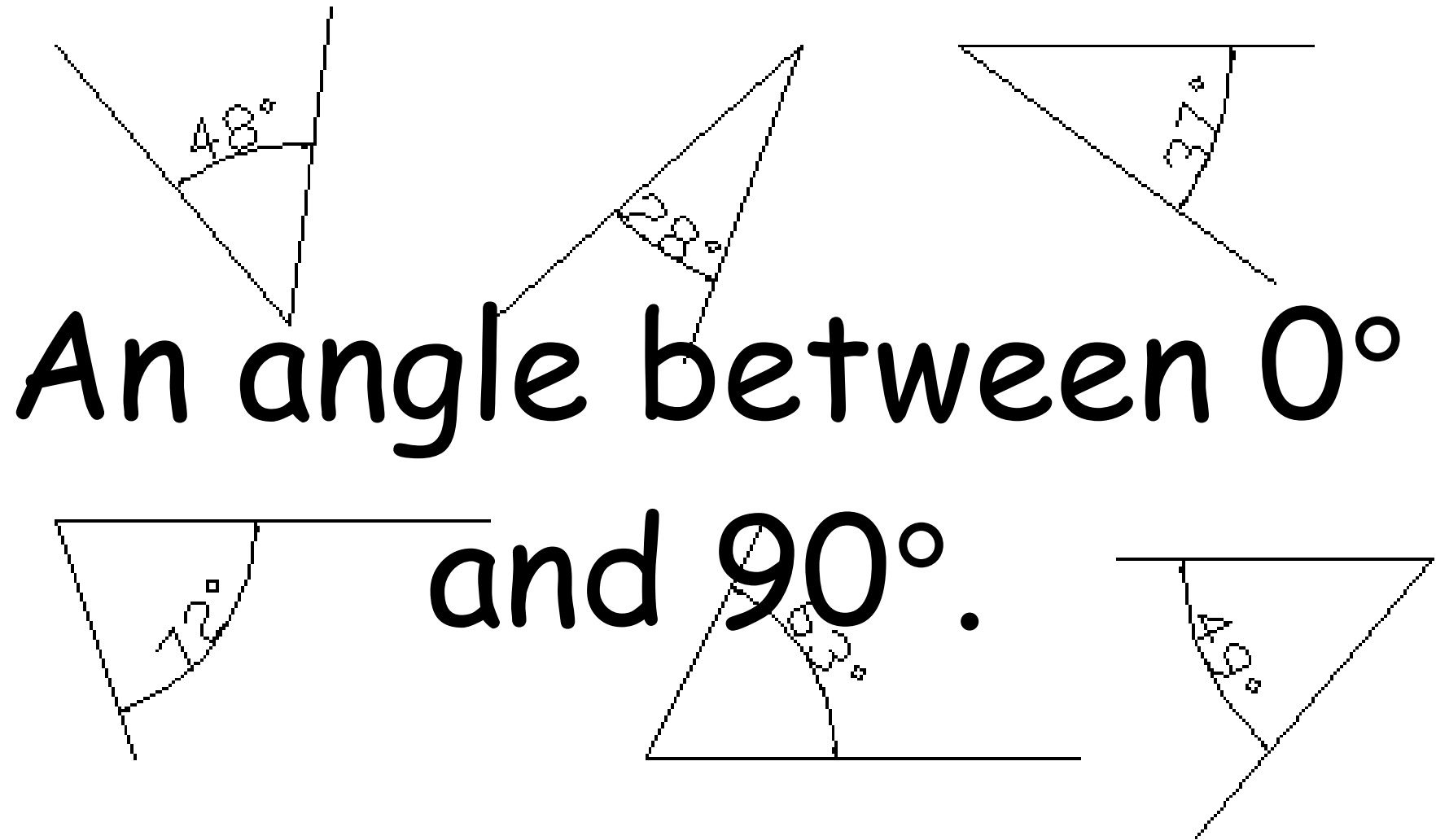


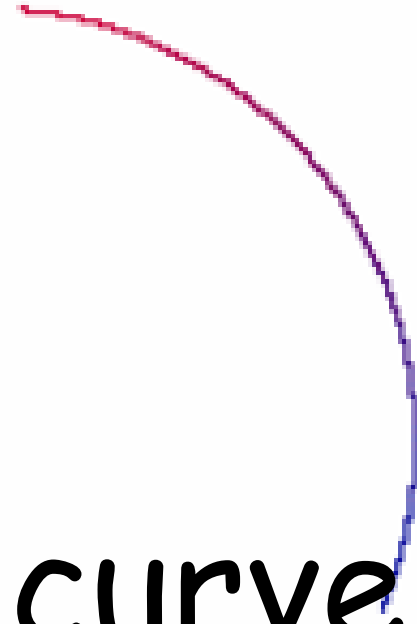
NUMBER

QUANTITY LENGTH FORM MEASUREMENTS  
CENTRE SAMPLE DEONALS TWO  
VALUE FACTORS BINARY EXACTLY  
OPERATION USES RATIONAL AGE OBJECT  
DEIMAL POINT GRAPH EQUAL NUMBERS ANGLES PROBABILITY ARITHMETIC  
DIVIDES NOTATION WHOSE ALSO LINE PART  
CONSTANT MEASURE TERM IRRATIONAL  
ANOTHER NUMBERS GIVEN SUM LINEAR  
ANGLE LINE'S LINE'S LINEAR  
VARIABLES DATA DATA  
E.G. EQUATION CIRCLE FRACTION GREATER  
DATA NUMERATOR EXPRESSION EXPRESSES DENOMINATOR STRAIGHT  
MULTIPLICATION EVENTS DISTANCE INDEX APPROXIMATION WHOLE DIRECTION  
POPULATION SQUARE SEQUENCE PROBABILITIES  
VALUES EXAMPLE NAGRAM

# Acute



# Arc



A portion of a curve.  
Often used for a portion  
of a circle.

# Approximation



A number or result that  
is not exact.

# Associative

A binary operation  $*$  on

is associative if

$$a * (b * c) = (a * b) * c$$

+ & x are associative

# Area

A measure of surface.

Measured in square

units e.g.  $\text{cm}^2$ ,  $\text{m}^2$

# Arithmetic mean

The sum of  
quantities divided  
by the number of  
quantities.

# Arithmetic sequence

A sequence of numbers in which terms are generated by + or - a constant amount to the preceding term.

