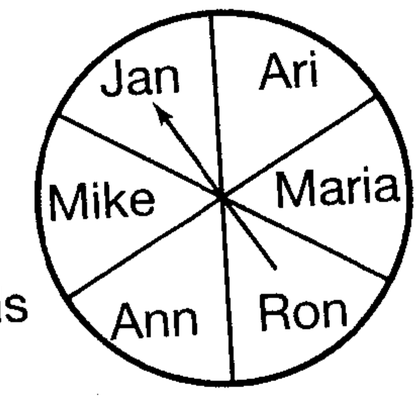
Spin a spinner with equal segments.



fair game A game where each player has an equal chance of winning.

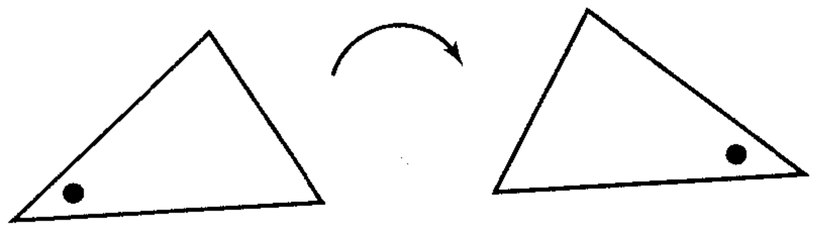
Example:

Fair game: Each player takes a turn spinning the spinner. A player gets a point when the spinner lands on his or her name.



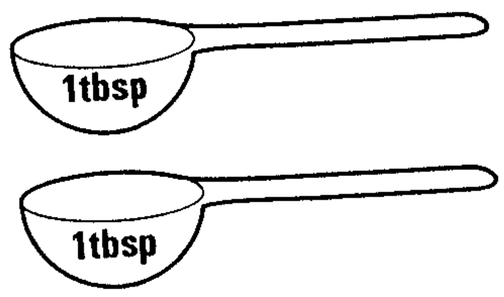
flip To turn a plane figure over.

Example:



fluid ounce (fl oz) A unit for measuring capacity in the customary system.

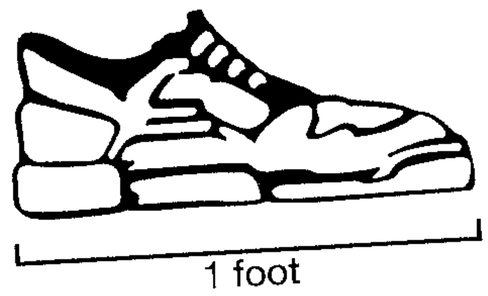
Example:



2 tablespoons equal 1 fluid ounce.

foot (ft) A unit for measuring length in the customary system.

Example:



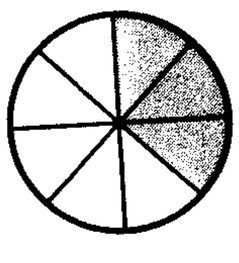
formula A general rule expressed by symbols.

Example:

The formula for the perimeter of a rectangle is $P = 2 \times (l + w)$.

fraction A way to compare equal parts to a whole, segment, or a set.

Example:



$\frac{3}{8}$ is 3 equal parts out of 8 equal parts.

fraction addition Adding two or more fractions.

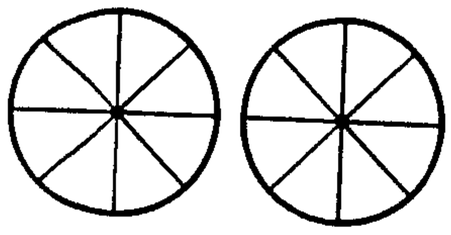
Example:

$$\begin{array}{r} \frac{1}{3} = \frac{4}{12} \\ +\ \frac{1}{4} = +\ \frac{3}{12} \\ \hline \frac{7}{12} \end{array}$$

fraction division Dividing two fractions.

Example:

How many $\frac{1}{8}$s are in 2?



$2 \div \frac{1}{8} = 2 \times \frac{8}{1} = 16$

fraction multiplication Multiplying two or more fractions.

Example: $\frac{1}{3} \times \frac{2}{5} = \frac{1 \times 2}{3 \times 5} = \frac{2}{15}$

fraction subtraction Subtracting two fractions.

Example:

$$\begin{array}{r} \frac{3}{4} = \frac{9}{12} \\ -\frac{2}{3} = -\frac{8}{12} \\ \hline \frac{1}{12} \end{array}$$

frequency chart or table A table showing classes of things and the frequency with which things occur.

Example:

Color of Shirt	Frequency
Black	8
Tan	2
White	5
Blue	4

front-end estimation A way to estimate a sum by adding the first digit of each addend and adjusting the result based on the remaining digits.

Example:

$$\begin{array}{r} 476 \\ +\ 388 \\ \hline \end{array}$$

$476 \rightarrow 400$ and $388 \rightarrow 300$, so $400 + 300 = 700$

$476 \rightarrow 70$ and $388 \rightarrow 80$, so $70 + 80 = 150$

$700 + 150 = 850$

gallon (gal) A unit for measuring capacity in the customary system.

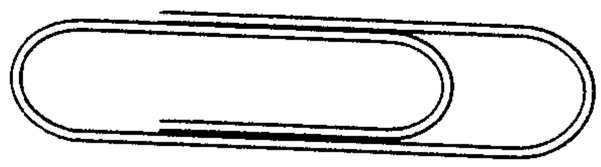
Example:

Milk often comes in 1 gallon containers.

geometry A branch of mathematics in which the relations between points, lines, figures, and solids are explored.

gram (g) A unit for measuring mass in the metric system.

Example:



The mass of a large paperclip is about 1 gram.

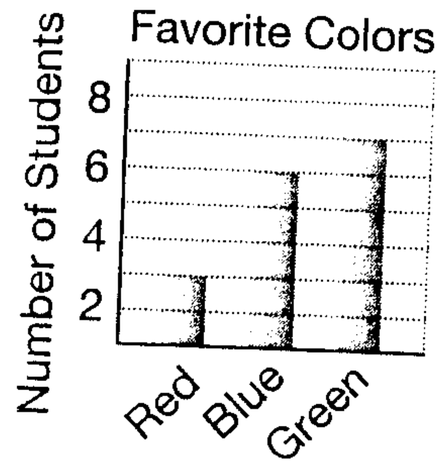
graph A picture that shows data in an organized way.

Examples:

Number of Letters Written

Room 201	✍ ✍ ✍ ✍
Room 204	✍ ✍ ✍
Room 105	✍ ✍ ✍ ✍ ✍
Room 103	✍ ✍ ✍ ✍

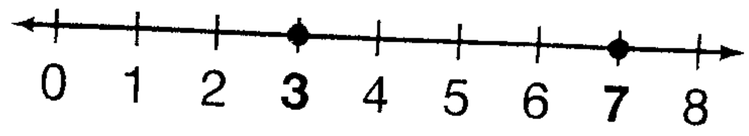
✍ = 5 letters



greater than (>) The relationship of one number being farther to the right on a number line than another number.

Example:

$7 > 3$ "Seven is greater than three."



greatest common factor (GCF) The greatest number that is a factor of each of two or more numbers.

Example:

factors of 12: **1** **2** **3** 4 **6** 12

factors of 18: **1** **2** **3** **6** 9 18

1, 2, 3, and 6 are common factors.
6 is the greatest common factor.

grouping (associative) property When the grouping of addends or factors is changed, the sum or product stays the same.

Examples:

$(5 + 2) + 3 = 5 + (2 + 3)$

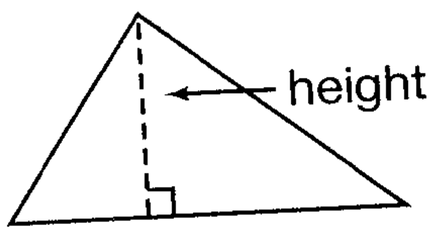
$(3 \times 2) \times 1 = 3 \times (2 \times 1)$

hecto- A prefix meaning 100.

Example: 1 hectometer = 100 meters

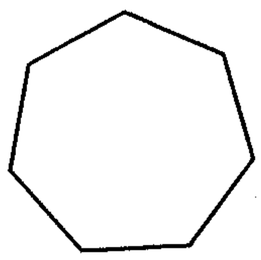
height The length of the perpendicular line segment from the vertex to the base of a triangle.

Example:



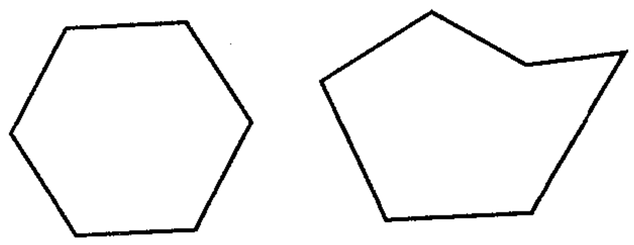
heptagon A polygon with 7 sides.

Example:



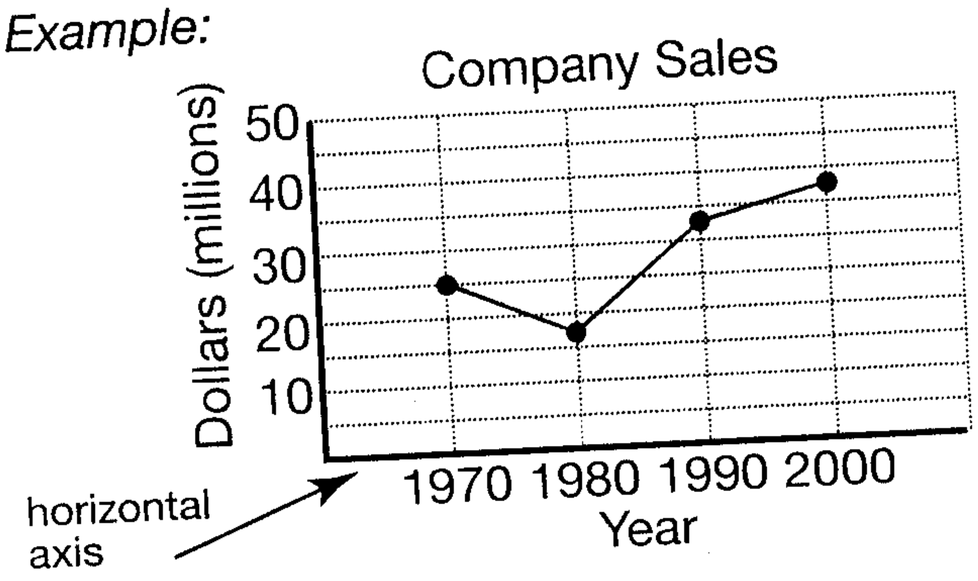
hexagon A polygon with six sides.

