Sign	Designation	Example	Wording
$+$	Plus sign	$a + b$	*a* plus *b*
$\sum$	Capital sigma, summation sign	$\sum_{a=1}^{n} x_a$	The sum from (*a* equals) one to *n* of *x* sub *a*; the sum of all terms of *x* sub *a* from (*a* equals) one to (*a* equals) *n*
$-$	Subtraction sign, minus sign	$a - b$	*a* minus *b*
$\pm$	Plus-minus sign	$a \pm b$	*a* plus or minus *b*
$\mp$	Minus-plus sign	$a \mp b$	*a* minus or plus *b*
$\cdot$	Multiplication sign	$ab\ a \cdot b$	*ab*; *a* times *b*; *a* multiplied by *b*
$\cdot$	(Scalar product) dot	$\vec{\mathbf{a}}\cdot\vec{\mathbf{b}}$, $\vec{\mathbf{a}}\vec{\mathbf{b}}$	Scalar product of vectors $\vec{\mathbf{a}}$ and $\vec{\mathbf{b}}$
$\times$	(Skew) cross	20×1.73	Twenty times one point seventy three
$\times$	Vector product sign	$\vec{\mathbf{a}} \times \vec{\mathbf{b}}$	Vector (cross, skew, outer) product of vectors $\vec{\mathbf{a}}$ and $\vec{\mathbf{b}}$
$\prod$	Capital pi; product sign	$\prod_{a=1}^{n} x_a$	The product from (*a* equals) one to *n* of *x* sub *a*. The product of all the terms from *a* equals one to *a* equals *n* of all *x* subscript *a*
!	Exclamation mark	$a!$	Factorial a
:	Division sign	$a : b$	*a* divided by *b*
$\div$	Division sign	$a \div b$	*a* divided by *b*

$-$	Fraction bar	$\frac{a}{b}$	*a* over *b*; *a* divided by *b*
$/$	Solidus; slant	a/b	*a* solidus *b*; *a* divided by *b* with solidus; *a* over *b* with solidus; *a* slant *b*
	(Raising to) powers	a^n	*a* to the *n*th power; *a* to the power *n*
$\sqrt{\ }$	Root sign	$\sqrt{a}$	Square root of *a*
$\sqrt[n]{a}$	Root sign	$\sqrt[n]{a}$	*n*th root of *a*
$'$	dash, prime	$a'b''$	*a* dash times *b* double dash; *a* prime times *b* double prime; *a* prime times *b* second prime
( )	Parentheses	(a)	*a* in parentheses; parenthesis (open) *a* parenthesis (close); (initial) parenthesis *a* (final) parenthesis
()	Two-line parentheses	$\binom{m}{n}$	Binomial (coefficient) *m* over *n*
$\left(\quad \right)$	Multi-line (matrix) parentheses	$\begin{pmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{pmatrix}$	Matrix with the diagonal *a* sub one one to *a* sub three three
$\left\Vert \quad \right\Vert$	Matrix bars	$\begin{Vmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{Vmatrix}$	Matrix with the diagonal *a* sub one one to *a* sub three three
[ ]	(Square) brackets	$[a]$	*a* in brackets

$< \ >$	Brackets	$< a >$	*a* in brackets
$< \ >$	Brackets	$< a \mid b >$	Vector bra *a* $< a \rvert$ times vector ket $\lvert b >$, scalar product of vector bra *a* and vector ket *b*
$\{\}$	Braces, curly brackets	$\frac{1}{2}\{a[b+k(c-d)]\}$	One half times brace (curly bracket) (open) *a* bracket (open) *b* plus *k* parenthesis (open) *b* plus *c* minus *d* parenthesis bracket brace (curly brace) (close). One half times (initial) brace (curly bracket) *a* (initial) bracket *b* plus *k* (initial) parenthesis *c* minus *d* (final) parenthesis bracket brace (curly brace)
$\lvert \ \rvert$	Modulus bars; modulus sign	$\lvert z \rvert$	Modulus [pl moduli] (absolute value) of *z*
$\lvert \quad \rvert$	Determinant bars	$\begin{vmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{vmatrix}$	Determinant with the first row *a* suffix one one to *a* suffix one three, last row *a* suffix three one to *a* suffix three three. Determinant with the diagonal *a* sub one one to *a* sub three three
	Subscript	a_b	*a* sub *b*; *a* subscript *b*; *a* suffix *b*
	Pre-subscript	${}_b a$	*a* pre-sub(script) *b*
	Superscript	a^b	*a* super(script) *b*
	Pre-superscript	${}^b a$	*a* pre-superscript *b*