1

3

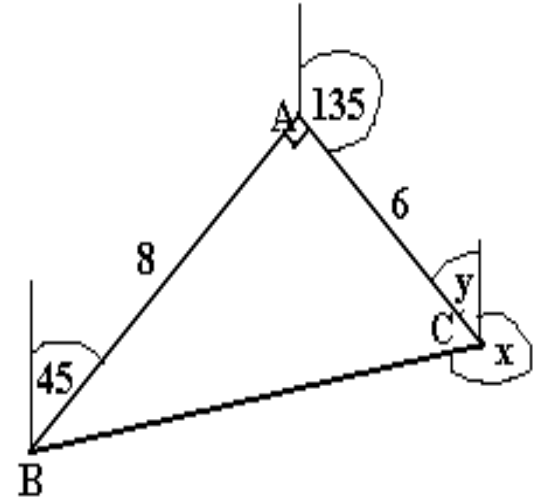
6

10

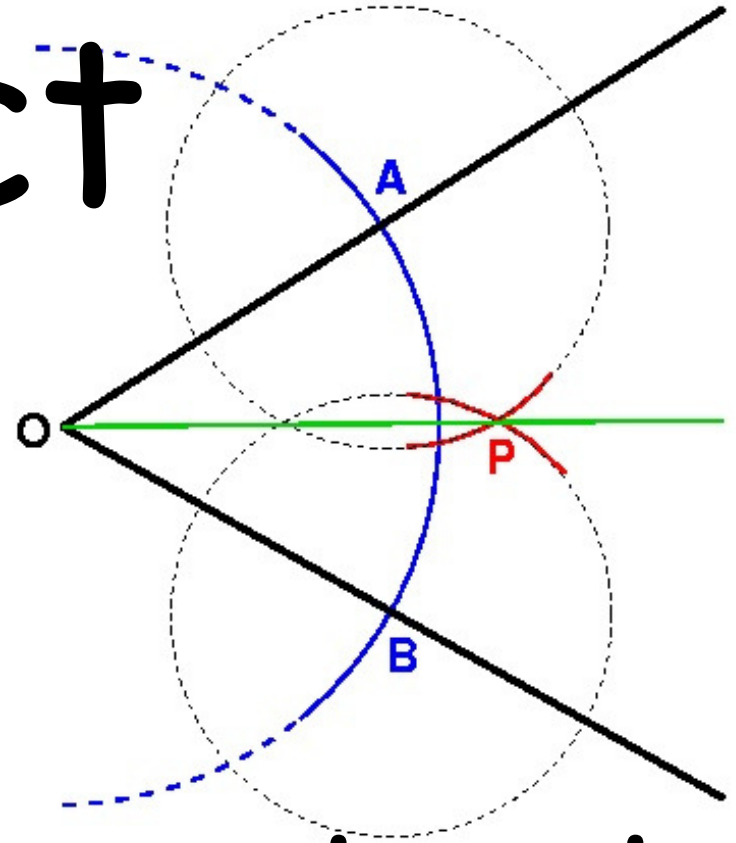


# Bearing

The direction of a line given as an angle measured in degrees from north in a clockwise direction.

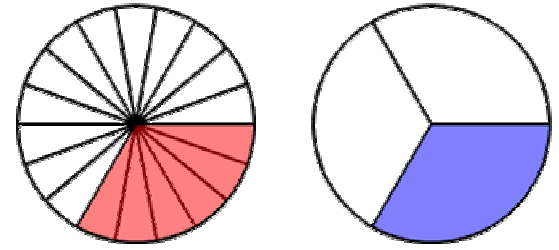


# Bisect



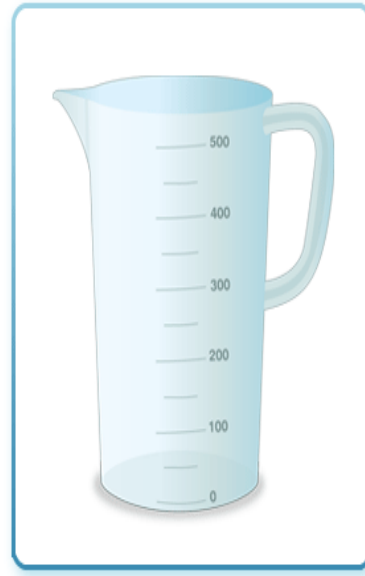
In geometry, to divide  
into two equal parts.

# Cancel (a fraction)



$$\frac{\cancel{6}^1}{\cancel{12}^2} = \frac{1}{2}$$

One way to simplify a fraction. The numerator and denominator are divided by a common factor.



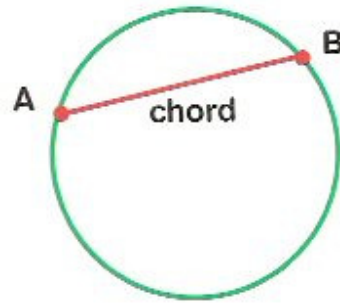
# Capacity

Volume, i.e. a measure of three-dimensional space, applied to liquids

# Centi.

Prefix meaning one-  
hundredth (of)

# Chord



A straight line  
segment joining two  
points on a circle.

# Circumference



The length of a circle  
(its perimeter).

# Coefficient

A factor of an algebraic term. E.g. in the term  $4xy$ , 4 is the numerical coefficient of  $xy$



# Commutative

A binary operation  $*$  on

is commutative if

$$\text{If } a * b = b * a$$

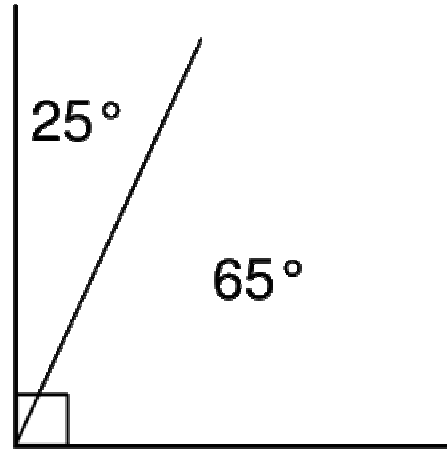
+&  $x$  are commutative

# Complement

In addition, a number and its complement have a given total.

# Complementary

angles

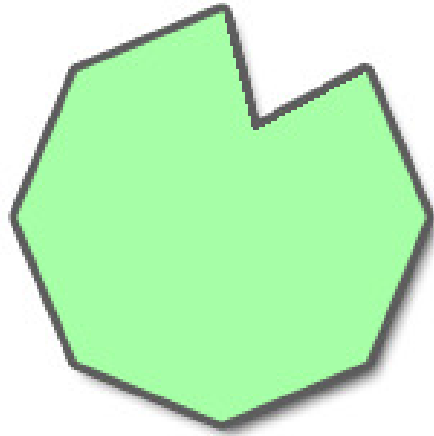


Two angles with the  
sum of  $90^\circ$ .

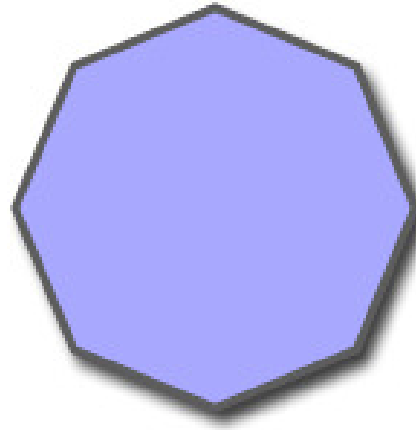
# Compound measures

Measures with 2 or more  
dimensions. E.g.: speed &  
density

# Concave



Concave



Convex

Curving inwards.

# Concentric

A diagram illustrating concentric circles. It features a series of approximately 15 concentric circles centered at the same point. The circles are colored with a rainbow gradient, starting with purple and blue for the innermost circles, transitioning through green and yellow, and ending with red and pink for the outermost circles. The circles are drawn with a slightly pixelated or dithered effect.

Used to describe  
circles that have the  
same centre.

Congruent  
(figures) 

Shapes that are  
identical.

Noun: congruence.