Examples:



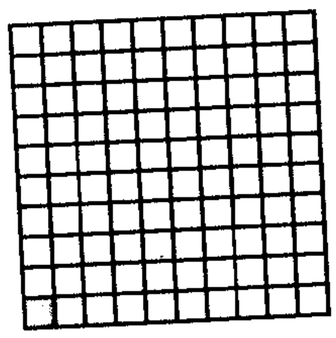
horizontal axis The left-to-right number line on a graph.

Example:



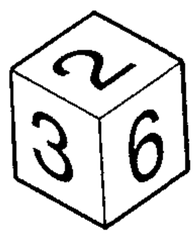
hundredth One out of 100 equal parts of a whole.

Example:



impossible Cannot happen.

Example:



Getting a 9 on a number cube labeled 1–6 is impossible.

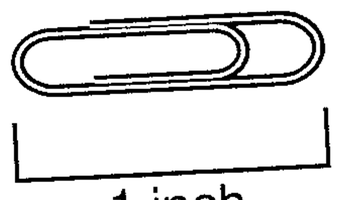
improper fraction A fraction in which the numerator is greater than or equal to the denominator.

Examples:

$\frac{15}{2}$ $\frac{3}{3}$ $\frac{4}{3}$ $\frac{8}{1}$

inch (in.) A unit for measuring length in the customary system.

Example:



A paperclip is about 1 inch long.

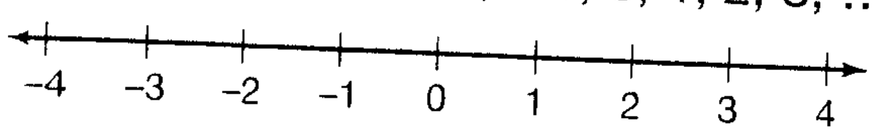
inequality A mathematical sentence involving $<$, $>$, $\leq$, or $\geq$.

Examples:

$6 < 9$ $\quad x + 3 \geq 21$ $\quad 2x - 8 > 0$

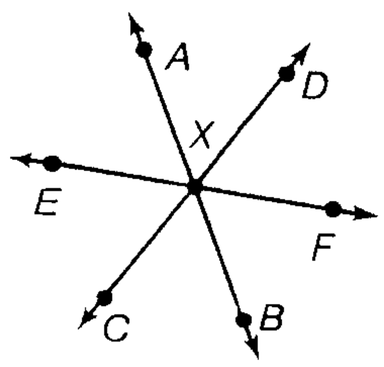
integers The set of positive whole numbers, their opposites, and 0.

Examples: ..., −3, −2, −1, 0, 1, 2, 3, ...



intersect To cross through the same point.

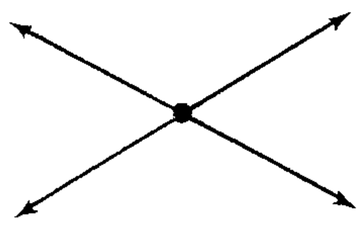
Example:



$\overleftrightarrow{AB}$, $\overleftrightarrow{CD}$, and $\overleftrightarrow{EF}$ intersect at point *X*.

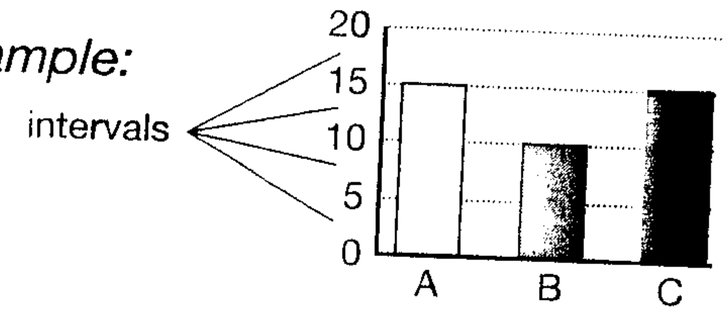
intersecting lines Lines that cross at a point.

Example:



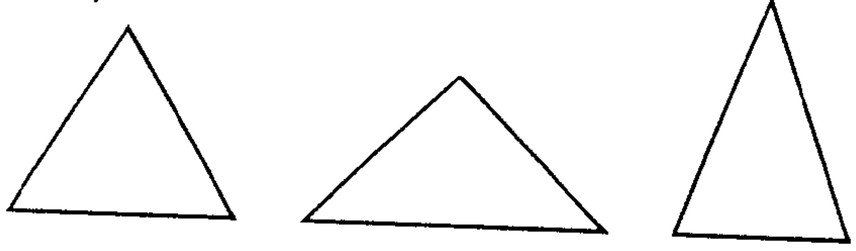
interval One of the equal-sized divisions on a bar graph or line graph scale.

Example:



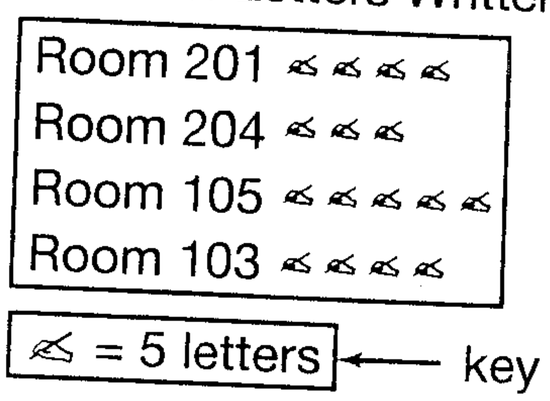
isosceles triangle A triangle that has at least two equal sides.

Examples:



key Part of a pictograph that tells what each symbol stands for. *See also* symbol.

Example: Number of Letters Written

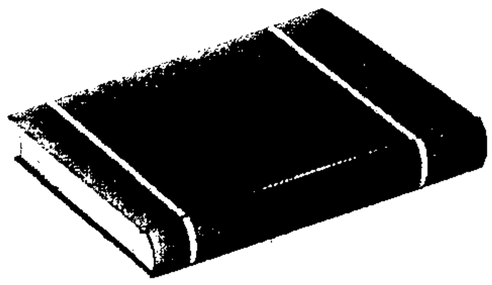


kilo- A prefix meaning 1000.

Example: 1 kilometer = 1000 meters

kilogram (kg) A unit for measuring mass in the metric system.

Example:



The mass of a textbook is about 1 kilogram.

kilometer (km) A unit for measuring length in the metric system.

Example:

The distance you can walk in about 15 minutes.

leaf The part of a stem-and-leaf plot that shows the ones digit of a number.

Example:

Stem	Leaf
0	1 1 2 3 4 8
1	0 3 5 9
2	1 1 7 8
3	2 6

least common denominator (LCD) The least common multiple of the denominators of two or more fractions.

Example: Find the LCD of $\frac{1}{4}$ and $\frac{1}{6}$.

multiples of 4: 4 8 **12** 16 20 **24** ...

multiples of 6: 6 **12** 18 **24** 30 **36** ...

12 and 24 are two common multiples of 4 and 6. 12 is the least common multiple which would be the LCD.

least common multiple (LCM) The least nonzero number that is a multiple of two or more different numbers.

Example: Find the LCM of 2 and 3.

multiples of 2: 2 4 **6** 8 10 **12** ...

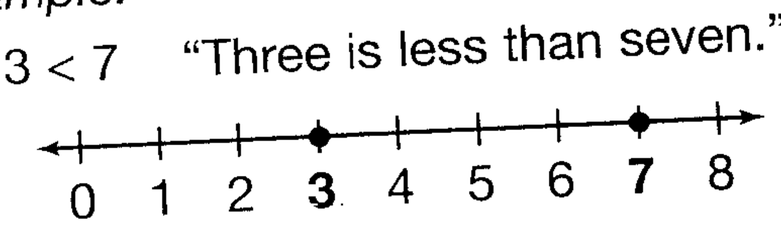
multiples of 3: 3 **6** 9 **12** 15 ...

6 and 12 are two common multiples of 2 and 3. 6 is the least common multiple.

less than (<) The relationship of one number being farther to the left on a number line than another number.

Example:

$3 < 7$ "Three is less than seven."



like denominators Denominators that are the same in two or more fractions.

Example: $\frac{1}{8}$ $\frac{3}{8}$ $\frac{6}{8}$

like denominators

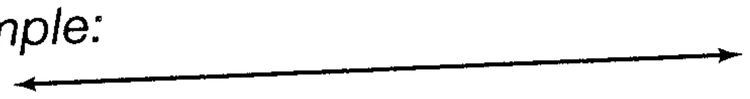
likely Probably will happen.

Examples:

It is likely that it will snow in Montana next winter.

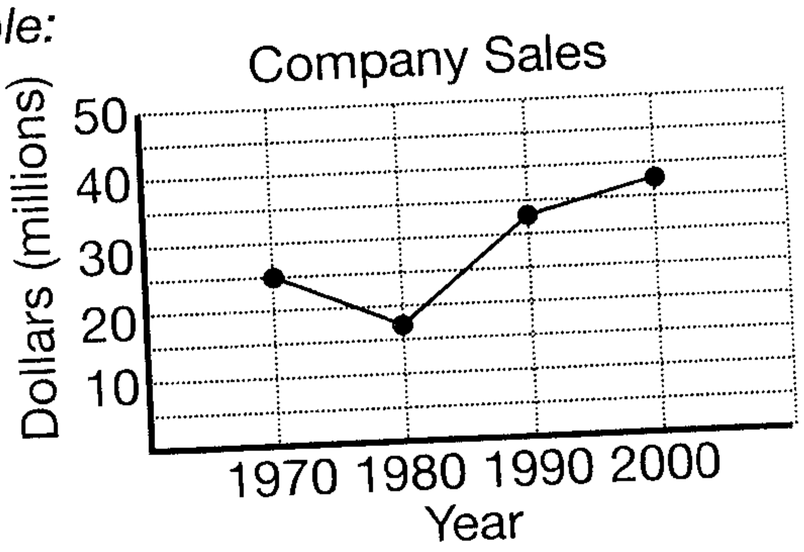
line A straight path that is endless in both directions.