det	Determinant sign	$\det a_{xy}$, $\det[a_{xy}]$	Determinant *a* sub *xy*
$=$	Equality sign	$a = b$	*a* equals *b*; *a* is equal to *b*
$\neq$	Non-equality sign	$a \neq b$	*a* is not equal to *b*
$\equiv$	Identity sign	$a \equiv b$	*a* is identical with *b*
$\not\equiv$	Non-identity sign	$a \not\equiv b$	*a* is not identical with *b*
$<$	Less than sign	$a < b$	*a* is less than *b*
$\geqslant$ $\nless$	Not less (greater or equal to, greater than/equal) sign	$a \geqslant b$, $a \nless b$	*a* is not less than *b*; *a* is greater than or equal to *b*
$>$	Greater than sign	$a > b$	*a* is greater than *b*
$\leqslant$ $\ngtr$	Not greater (less or equal to, less than/equal) sign	$a \leqslant b$, $a \ngtr b$	*a* is not greater than *b*; *a* is less than or equal to *b*
$\ll$	Much less sign	$a \ll b$	*a* is much less than *b*
$\gg$	Much greater sign	$a \gg b$	*a* is much greater than *b*
$\parallel$	Parallel sign	$a \parallel b$	*a* is parallel to *b*
$\nparallel$	Nonparallel sign	$a \nparallel b$	*a* is not parallel to *b*

⋕	Equal-parallel sign	$a ⋕ b$	a is equal and parallel to b
(UK) №, (US) #	Number sign	№1, # 1	Number one
$\perp$	Perpendicular sign	$a \perp b$	a is perpendicular to b
$\upuparrows$	Parallel arrows (two arrows up)	$a \upuparrows b$	a is parallel (and equdirectional) to b
$\uparrow\downarrow$	Antiparallel arrows (arrows one up one down)	$a \uparrow\downarrow b$	a is antiparallel to b
$\approx$	Approximation sign	$a \approx b$	a is nearly (approximately) equal to b
$\sim$	Tilde	$a \sim b$	a is asymptotic to b
$\sim$	Tilde	$\tilde{a}$	tilde a; a with tilde
$\cong$	Correspondence sign	$15h \cong 25km$	15 hours correspond to 25 kilometers
$\cong$	Coincidence sign	$ABC \cong DEF$	All capital abc coincides with def
$\propto$	Proportionality sign	$a \propto b$	a is proportional to b
$\propto$	Proportionality sign	$a \propto 1/b$	a is inversely proportional to b; a varies inversely with b
∞	Infinity sign	$y \to \infty$	y tends to infinity
$\ldots$	Leader	$7, \ldots, 17$	seven to seventeen

$\therefore$	Therefore sign	$\therefore c = b$	Therefore *c* equals *b*
$\because$	Because sign	$\because c = b$	Because (since) *c* equals *b*
$\angle$	Angle	$\angle\alpha$	Angle alpha
$\triangle$	Triangle	$\triangle ABC$	Triangle capital *abc*
$\veebar$	Equal angle sign	$\angle B = \angle C,\ B \veebar C$	Capital *b* has the same angle as capital *c*
lim	Limit sign	$\lim\limits_{x \to x_0} f(x)$	Limit of the function *f* of *x* for x tending to *x* (sub) zero
∂	Curly d	$\dfrac{\partial u(x,y)}{\partial x}$	Dif *u* to dif *x*; partial derivative of the function *u* with two arguments *x* and *y* with respect to *x*
$\int$	Integral sign	$\int_a^b f(z)dz$	Integral between the limits (*z* equals) *a* and *b* of the function *f* of *z* *dz*; function *f* of *z* integrated within limits *a* and *b*
$\int\int$	Double integral sign	$\iint_O f(x,y)dx\,dy$	Double integral of the function *f* over the area capital *o*
$\int\int\int$	Triple integral sign	$\iiint_{\mathbf{O}} h(x,y,z)dx\,dy\,dz$	Triple integral of the function *h* over the volume bold *o*
$\oint$	Circled integral	$\oint\limits_K f(y)dy$	Circuital integral; integral round a closed circuit *K*; integral of the function *f* taken along a closed contour *K*
$\oiint$	Surface integral	$\oiint_{\mathbf{A}} F(\vec{\mathbf{r}})d\vec{\mathbf{S}}$	Integral over the closed surface capital bold *a* (**A**) of the function capital *f*