# Consecutive numbers

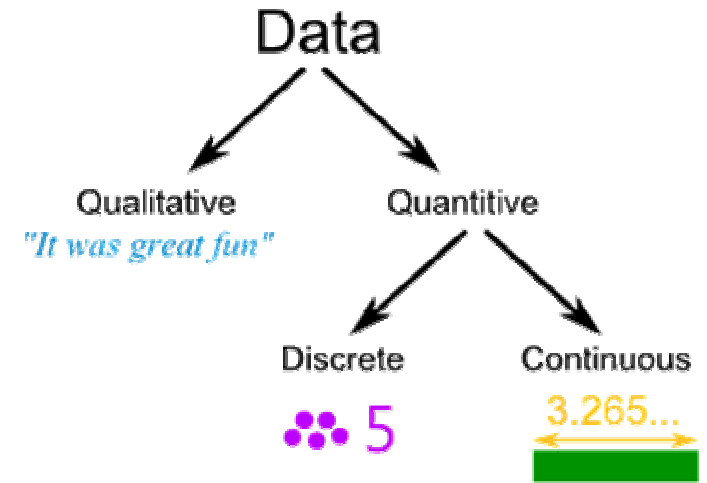
Are numbers that follow  
an order



# Constant

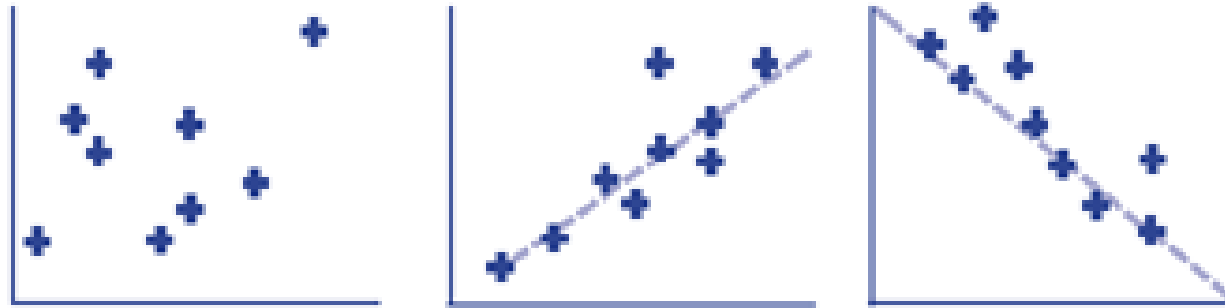
A number or quantity that does not vary. E.g.: in the equation  $y = 3x + 6$ , the 3 & 6 are constants, where  $x$  &  $y$  are variables.

# Continuous data



Data from measurements i.e: lengths , weights which are measured. Continuous data is usually grouped e.g.  $130 \leq x < 140$

# Correlation



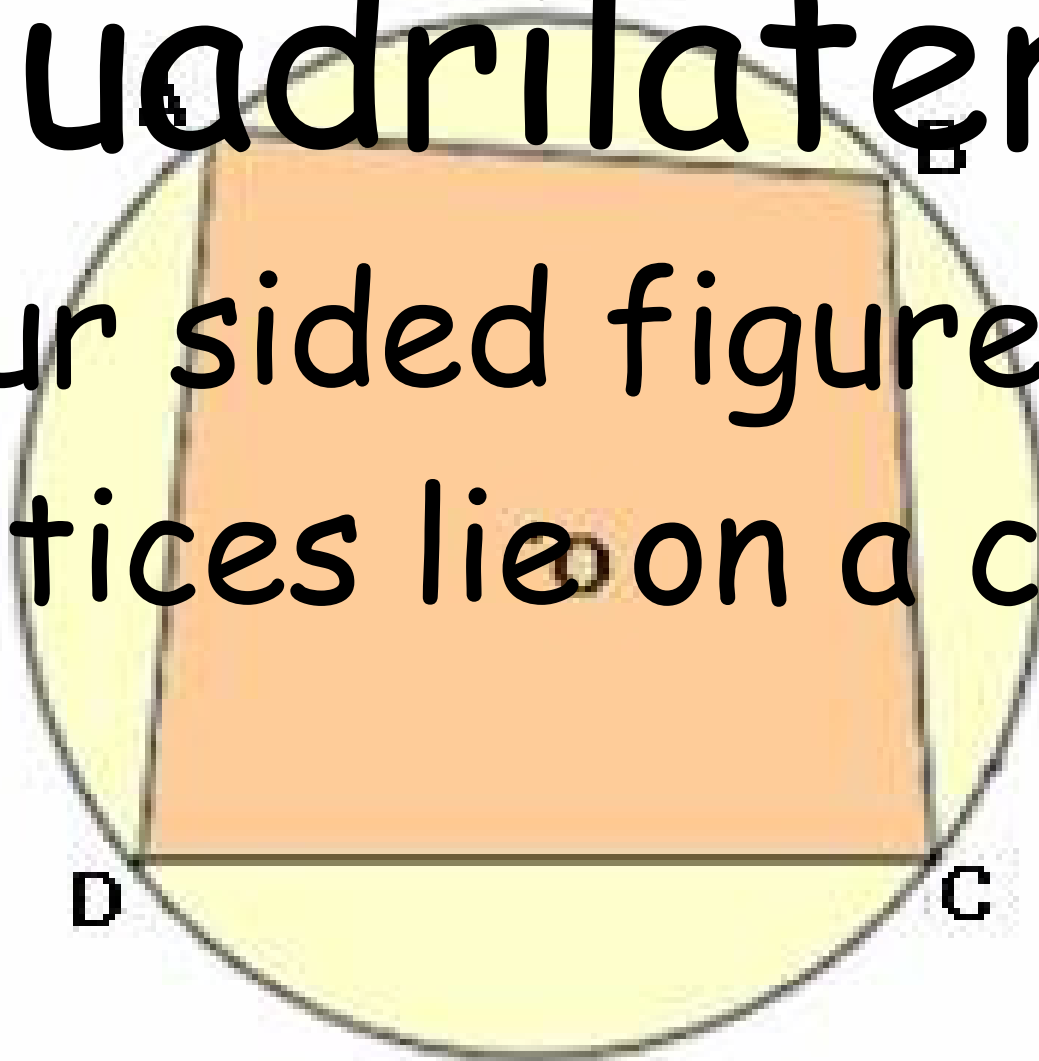
(i) (ii) (iii)  
A measure of the strength of the relationship between two variables.

# Counter example

Is a an example that  
clearly disproves a  
statement

# Cyclic quadrilateral

A four sided figure whose  
vertices lie on a circle.



numerators

$$\frac{2}{5} + \frac{1}{5}$$

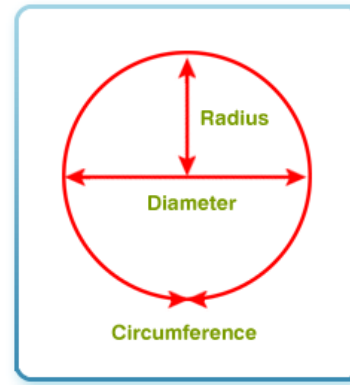
denominators

These denominators  
are common (the same)

# Denominator

In a fraction, the  
number written below  
the line.

# Diameter



Any of the chords of a circle or sphere that pass through the centre.

# Discrete data

Data that can be

counted e.g.:

number of red cars



# Distributive

An operation  $*$  is  
distributive if

$$a * (b \cdot c) =$$

$$(a * b) \cdot (a * c)$$

multiplication is distributive .

# Divisibility

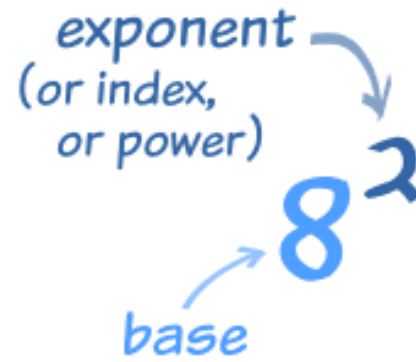
The property of being  
divisible by a given  
number.

# Divisor

The number by which another is divided.

$30 \div 6 = 5$ , the divisor is 6, 30 is the Dividend and 5 is the quotient.