Example:



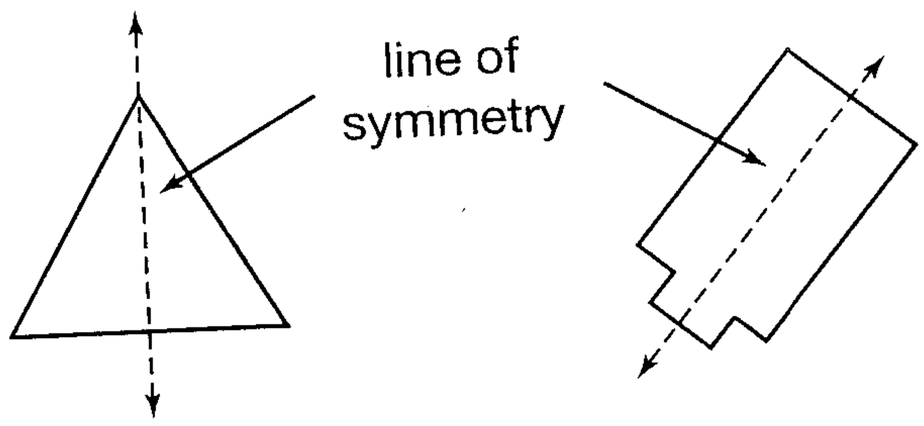
line graph A graph that connects points to show how data changes over time.

Example:



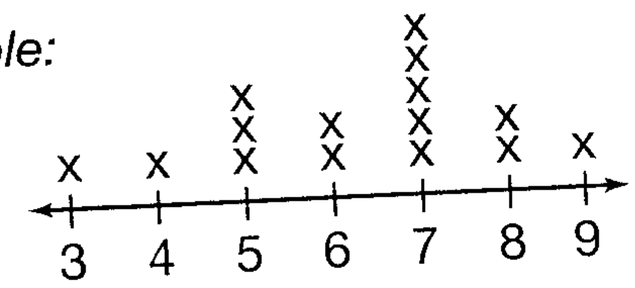
line of symmetry A line on which a figure can be folded so that both halves are congruent.

Examples:



line plot A graph that uses symbols above a number line to represent data.

Example:



line segment Part of a line that has two endpoints.

Example:

line symmetry A figure has line symmetry if it can be divided into two identical halves.

Example:

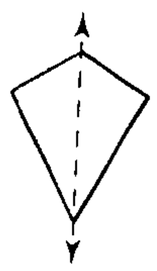
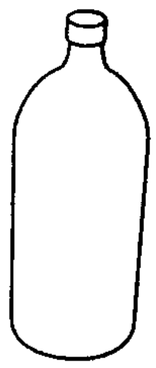


Figure with line symmetry

Figure with no line symmetry

liter (L) A unit for measuring capacity in the metric system.

Example:



The bottle holds 2 liters.

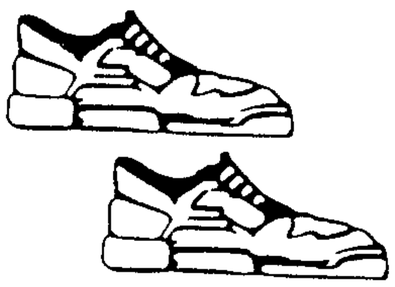
lowest terms A fraction with a numerator and denominator whose only common factor is 1.

Examples: $\frac{1}{2}$ $\frac{3}{5}$ $\frac{21}{23}$

mass The amount of matter that something contains.

Examples:

A raisin has a mass of 1 gram.



A pair of athletic shoes has a mass of 1 kilogram.

mean The number found when the sum of two or more numbers is divided by the number of addends. Also called the *average.*

Example:

Find the mean (average) of 12, 14, 16, and 18.

$$\begin{array}{r} 12 \\ 14 \\ 16 \\ +\ 18 \\ \hline 60 \end{array} \qquad \begin{array}{r} 15 \\ 4\overline{)60} \\ -4 \\ \hline 20 \\ -\ 20 \\ \hline 0 \end{array}$$

The mean is 15.

median The middle number when data are arranged in order.

Example:

27 27 27 29 32 33 36 38 42 43 62

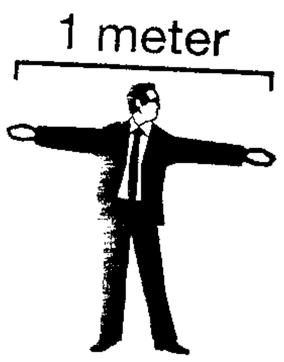
median

mental math Performing calculations in your head without using pencil and paper or a calculator.

Example: $200 \times 30 = 6{,}000$

meter (m) A unit for measuring length in the metric system.

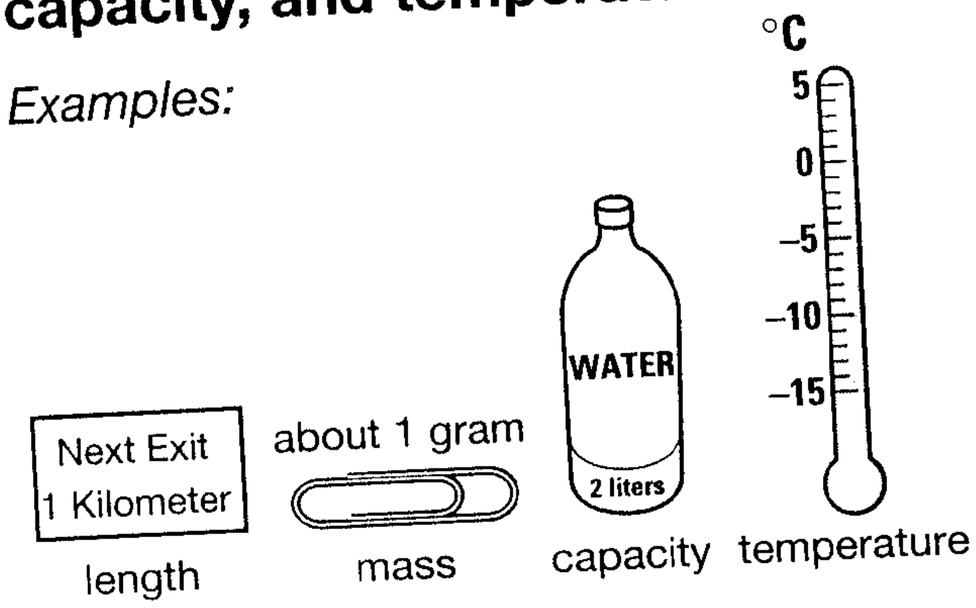
Example:



A meter is about the distance from one hand to the other when your arms are stretched out.

metric units of length, mass, capacity, and temperature

Examples:



mile (mi) A unit for measuring length in the customary system.

Example:

The distance you can walk in about 20 minutes.

milli- A prefix meaning $\frac{1}{1000}$.

Example: 1 millimeter $= \frac{1}{1000}$ meter

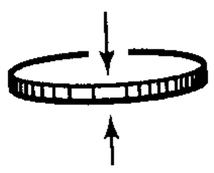
milliliter (mL) A unit for measuring capacity in the metric system.

Example:

A medicine dropper holds about 1 milliliter.

millimeter (mm) A unit for measuring length in the metric system.

Example:



A coin is about 1 millimeter thick.
10 mm = 1 cm

mixed number A number that has a whole number part and a fractional part.

Examples: $1\frac{1}{2}$ $3\frac{2}{5}$ $15\frac{7}{8}$

mode The number or numbers that occur most often in a set of data.

Example:

27 27 27 29 32 33 36 38 42 43 62

27 is the mode.

multiple The product of a given whole number and any other whole number.

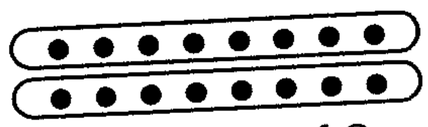
Examples:

multiples of 5: 0 5 10 15 . . .
5×0 5×1 5×2 5×3

multiplication An operation that gives the total number when you put together equal groups.

Examples:

$$\begin{array}{r} 45 \\ \times\ 12 \\ \hline 90 \\ 450 \\ \hline 540 \end{array}$$



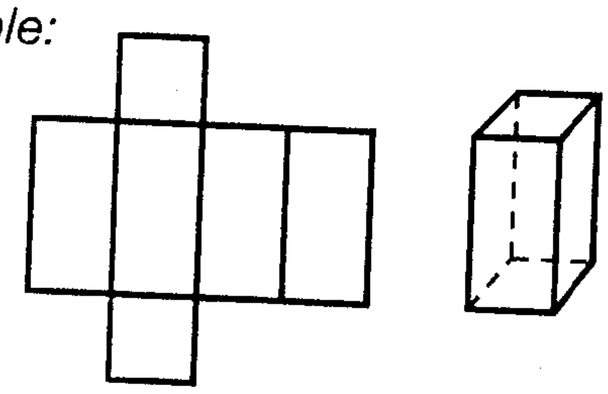
2 groups of 8
2 x 8 = 16

negative number A number that is less than zero.

Example: −2°C

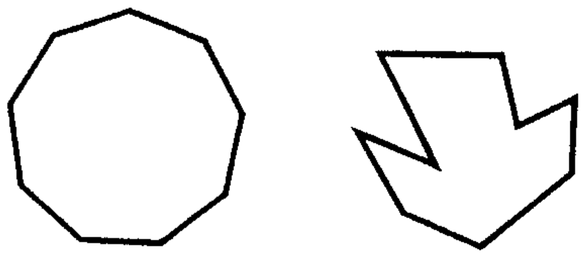
net A pattern that can be cut out and folded into a solid.

Example:



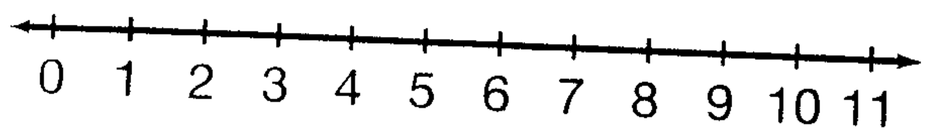
nonagon A polygon with 9 sides.

Examples:



number line A line that shows numbers in order using a scale.

Example:



number sentence A way to show a relationship between numbers. *See also* equation.

Examples: $2 + 5 = 7$ $6 \div 2 = 3$

number-word form A way of writing a number using digits and words.