∇	Del, nabla	$\nabla\varphi$	Del (nabla) φ
∇^2, Δ	Laplacian	$\nabla^2\varphi, \Delta\varphi$	Laplacian of φ; del square φ
grad	Gradient	$grad\ \varphi$	Gradient (of) φ
div	Divergence	$div\ \vec{\mathbf{b}}$	Divergence (of) bold vector *b*
curl, rot	Curl	$curl\ \vec{\mathbf{a}}, rot\ \vec{\mathbf{a}}$	Curl (of) bold vector *a*
$\widehat{\ }$	Hat	$\widehat{a^2}$	*a* squared with hat
$\widehat{\ }$	Hat	$\widehat{a}^2$	hat *a* squared; *a* with hat squared
$\mathbb{A}, \mathbb{B}, \mathbb{C}$	Light letter A, B , C, etc.	$\mathbb{A}, \mathbb{B}, \mathbb{C}$, etc.	Light letter capital *a*, *b*, *c*, etc.
$\mathcal{A}, \mathcal{B}, \mathcal{C}$	Calligraphic letter A, B , C, etc.	$\mathcal{A}, \mathcal{B}, \mathcal{C}$, etc.	Calligraphic letter capital *a*, *b*, *c*, etc.
$\mathfrak{A}, \mathfrak{a}, \mathfrak{B}, \mathfrak{b}$	Ghotic letters	$\mathfrak{A}, \mathfrak{a}, \mathfrak{B}, \mathfrak{b}$ etc.	Ghotic letter capital *a*, lower character *a* etc.
$\aleph$	Aleph	$\aleph^2$	second power of aleph
$\Re$	Real part of complex number	$\Re(a + b\imath) = a$	Real part of complex number *a* plus *b* times *i* equals *a*
$\Im$	Imaginary part of complex number	$\Im(a + b\imath) = b$	Imaginary part of complex number *a* plus *b* times *i* equals *b*
$\overline{\ }$, *	Complex conjugation sign	$\overline{z} = z^* = \Re z - \imath\Im z$	Complex number conjugate of *z* equals real part of *z* minus imaginary part of *z* times $\imath$
$\imath$	Imaginary unit	$\imath^2 = -1$	$\imath$ squared equals minus one

$\cup$	Sets union sign	$A \cup B$	Union of (sets) all capital *a* and *b*
$\bigcup$	Sets union sign	$\bigcup_{n=1}^{N} B_n$	The union of (sets) from (*n* equals) one to (capital) *n* of (capital) *b* sub *n*; the union of all (sets) (capital) *b* sub *n* from (*n* equals) one to (*n* equals) (capital) *n*
$\cap$	Sets intersection sign	$A \cap B$	Intersection of (sets) all capital *a* and *b*
$\bigcap$	Sets intersection sign	$\bigcap_{n=1}^{N} B_n$	The intersection of (sets) from (*n* equals) one to (capital) *n* of (capital) *b* sub *n*; the intersection of all (sets) (capital) *b* sub *n* from (*n* equals) one to (*n* equals) (capital) *n*
$\backslash$	Sets difference sign (set-theoretic minus)	$A \backslash B$	Difference of (sets) all capital *a* and *b*; (set), (capital) *a* minus (set), (capital) *b*
$\varnothing$	Empty set sign	$\varnothing \backslash A = \varnothing$	Difference of an empty set and (set) (capital) *a* equals empty set
$\times$	Cartesian product of sets sign	$A \times B$	Cartesian product of (sets) all capital *a* and *b*
$\bigtimes$	Cartesian product of sets sign	$\bigtimes_{n=1}^{N} X_n$	The Cartesian product of (sets) from (*n* equals) one to (capital) *n* of (capital) *x* sub *n*; the Cartesian product of all (sets) (capital) *x* sub *n* from (*n* equals) one to (*n* equals) (capital) *n*
$\subset$	Inclusion sign	$A \subset B$	(set) (capital) *a* is included into (set) (capital) *b*; (set) (capital) *b* includes (set) (capital) *a*
$\supset$	Inclusion sign	$A \supset B$	(set) (capital) *b* is included into (set) (capital) *a*; (set) (capital) *a* includes (set) (capital) *b*
$\in$	Set membership sign	$a \in \mathcal{A}$	(element) *a* is in the (set) (calligraphic) *a*; (element) *a* belongs to the (set) (calligraphic) *a*; (set) (calligraphic) *a* contains an element *a*