# Exponent



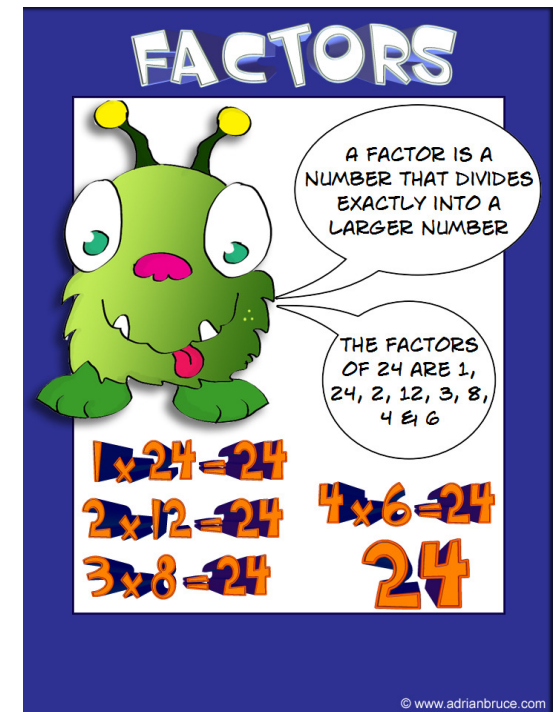
Also known as index, a number, positioned above and to the right of another, indicating repeated multiplication.

# Factor

Numbers that can divide exactly into

a number E.g.: 1, 2, 3, 4, 6

and 12 are all factors of 12



# Factorise

To express a number or polynomial as the product of its factors. E.g.:

The factors of  $x^2 - 4x - 21$  are  $(x + 3)$  and  $(x - 7)$

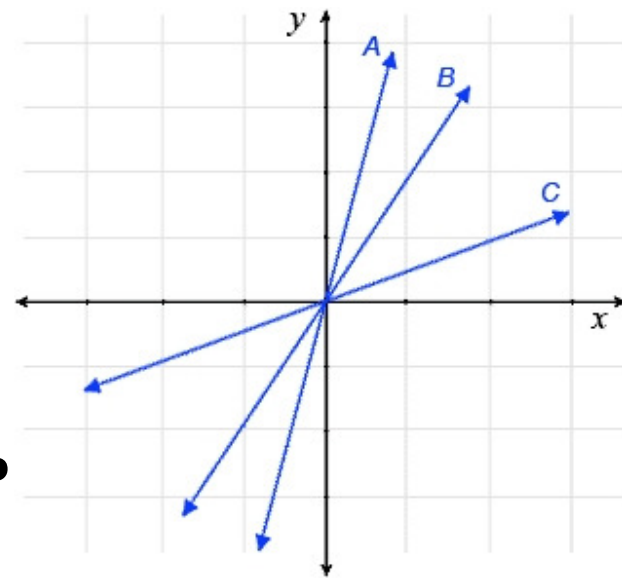
# Formula



An equation

linking sets of physical  
variables.

Plural: formulae.



# Gradient

A measure of the slope  
of a line.



# Identity

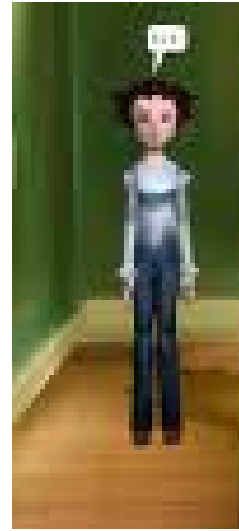
An equation that holds for all values of the variables.

The symbol  $\equiv$  is used.

Example:

$$a^2 - b^2 \equiv (a + b)(a - b).$$

# Improper fraction



$$+ \quad \text{MAG}$$
$$\times \quad 4 \frac{2}{5} = \frac{22}{5}$$

Has a numerator that is  
greater than its  
denominator.

# Index notation

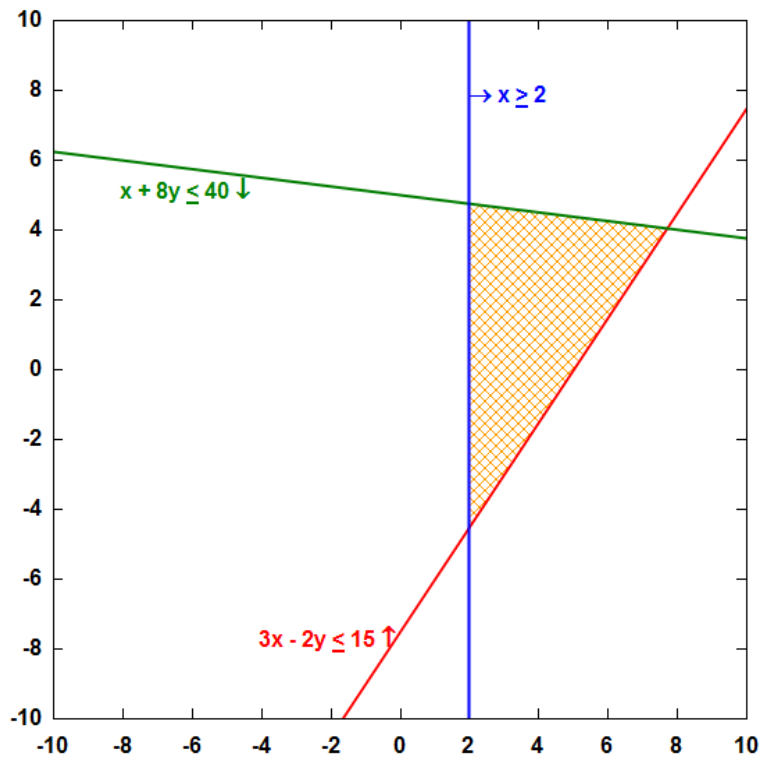
$$a^n = \underbrace{a \times a \times a \times \dots \times a \times a}_{\text{"n" lots of "a"}}$$

The notation in which a product such as

$$a \times a \times a \times a$$

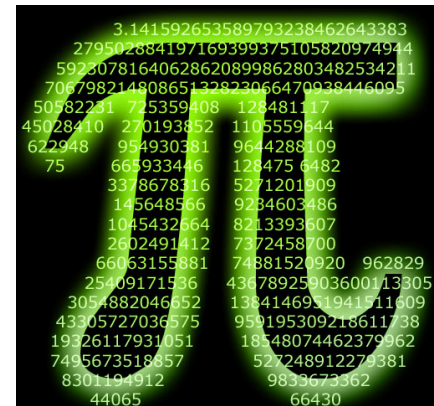
is recorded as  $a^4$ .

# Inequality



Statements such as  $a \neq b$ ,  $a \leq b$  or  $a > b$  are inequalities.