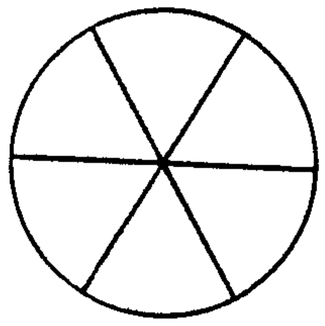
Examples: 45 trillion 9 thousand

numeral A symbol for a number.

Examples: 7 58 234

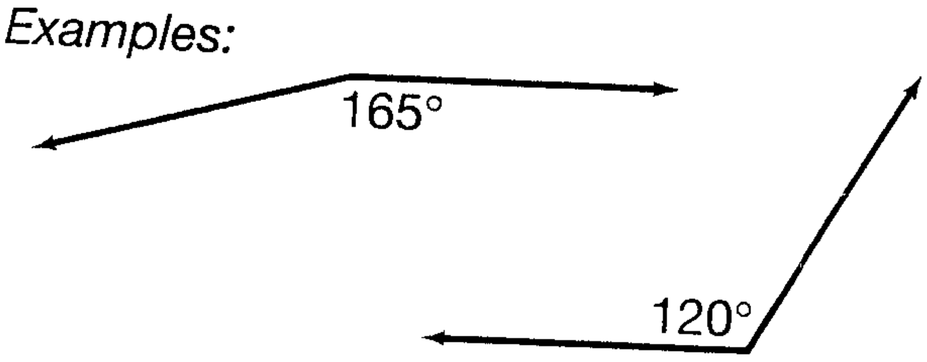
numerator The top number of a fraction that tells the number of equal parts considered.

Example:



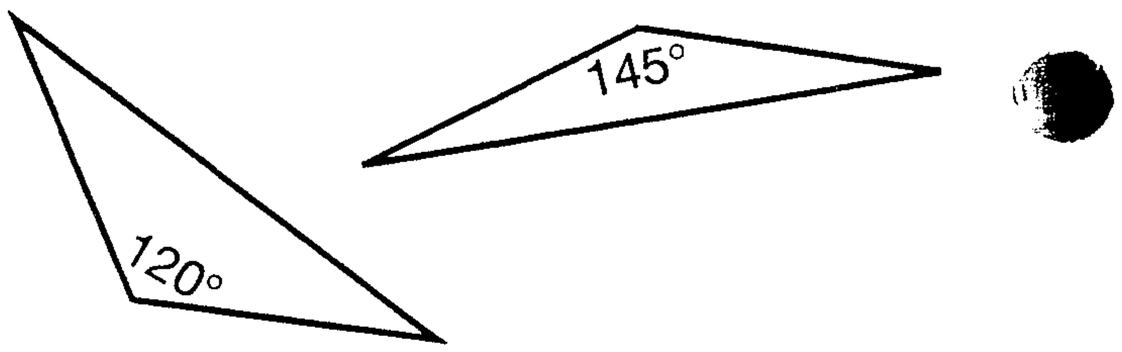
obtuse angle An angle with a measure greater than 90°.

Examples:



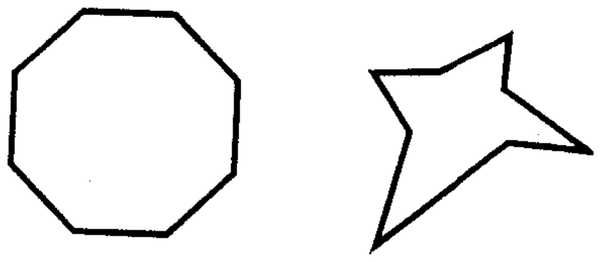
obtuse triangle A triangle with one angle greater than 90°.

Examples:



octagon A polygon with eight sides.

Examples:

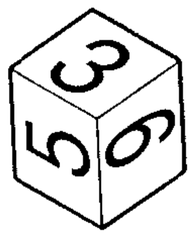


odd number A whole number that has 1, 3, 5, 7, or 9 in the ones place. A whole number that is not divisible by 2.

Examples: 3 91 205 445

odds The ratio of the number of ways an event can happen to the number of ways it cannot.

Example:



Odds of rolling a 3: 1 to 5

Odds against rolling a 3: 5 to 1

one property In multiplication, the product of a number and 1 is that number. In division, a number divided by 1 is that number.

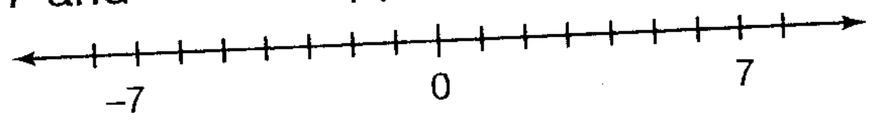
Examples: $5 \times 1 = 5$ $3 \div 1 = 3$

operation Addition, subtraction, multiplication, and division.

opposite numbers Numbers that are the same distance on a number line from zero but are on opposite sides.

Example:

7 and −7 are opposites of each other.



order To arrange numbers from least to greatest or from greatest to least.

Examples:

least to greatest	12	17	21	26	30
greatest to least	30	26	21	17	12

order of operations The rules telling what order to do operations in: (1) simplify inside parentheses, (2) simplify exponents, (3) multiply and divide from left to right, and (4) add and subtract from left to right.

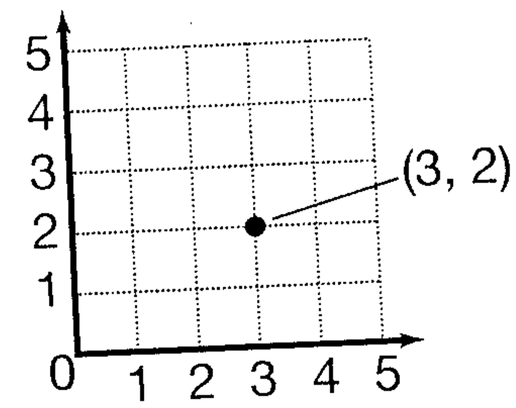
Example:

Evaluate $2x^2 + 4(x - 2)$ for $x = 3$.

(1) simplify inside parentheses	$2 \cdot 3^2 + 4(3 - 2)$ $2 \cdot 3^2 + 4(1)$
(2) simplify exponents	$2 \cdot 9 + 4$
(3) multiply and divide from left to right	$18 + 4$
(4) add and subtract from left to right	22

ordered pair A pair of numbers used to locate a point on a coordinate grid.

Example:



order (commutative) property Changing the order of addends or factors does not change the sum or product.

Examples:

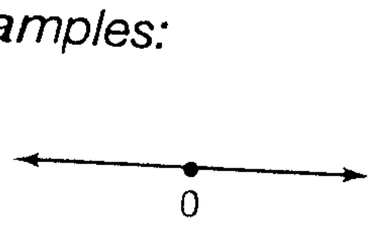
$8 + 5 = 5 + 8$ $3 \times 6 = 6 \times 3$

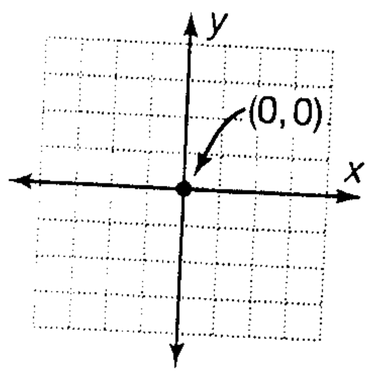
ordinal number A number used to tell order.

Examples: first, thirteenth, 1st, 4th

origin The zero point on a number line, or the point (0, 0) where the axes of a coordinate system intersect.

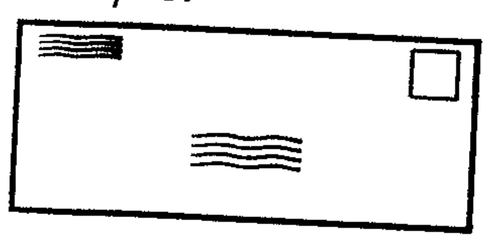
Examples:





ounce (oz) A unit for measuring weight in the customary system.

Example:



A letter weighs about an ounce.

outcome A possible result of an experiment.

Example: Toss 2 coins

Coin 1	Coin 2
head	tail
head	head
tail	head
tail	tail

One outcome is 1 head and 1 tail.

outlier An extreme value in a data set, separated from most of the other values.

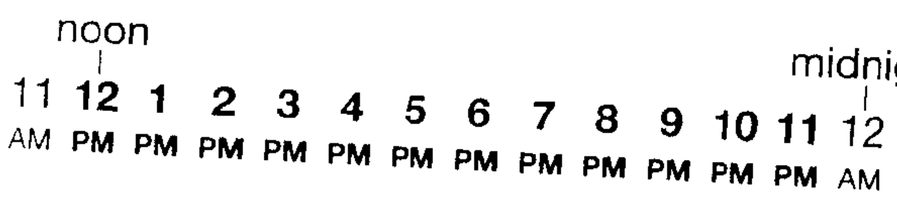
Example:

27 27 27 29 32 33 36 38 42 43 62

outlier

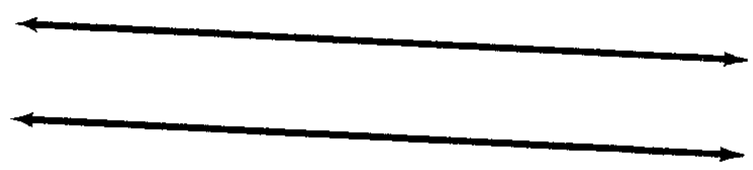
P.M. Times from noon to midnight.

Example:



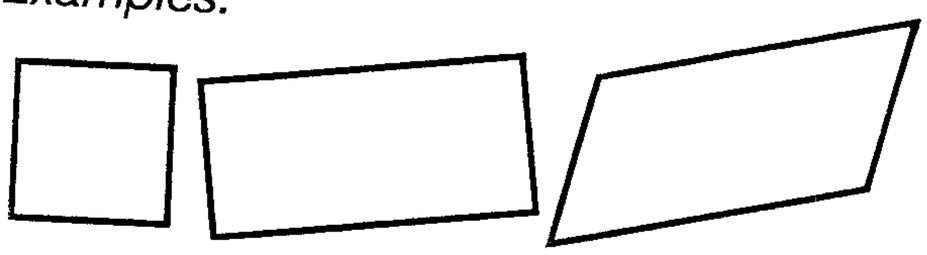
parallel lines Lines that do not intersect.

Example:



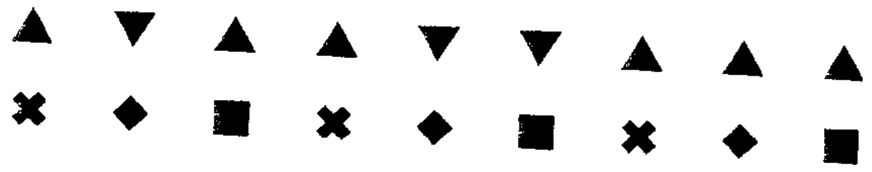
parallelogram A quadrilateral with two pairs of opposite parallel sides.

Examples:



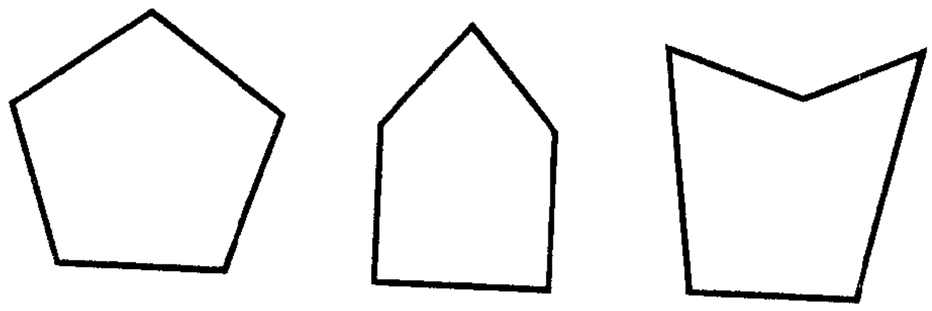
pattern A sequence of objects, events, or ideas that repeat.

Examples:



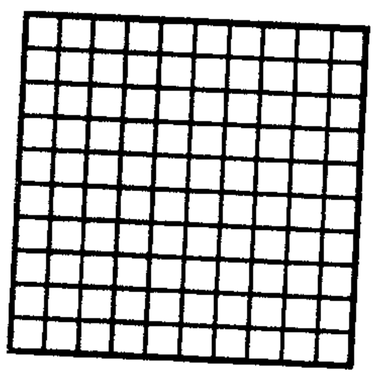
pentagon A polygon with five sides.

Examples:



percent (%) Per hundred. A way to compare a number to 100.

Example:

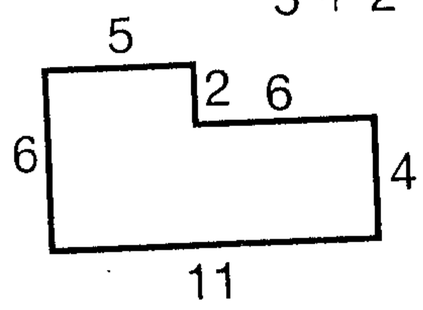


$$\frac{40}{100} = 0.40 = 40\%$$

perimeter The distance around a closed figure.

Example:

Perimeter =
$5 + 2 + 6 + 4 + 11 + 6 = 34$



period A group of three digits in a number. Periods are separated by a comma.

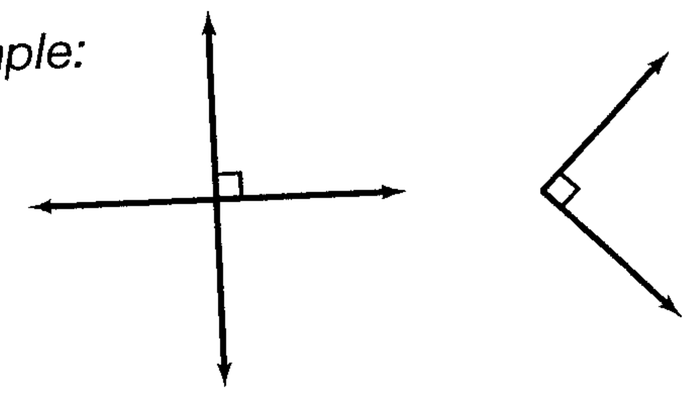
Example:

Thousands Period			Ones Period		
hundred thousands	ten thousands	thousands	hundreds	tens	ones
3	0	5 ,	2	1	6

305,216

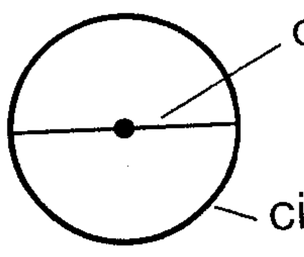
perpendicular lines Two lines which form right angles where they intersect.

Example:



pi (π) The ratio of the circumference of a circle to its diameter. The decimal for π is 3.141592.... 3.14 or $3\frac{1}{7}$ are often used as approximations for π.

Example:



$$\pi = \frac{\text{circumference}}{\text{diameter}}$$

pictograph A graph that uses symbols to show data.

Example:

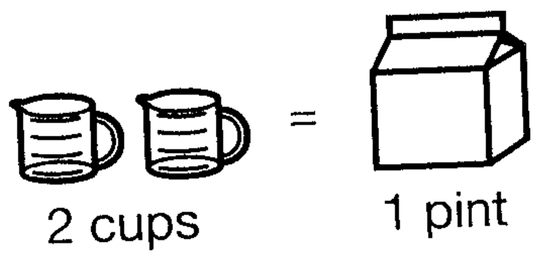
Number of Letters Written

Room 201	✍ ✍ ✍ ✍
Room 204	✍ ✍ ✍
Room 105	✍ ✍ ✍ ✍ ✍
Room 103	✍ ✍ ✍ ✍

✍ = 5 letters

pint (pt) A unit for measuring capacity in the customary system.

Example:



2 cups 1 pint

place value The value given to the place a digit has in a number.

Example:

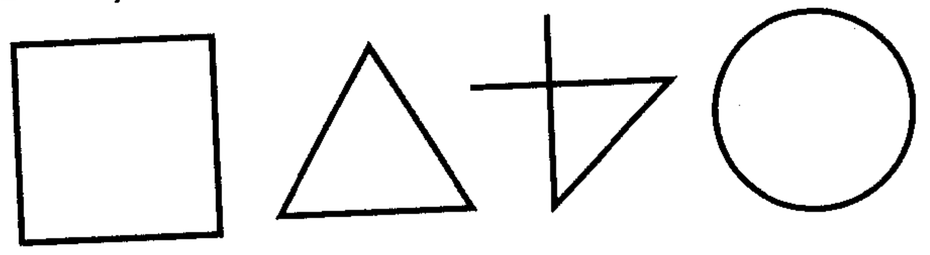
Thousands Period			Ones Period		
hundred thousands	ten thousands	thousands	hundreds	tens	ones
3	0	5 ,	2	1	6

305,216

In 305,216 the place value of the digit 2 is hundreds.

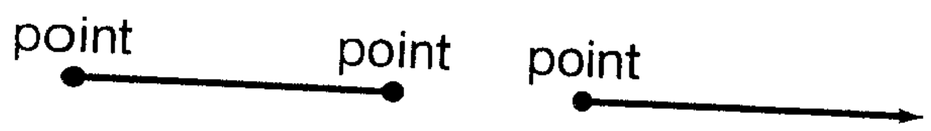
plane figure A figure that lies on a flat surface.

Examples:



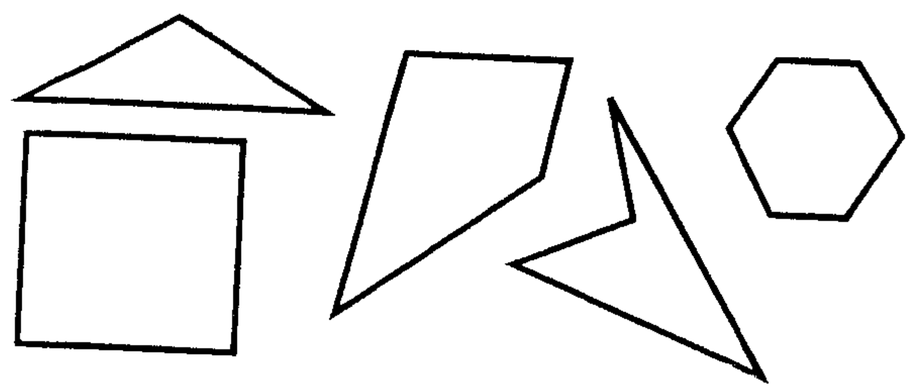
point An exact position often marked by a dot.

Examples:



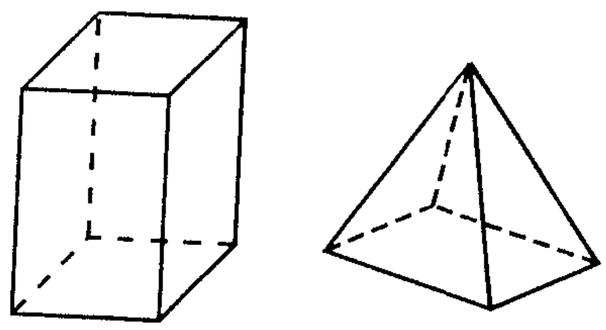
polygon A closed plane figure made up of line segments.

Examples:



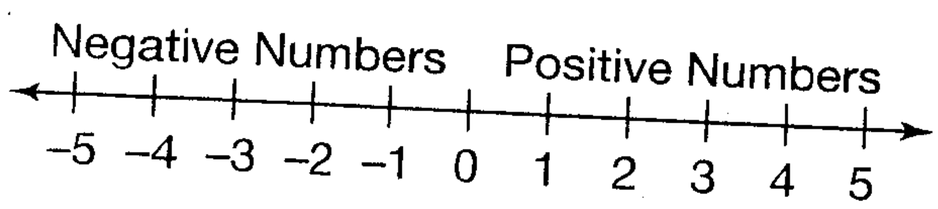
polyhedron A solid whose faces are polygons.

Examples:



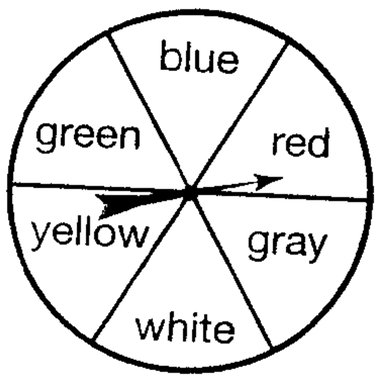
positive numbers Numbers greater than zero.

Example:



possible Able to happen.