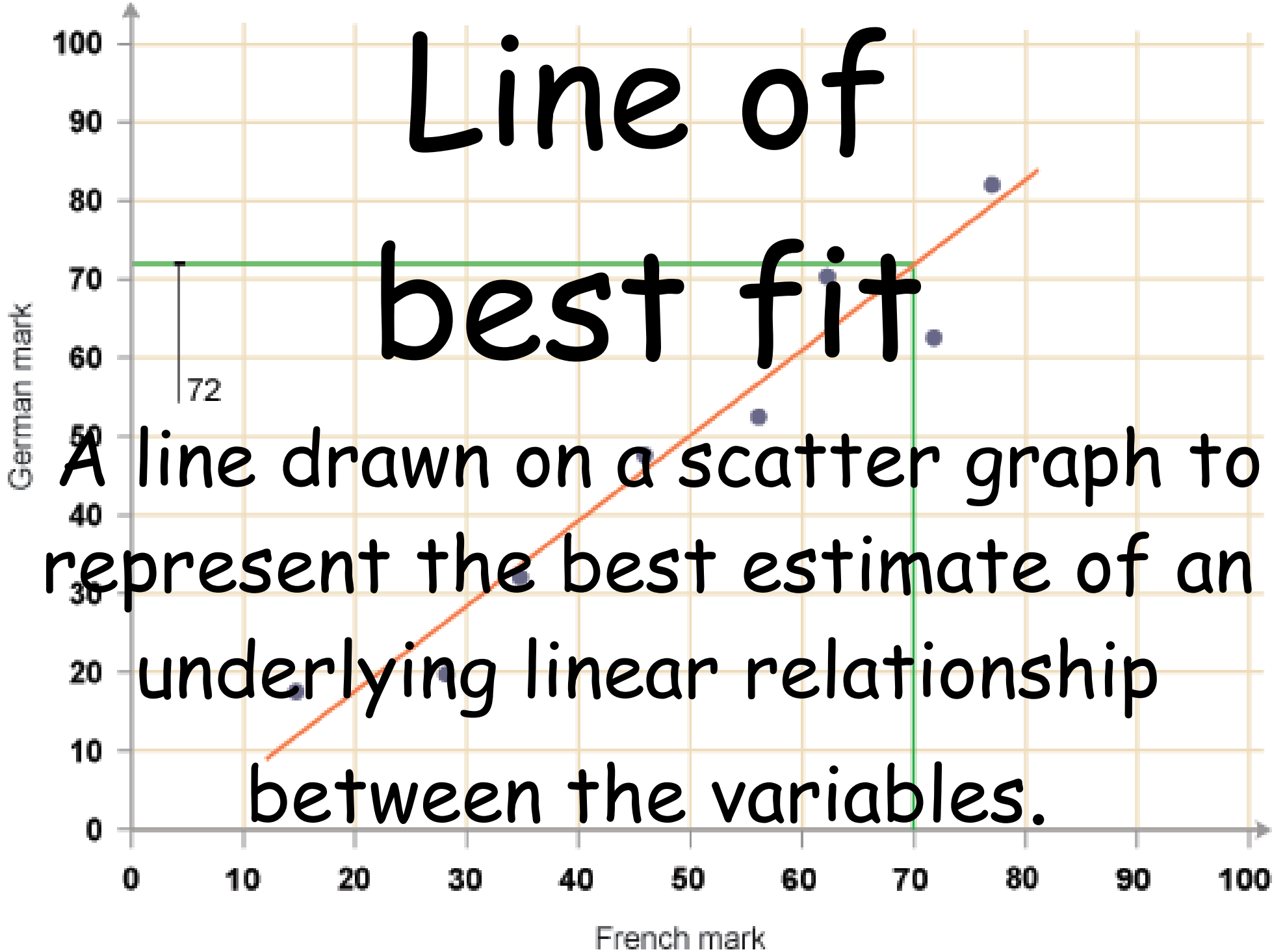
Irrational number  
Numbers that produce  
infinite, non-recurring  
decimals  
e.g.  $\sqrt{5}$  and  $\pi$ .



3.141592653589793238462643383  
279502884197169399375105820974944  
59230781640628620899862803482534211  
70679821480865132823066470938446095  
50582231 725359408 128481117  
45028410 270193852 1105559644  
622948 954930381 9644288109  
75 665933446 128475 6482  
3378678316 5271201909  
145648566 9234603486  
1045432664 8213393607  
2602491412 7372458700  
66063155881 74881520920 962829  
25409171536 43678925903600113305  
3054882046552 1384146951941511609  
43305727036575 959195309213611738  
19326117931051 18548074462379962  
7495673518857 527248912279381  
8301194912 9839673362  
44065 66430

# Line of

# best fit.



# Linear

In algebra, describing an expression or equation of degree one. E.g:  $2x + 3y = 7$  is a linear equation & can be represented as a straight line graph.

# Median

The middle number or value when all values in a set of data are arranged in ascending order.



# Mode

The most commonly occurring value or class with the largest frequency.

# Mutually exclusive events

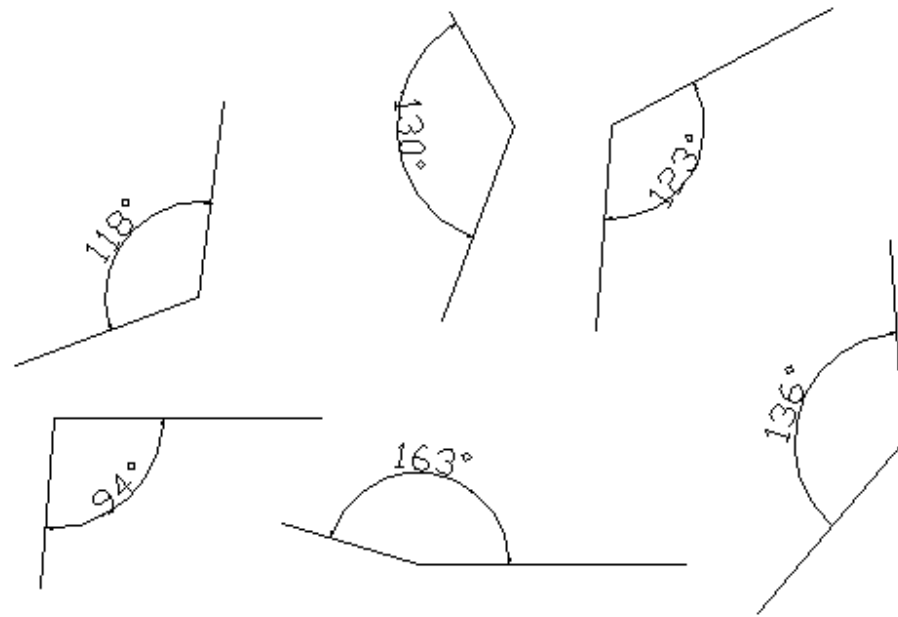
In probability, events that cannot both occur at the same time. The sum of mutually exclusive probabilities is 1.

# Natural number

The counting numbers

1, 2, 3, . etc.

# Obtuse angle

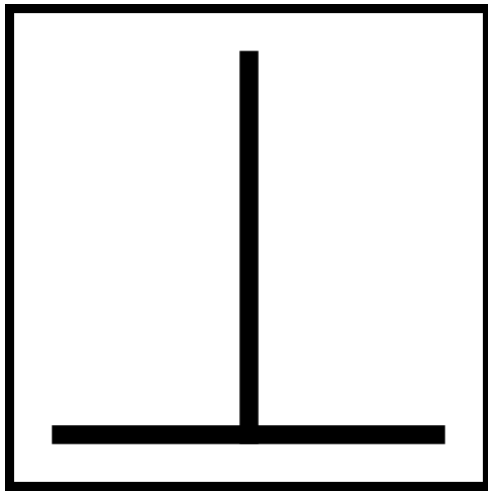


An angle greater than  $90^\circ$  but less than  $180^\circ$ .

# Pi

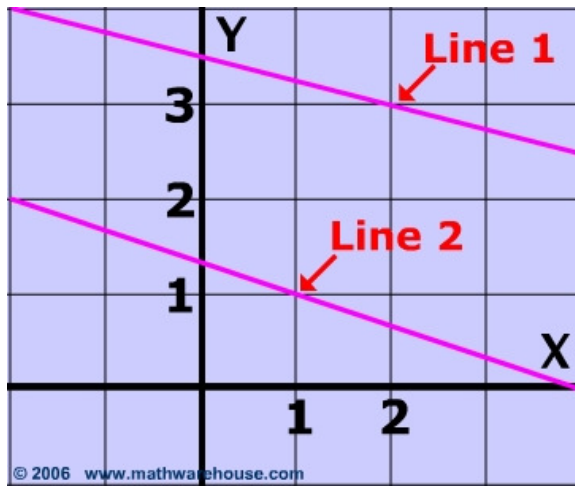
Symbol:  $\pi$ . The length of any circle divided by the length of its diameter is a constant,  $\pi$ .  $\pi$  is an irrational number. One common approximation for  $\pi$  is  $22/7$ .

$3.14159265$  is a more accurate approximation, to 8 decimal places.



# Perpendicular

A line or plane that is  
at right angles to  
another line or plane.



# Parallel

Two lines that are always equidistant. Parallel lines never cross.

# Perimeter

The total distance  
around the boundary of  
a shape.



# Plane

A flat surface.

# Prime number

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

**PRIME NUMBERS**  
A prime is a number whose only factors are 1 and the number itself.

0 and 1 are not prime, and 2 is the only even prime number.  
All numbers that are not prime are called composite.

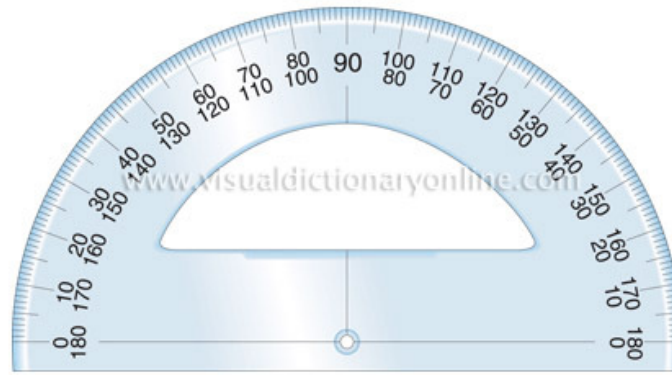
not prime	1x2	1x3	2x2	1x4	1x5	2x3	1x6	2x4	3x3	2x5	1x10
1	2	3	4	5	6	7	8	9	10		
11	12	13	14	15	16	17	18	19	20		
21	22	23	24	25	26	27	28	29	30		
31	32	33	34	35	36	37	38	39	40		
41	42	43	44	45	46	47	48	49	50		
51	52	53	54	55	56	57	58	59	60		
61	62	63	64	65	66	67	68	69	70		
71	72	73	74	75	76	77	78	79	80		
81	82	83	84	85	86	87	88	89	90		
91	92	93	94	95	96	97	98	99	100		

# Probability

The likelihood of an event happening.

Probability is expressed on a scale from 0 to 1.

# Protractor

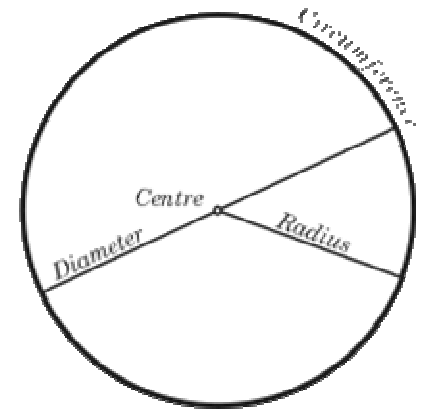


An instrument for measuring angles.

# Quadratic

Describing a expression  
of the form  $ax^2 + bx + c$   
where  $a$ ,  $b$  and  $c$  are real  
numbers.

# Radius



In relation to a circle, the distance from the centre to any point on the circle.

# Random sample

In statistics, a selection from a population where each sample of this size has an equal chance of being selected.

# Range

A measure of spread in statistics. The difference between the greatest value and the least value in a set of numerical data.



# Ratio

A part to part  
comparison.



***Ratio***

Split \$56 into **3:4**

$$\text{\$}56 \div 7 = 8$$

$$\underbrace{3+4}$$

$$\begin{array}{cc} \downarrow & \downarrow \\ \times 8 & \times 8 \\ \downarrow & \downarrow \\ 24 & 32 \end{array}$$

$$24:32$$

# Proportion

A part to whole  
comparison

# Rational number

A number that is an integer or that can be expressed as a fraction whose denominator is not zero. Rational numbers, when expressed as decimals, are recurring decimals or finite (terminating) decimals. Numbers that are not rational are irrational.

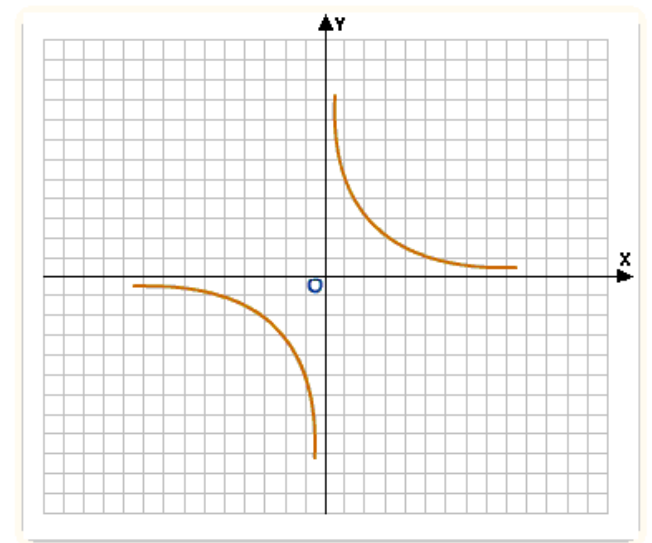
# Reciprocal

The multiplicative inverse  
of any non-zero number.

Example:  $1/3$  is

the

reciprocal of 3.