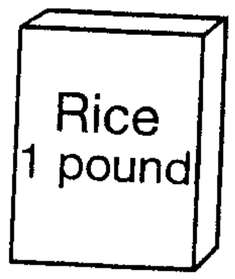
Example:



If the spinner is spun, red is a possible outcome.

pound (lb) A unit for measuring weight in the customary system.

Example:



power An exponent or the number produced by raising a base to the exponent.

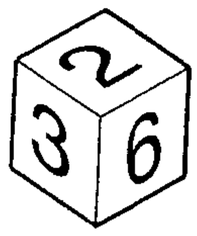
Example:

$16 = 2^4$ 2 is raised to the 4th power.

16 is the 4th power of 2.

prediction An educated guess about what will happen.

Example:



Jane predicts that $\frac{1}{6}$ of the time she will roll a 2.

prime factorization Writing a number as a product of prime numbers.

Example: $70 = 2 \times 5 \times 7$

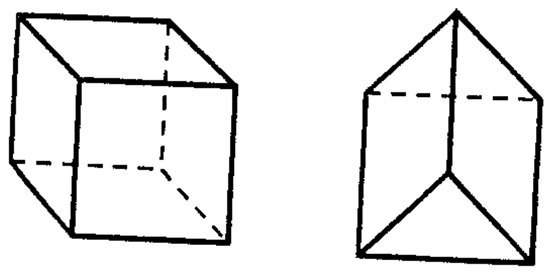
prime number A whole number greater than 1 that has only two factors, itself and 1.

Example:

The primes start with 2, 3, 5, 7, 11, ...

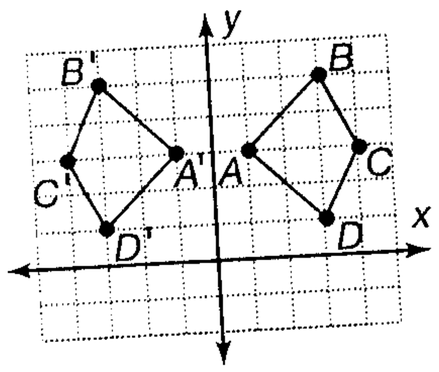
prism A solid figure whose bases lie in parallel planes and whose faces are parallelograms.

Examples:



reflection The mirror image of a figure that has been "flipped" over a line. Also, the name for the transformation that flips the figure over the line.

Example:

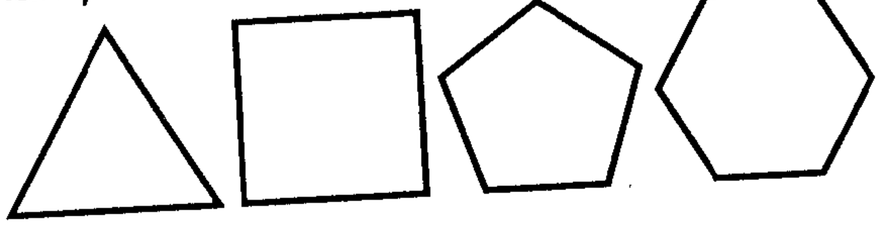


regroup To name a whole or decimal number in a different way.

Examples: 28 is 2 tens and 8 ones.
0.3 is 0.30 or 0.300.

regular polygon A polygon whose sides are all equal and whose angles are all equal.

Examples:



remainder The number less than the divisor that remains after the division is complete.

Example:

$$\begin{array}{r} 3 \text{ R1} \\ 8\overline{)25} \\ -\,24 \\ \hline 1 \end{array}$$

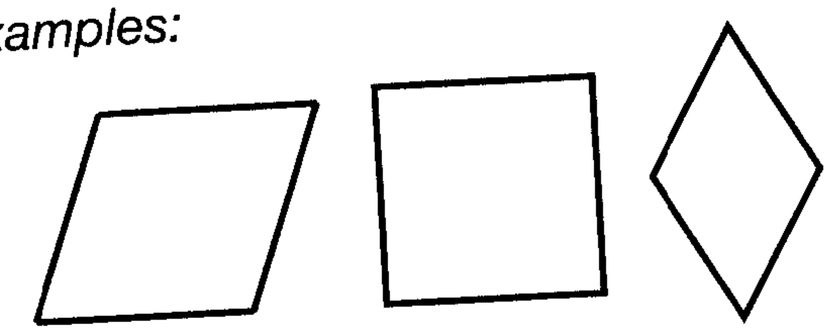
Remainder

repeating decimal A decimal with a repeating digit or group of digits to the right of the decimal point.

Examples: $0.\overline{6}$ $0.\overline{123}$ $2.\overline{18}$

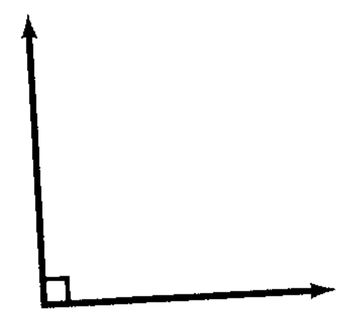
rhombus A quadrilateral with two pairs of parallel sides and all sides the same length.

Examples:



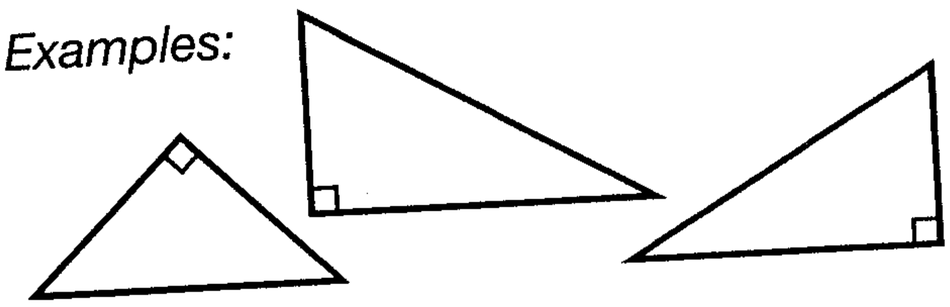
right angle An angle that forms a square corner and has a measure of 90°.

Example:



right triangle A triangle that has one right angle.

Examples:



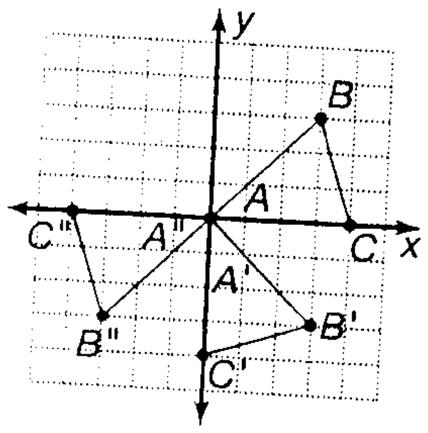
Roman numerals Numerals in a number system used by ancient Romans.

Examples:

I = 1 IV = 4 V = 5 VI = 6

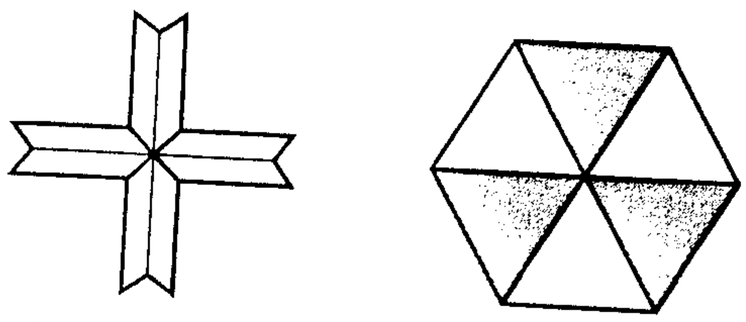
rotation The image of a figure that has been "turned," as if on a wheel. Also, the name for the transformation that turns the figure.

Example:



rotational symmetry A figure has rotational symmetry if it can be rotated less than a full circle and exactly match its original image.

Examples:



Each figure has rotational symmetry.

rounding Replacing a number with a number that tells about how much or how many.

Example:

Round 2153 to the nearest:	
thousand	2,000
hundred	2,200
ten	2,150

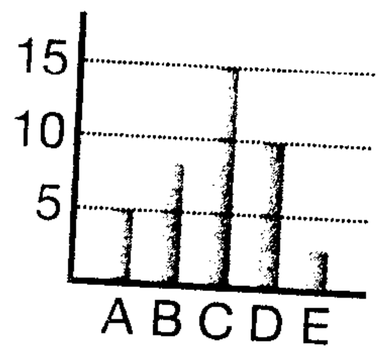
sample A selected part of a large group.

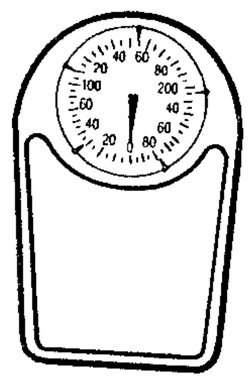
Example:

All 1,000 names of a club's membership were put on cards and the cards were shuffled. Then 100 cards were drawn and these members were given a phone survey. The sample is the 100 members that took the phone survey.

scale The numbers that show the units used on a graph. Also, an instrument used to measure an object's weight. Also, a ratio that shows the relationship between a scale drawing and the actual object.

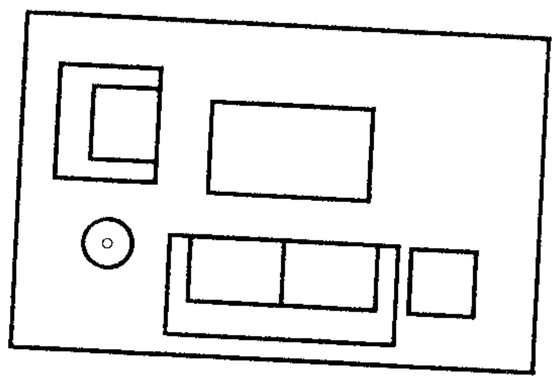
Examples:





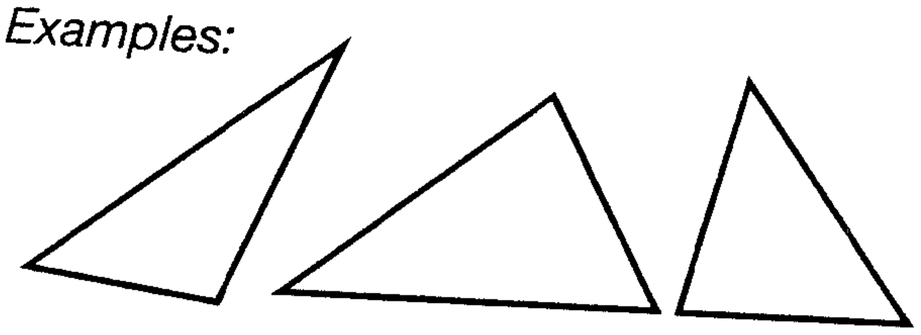
Scale drawing of living room

Scale:
1 in. = 10 ft



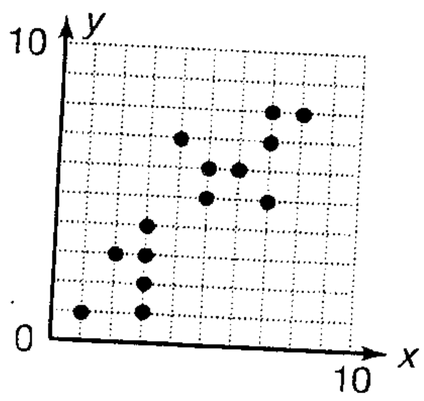
scalene triangle A triangle with no equal sides.