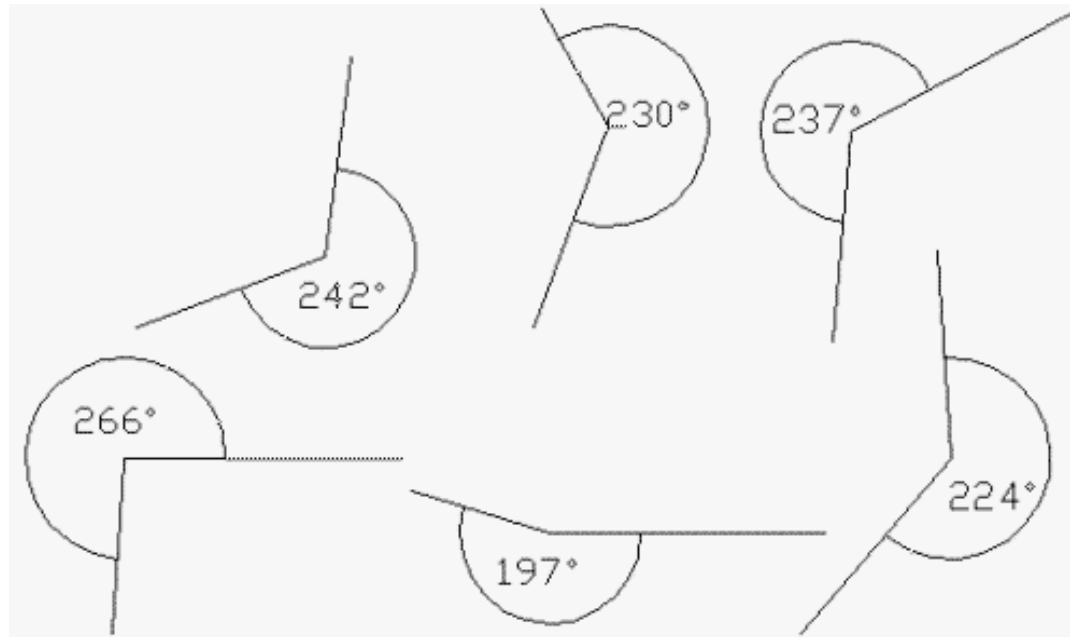




# Reflex angle

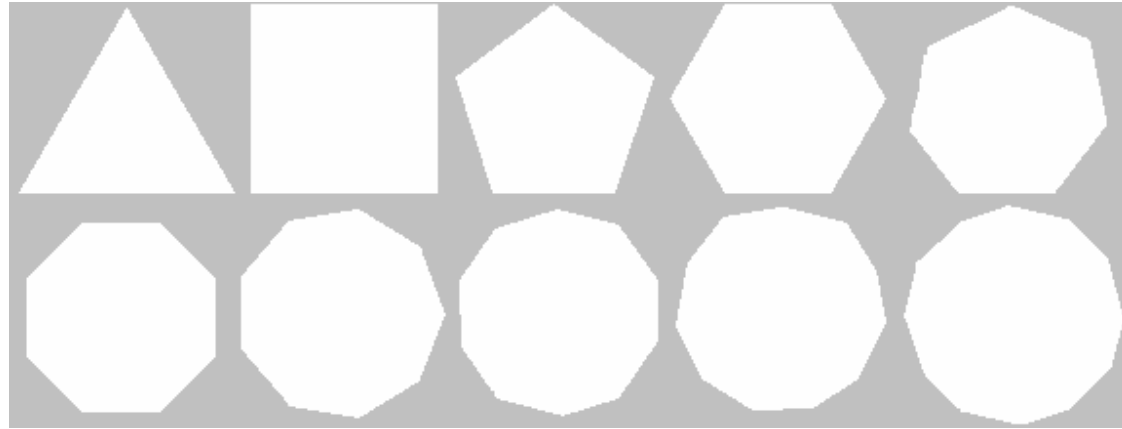
An angle that is greater

than  
but  
than



180°  
less  
360°.

# Regular



A polygon, having all sides equal and all internal angles equal.

# Square number

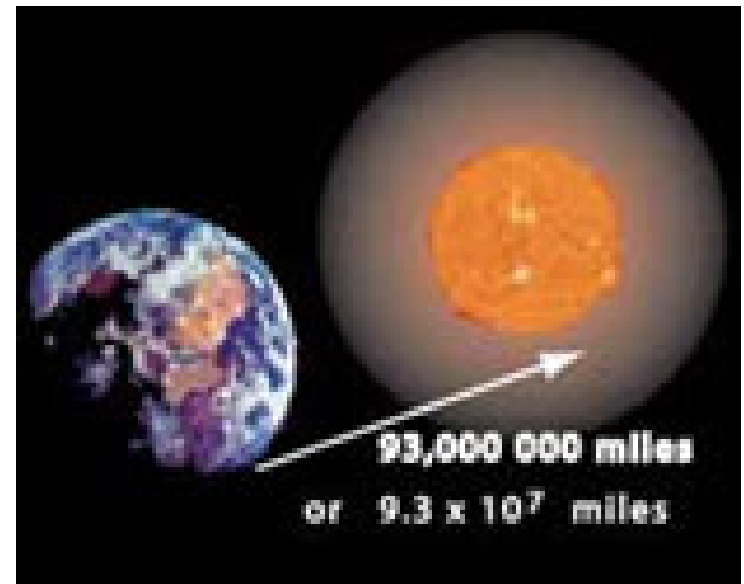
10									100
9								81	90
8							64	72	80
7						49	56	63	70
6					36	42	48	54	60
5			25	30	35	40	45	50	
4		16	20	24	28	32	36	40	
3	9	12	15	18	21	24	27	30	
2	4	6	8	10	12	14	16	18	20
1	2	3	4	5	6	7	8	9	10

A number that can be expressed as the product of two equal numbers.

Example  $36 = 6 \times 6$  and so 36 is a square number.



# Standard index form



A form in which numbers are recorded as a number between 1 & 10 multiplied by a power of ten. E.g.:  
1930 in standard index form is  
 $1.93 \times 10^3$ .

# Stratified sample

Where a population has been divided into strata/groups based on common characteristics. E.g.: for a school survey the pupils might be divided into age groups. A sample drawn at random from each age group should be proportional to the relative sizes of the different age group for greater precision.

# Surd

An irrational number expressed as the root of a natural number

E.g.:  $3\sqrt{2}$

or a numerical expression involving irrational roots.

E.g. :  $3 + 2\sqrt{7}$ .

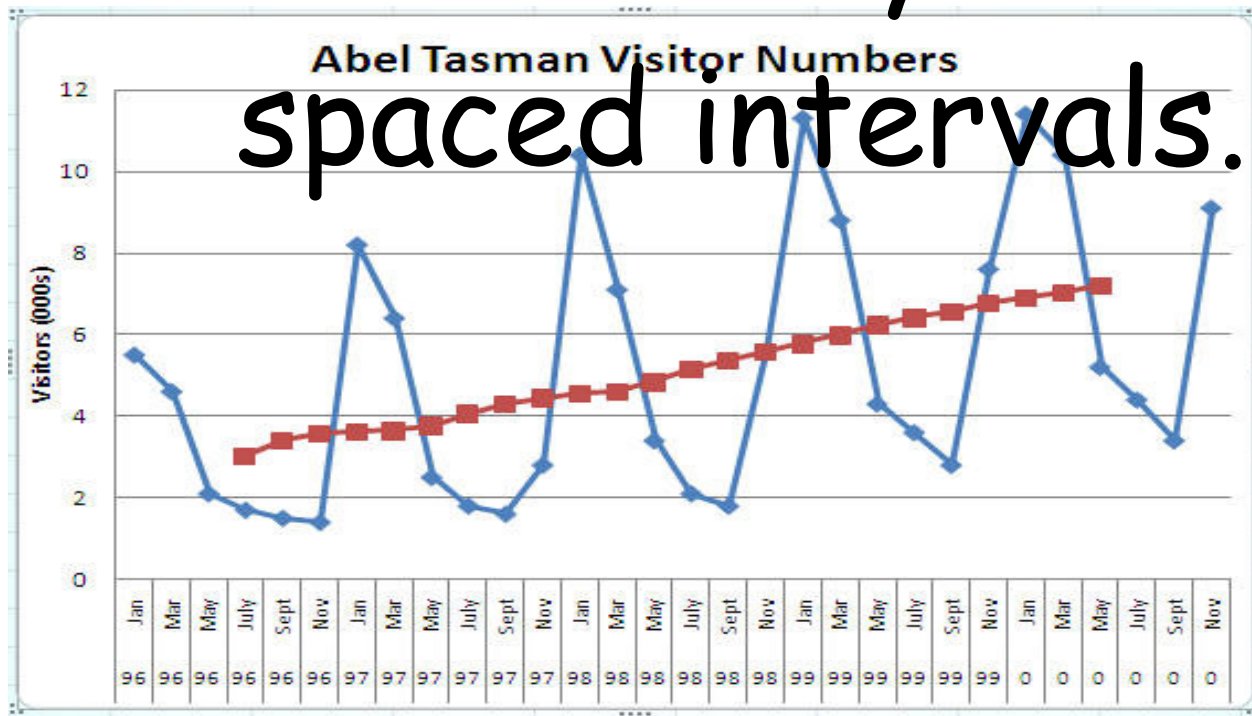
# Tangent

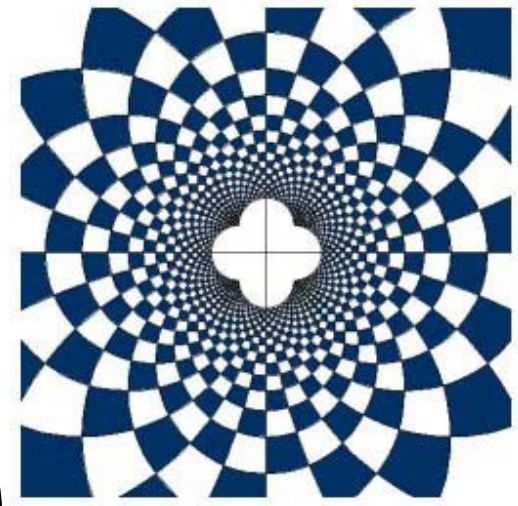
A line that touches a curve at one point only.