Examples:



scatterplot A graph using paired data values as points to show the relationship between the two data sets.

Example:



schedule A list which shows the times events occur.

Example:

Saturday Afternoon Schedule

12:00	Lunch
12:45	Walk the dog
1:15	Clean your room
2:30	Play with friends
5:00	Home for dinner

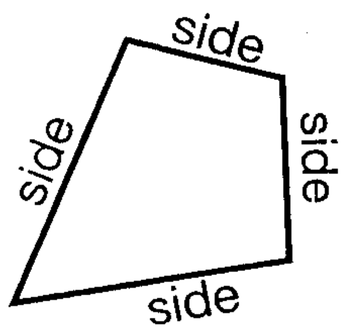
scientific notation A number written as a decimal greater than or equal to 1 and less than 10, multiplied by a power of 10.

Example: $350{,}000 = 3.5 \times 10^5$

segment See *line segment*.

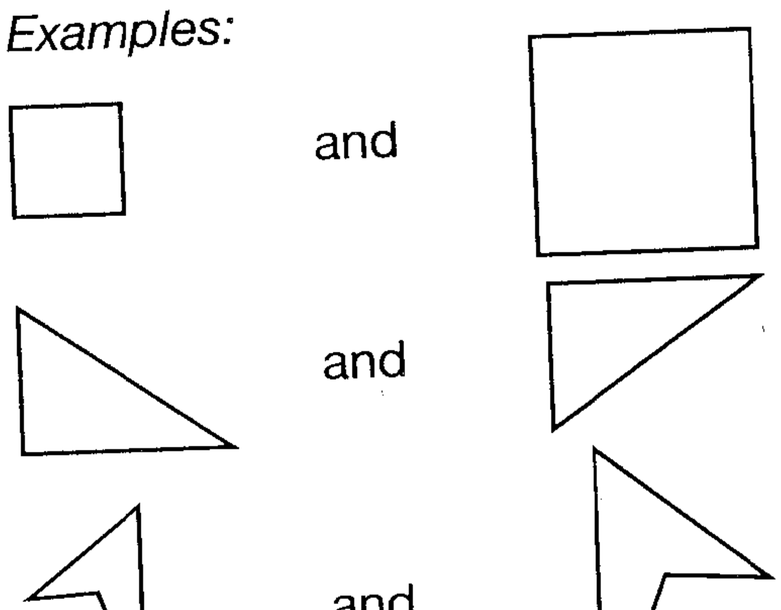
side A line segment forming part of a plane figure.

Example:



similar figures Figures that have the same shape and may or may not have the same size.

Examples:



simplest form A fraction in which the numerator and denominator have no common factors other than 1.

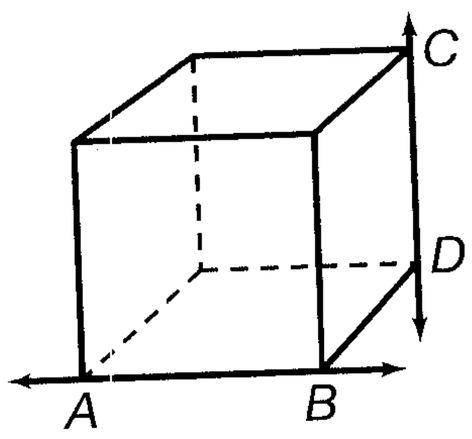
Examples:

Fractions in simplest form:

$\frac{1}{2}$ $\frac{3}{5}$ $\frac{21}{23}$

skew Lines that are not parallel and do not intersect.

Example:



$\overleftrightarrow{AB}$ and $\overleftrightarrow{CD}$ are skew lines.

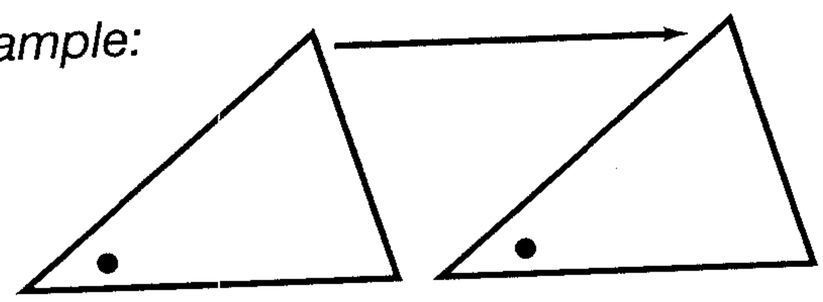
skip counting Counting by a number other than 1.

Example:

To skip count by 2s, think: 2, 4, 6, 8, . . .

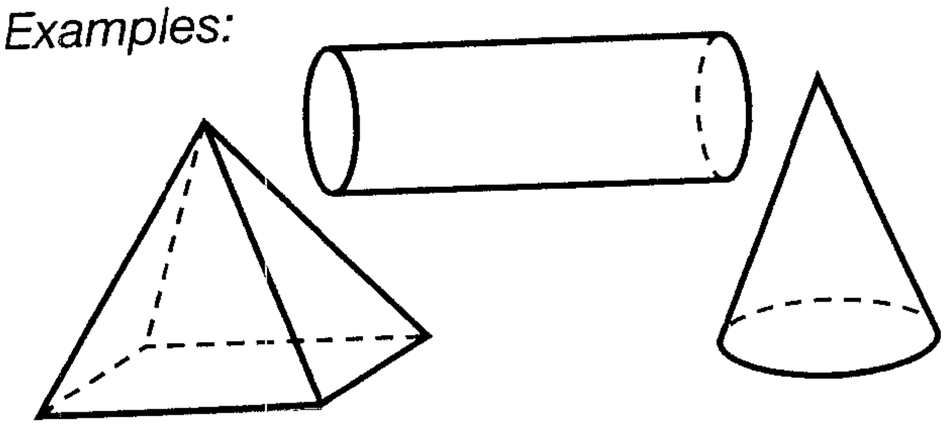
slide To move a plane figure in one direction.

Example:



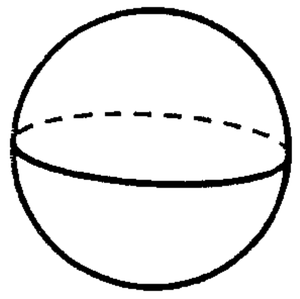
solid figure A figure that has length, width, height, and volume.

Examples:



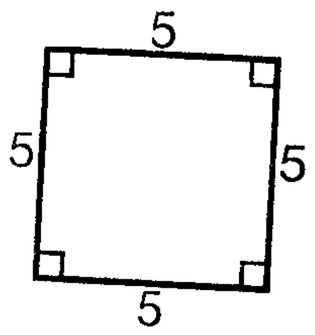
sphere A solid figure that has the shape of a round ball.

Example:



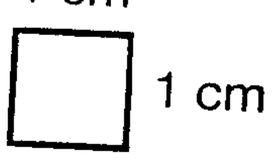
square A polygon that has four equal sides and four right angles.

Example:



square centimeter A square with 1 centimeter sides. Unit used for measuring area.

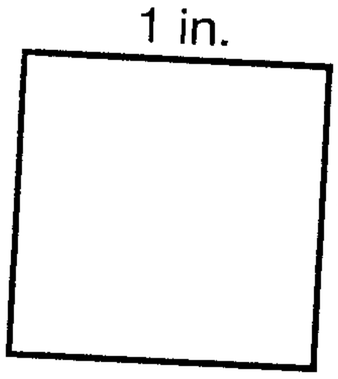
Example:



1 square centimeter

square inch A square with 1 inch sides. Unit used for measuring area.

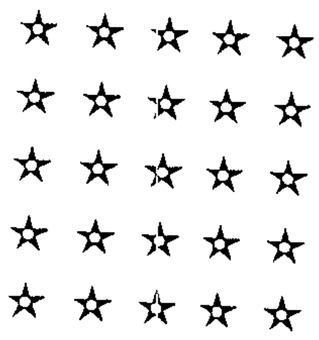
Example:



1 square inch

square number The product of a number multiplied by itself.

Example:



$5 \times 5 = 25$

↑

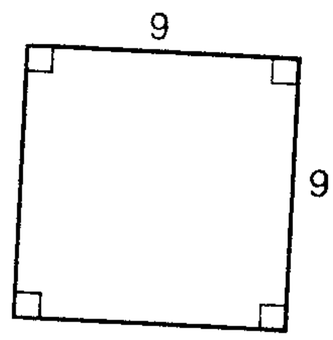
Square number

square root The square root of *N* is the number that when multiplied by itself gives *N*. Also, the square root of a given number is the length of one side of a square with an area equal to the given number.

Example:

$9 \times 9 = 81$, so 9 is the square root of 81.

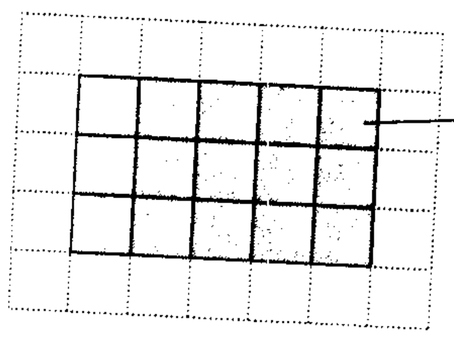
$9 = \sqrt{81}$



Area is 81 square units.

square unit A square with 1 unit sides. Unit used for measuring area.

Example:



Area = 15 square units

standard form A way to write a number that shows only its digits.

Examples: 85 239 9,325

unfair game A game in which not all players have the same probability of winning.

Example:

Unfair game: A pair of number cubes is rolled and each player is assigned a sum from 2 to 12. Each player gets a point when his/her sum is rolled. Since the sums from 2 to 12 do not have equal chances of being rolled, the players do not have equal chances of winning and thus the game is unfair.

unit A quantity used as a standard of measure.

Examples:

inch, minute, liter, ounce, day, pound

unit fraction A fraction with a numerator of 1.

Examples: $\frac{1}{4}$ $\frac{1}{2}$ $\frac{1}{7}$

unit rate A rate in which the second number in the comparison is one unit.

Examples:

25 gallons per minute $\frac{55 \text{ miles}}{1 \text{ hour}}$

units of time

Examples:

second, minute, hour, day, week, month, year, decade, century

unlike denominators Denominators that are different in two or more fractions.

Example: $\frac{1}{2}$ $\frac{2}{5}$ $\frac{2}{9}$

unlike denominators

unlikely Probably will not happen.

Example:

It is unlikely that a dog will talk.

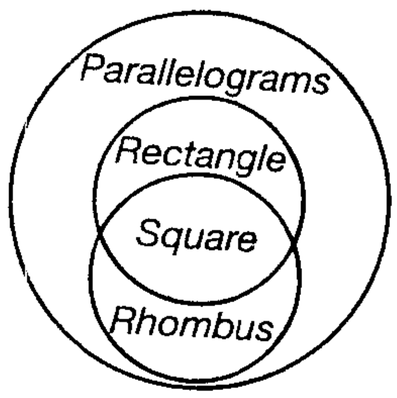
variable A letter that stands for a number or range of numbers.

Example: $n - 3$ $n + 5$

variable

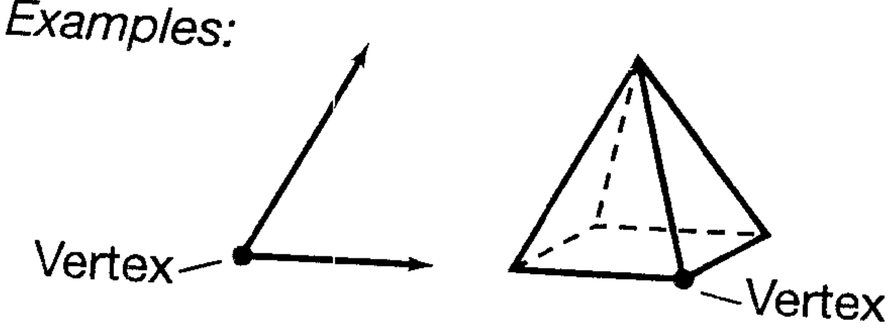
Venn diagram A diagram that uses regions to show relationships between sets of things.

Example:



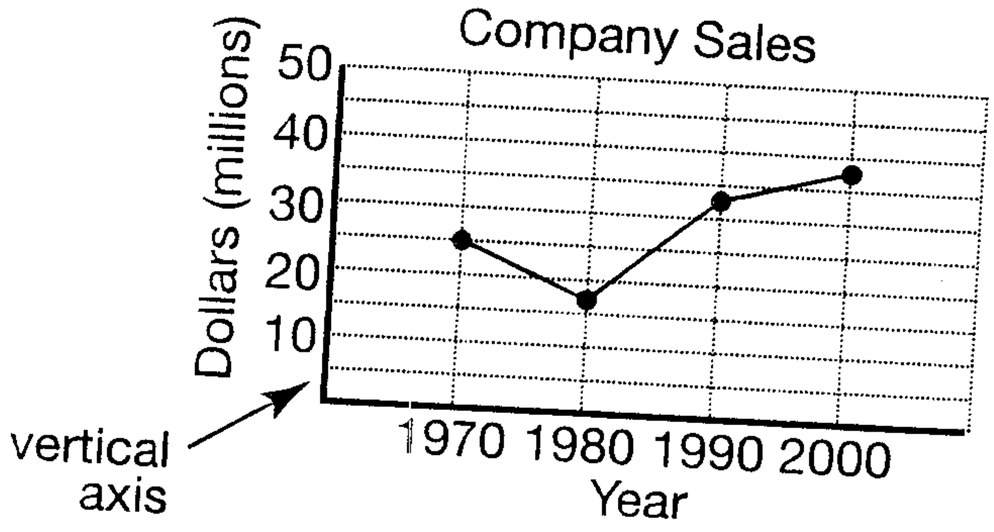
vertex (plural, vertices) The point that two rays of an angle have in common. Also, a point where two or more edges meet.

Examples:



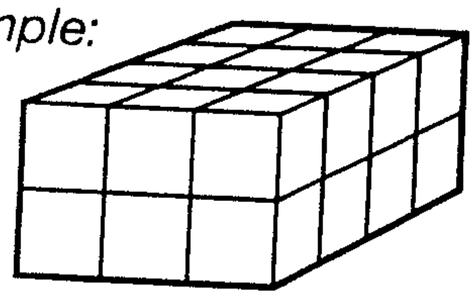
vertical axis The up-and-down number line on a graph.

Example:



volume The number of cubic units needed to fill a solid figure.

Example:



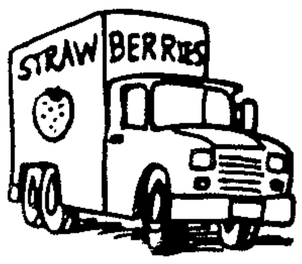
The volume is 24 cubic units.

weight A measure of the force that gravity exerts on a body.

Examples:

1 oz

1 lb



1 ton

whole number Any number in the set {0, 1, 2, 3, 4, . . .}.

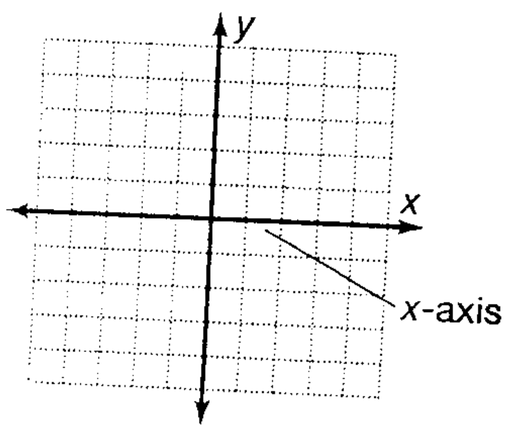
word name A way to show a number using words.

Example:

nine thousand, three hundred twenty-five

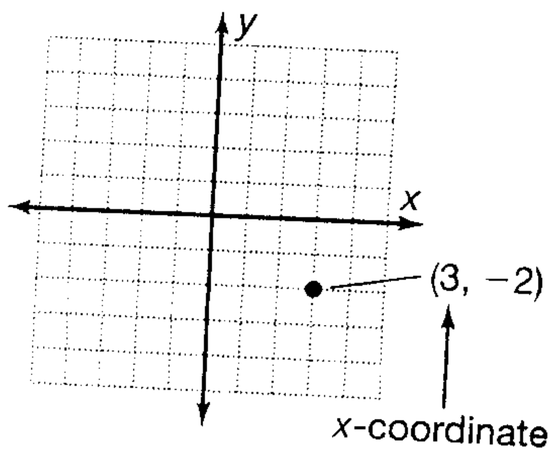
***x*-axis** The horizontal axis on a coordinate plane.

Example:



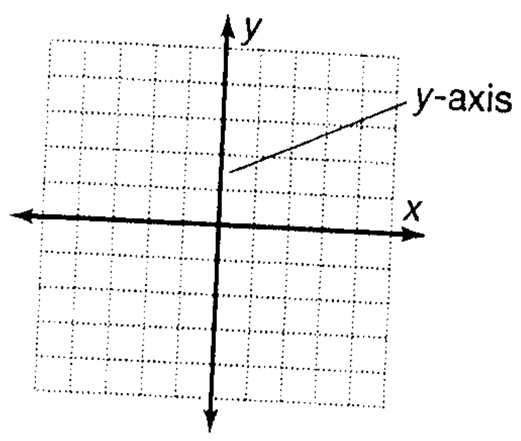
***x*-coordinate** The first number in an ordered pair.

Example:



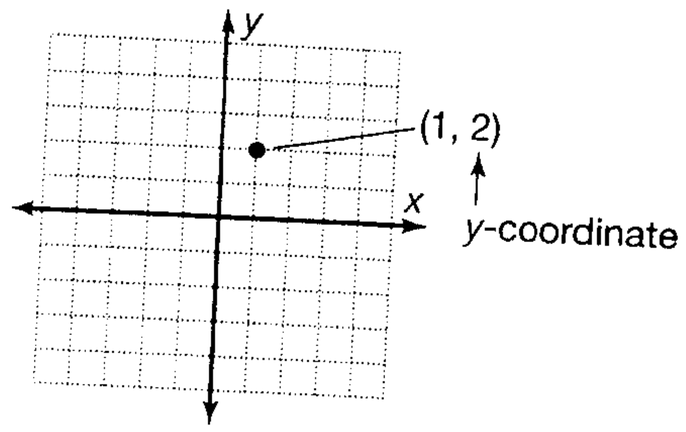
***y*-axis** The vertical axis on a coordinate plane.

Example:



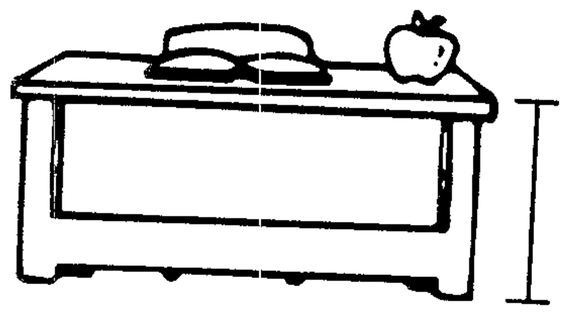
***y*-coordinate** The second number in an ordered pair.

Example:



yard (yd) A unit for measuring length in the customary system.

Example:



The height of a desk is about a yard.

zero pair A number and its opposite.

Examples: 7 and −7 23 and −23

zero property In addition, the sum of a number and 0 is that number. In multiplication, the product of a number and 0 is 0.

Examples: $7 + 0 = 7$ $7 \times 0 = 0$