A diagram illustrating the concept of a tangent line. A blue circle is centered on the page. Two green lines are drawn, each touching the circle at exactly one point. Small red squares mark the points of tangency. The top green line is tangent to the upper-left part of the circle, and the bottom green line is tangent to the lower-right part of the circle. The text 'A line that touches a curve at one point only.' is written in black, with the word 'curve' positioned over the circle and the word 'point' positioned over the bottom tangent line.

# Time series

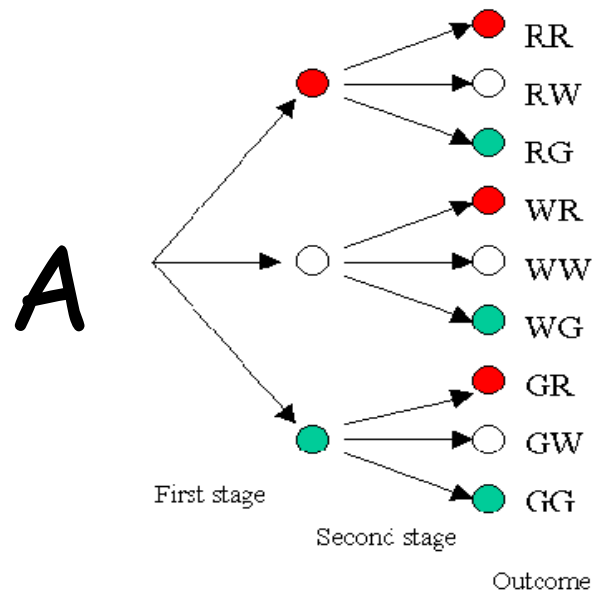
A set of observations, generally measurements or counts, taken over time usually at equally spaced intervals.





# Translation

A transformation in which every point of a body/shape moves the same distance in the same direction.



# Tree diagram

branching, decision

diagram in which

probabilities may be

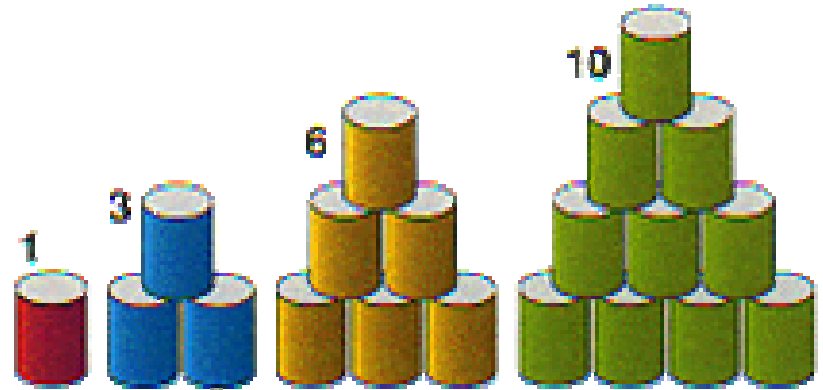
assigned to each branch and used to

determine the probability of any

outcome of

combined or compound events.

# Triangular number



A number that can be represented by a triangular array of dots with the number of dots in each row from the base decreasing by one.



# Trigonometric functions

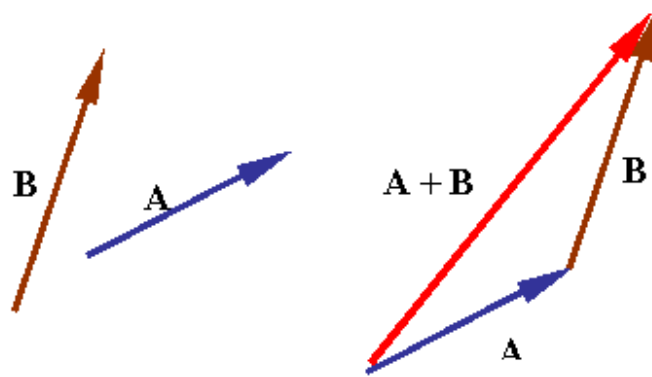
Functions of angles. The main trigonometric functions are cosine, sine and tangent.

# Uniform

Not changing.

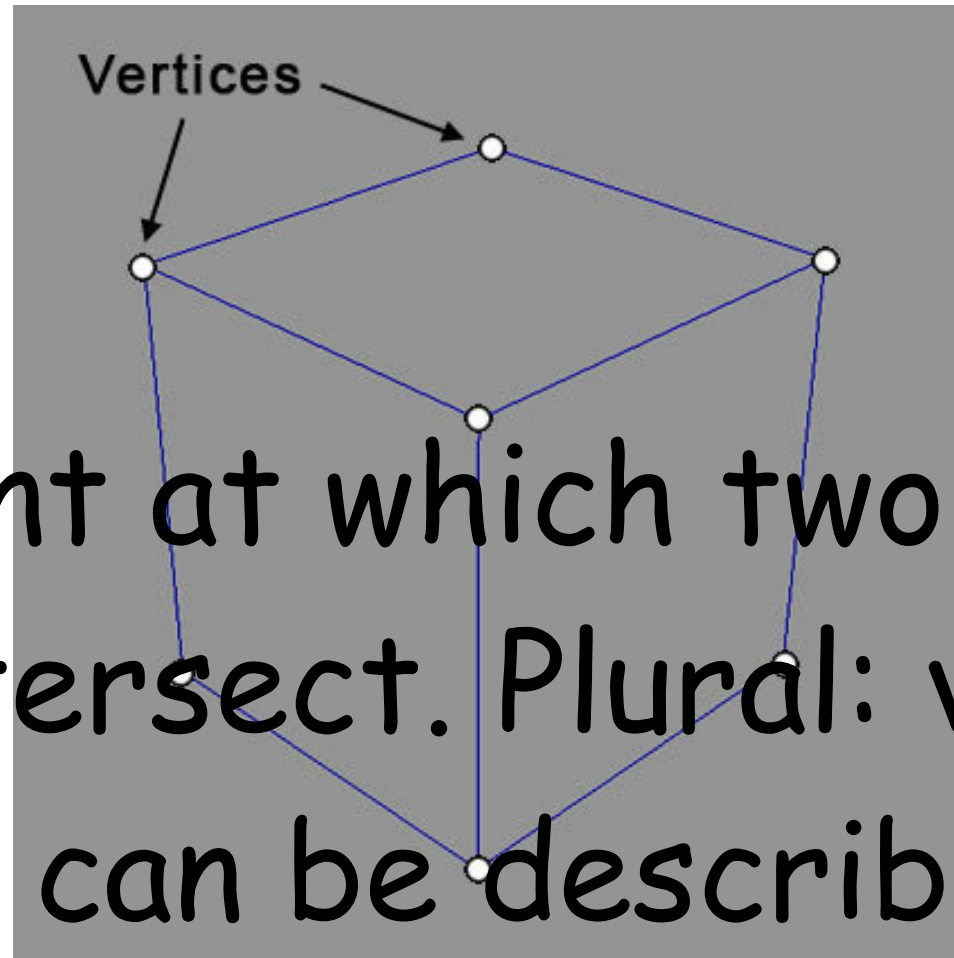
Remaining constant.

# Vector



A quantity that has  
magnitude and  
direction.

# Vertex



The point at which two or more lines intersect. Plural: vertices.

Also can be describes as corners.

# Unit fraction

A fraction that has 1 as the numerator and whose denominator is a nonzero integer. Example:  $\frac{1}{2}$