$\ni$	Set membership sign	$\mathcal{A} \ni a$	(element) *a* is in the (set) (calligraphic) *a*; (element) *a* belongs to the (set) (calligraphic) *a*; (set) (calligraphic) *a* contains an element *a*
$\dagger$	Dagger, conjugate transpose, Hermitian conjugate or transjugate sign	$\mathcal{A}^\dagger$	(matrix) Hermitian conjugate (conjugate transposed, transjugated) to (matrix) (calligraphic) *a*; (calligraphic) *a* super(script) dagger
$\ddagger$	Double dagger	Newton‡	Newton double dagger; Newton super(script) double dagger
iff	Abbreviation for "if and only if"	$x = 0$ iff $2x = 0$	*x* equals zero if and only if two times *x* equals zero
$\Longrightarrow$, ($\Longleftarrow$)	Material implication sign	$x = 2 \Longrightarrow -x = -2$	*x* equals two implies that minus *x* equals minus two; *x* equal two entails minus *x* equal minus two
$\Longleftrightarrow$	Material equivalence sign, iff, if and only if	$x = 2 \Longleftrightarrow -x = -2$	*x* equals if and only if minus *x* equals minus two; *x* equal two is equivalent to minus *x* equal minus two
$\neg$	Logical negation sign, not	$\neg(\neg A) \Leftrightarrow A$	not not (capital) *a* is equivalent to (capital) *a*
$\vee$	Logical disjunction sign, or	$(x > 2 \vee x > 5) \Longleftrightarrow x > 2$	(initial) parenthesis *x* greater then two or *x* greater then five (final) parenthesis is equivalent to *x* greater then two; *x* greater then two or *x* greater then five in parentheses is equivalent to *x* greater then two
$\wedge$	Logical conjunction sign, wedge (exterior) product sign	$(x > 2 \wedge x > 5) \Longleftrightarrow x > 5$	(initial) parenthesis *x* greater then two and *x* greater then five (final) parenthesis is equivalent to *x* greater then five; *x* greater then two and *x* greater then five in parentheses is equivalent to *x* greater then five

$\forall$, $(\bigwedge)$	Universal quantification sign	$\forall x \in \mathbb{R};\ x^2 \geqslant x$	for all *x* in the (set) light (capital) *r* *x* squared is not less then *x*
$\exists$, $(\bigvee)$	Existential quantification sign	$\exists x \in \mathbb{R};\ x \geqslant 5$	It exists *x* in the (set) light (capital) *r* such that *x* is not less then five
$\exists!$, $(\bigvee!)$	Uniqueness quantification sign	$\exists! x \in \mathbb{R};\ -x = 3.4$	It exists exactly one *x* in the (set) light (capital) *r* such that minus *x* equals three point four
$\otimes$	Tensor product sign	$\vec{\mathbf{a}} \otimes \vec{\mathbf{b}}$	tensor product of vectors bold *a* and bold *b*; bold *a* with an arrow, tensor product sign bold *b* with an arrow; tensorial multiplication of vectors (bold) *a* and (bold) *b*; tensor product of vectors *a* and *b*, all bold
$\bigotimes$	Tensor product sign	$\bigotimes_{j=3}^{k+l} \vec{\mathbf{v}}_j$	Tensor product of (all) vectors from (*j* equals three) to (*j* equals) *k* plus *l* of vectors (bold) *v* sub *j*; tensor product sign with limits (*j* equals) three and (*j* equals) *k* plus *l*, bold *v* with an arrow sub *j*

Greek Alphabet

A	α	alpha
B	β	beta
Γ	γ	gamma
Δ	δ	delta
E	ϵ, ε	epsilon
Z	ζ	zeta
H	η	eta
Θ	θ, ϑ	theta
I	ι	iota
K	κ	kappa
Λ	λ	lambda
M	μ	mu
N	ν	nu
Ξ	ξ	xi
O	o	omikron
Π	π, ϖ	pi
P	ρ, ϱ	rho
Σ	σ, ς	sigma
T	τ	tau
ϒ	υ	upsilon, ypsilon
Φ	ϕ, φ	phi
X	χ	chi
Ψ	ψ	psi
Ω	ω	omega

Typical notation for various sets of numbers

$\mathbb{N}$	set of natural numbers
$\mathbb{Z}$	integers
$\mathbb{Q}$	set of rational numbers
$\mathbb{R}$	set of real numbers
$\mathbb{C}$	set of complex numbers

Trigonometric and hyperbolic functions

Sign	Designation	Example	Wording
sin	Sine	$\sin x$	Sine x
cos	Cosine	$\cos x$	Cosine x
tan; tg	Tangent	$\tan x$, $\operatorname{tg} x$	Tangent x; tan x
cot, ctg, ctn	Cotangent	$\cot x$, $\operatorname{ctg} x$, $\operatorname{ctn} x$	Cotangent x
cosec	Cosecant	$\operatorname{cosec} x$	Cosecant x
sec	Secant	$\sec x$	Secant x
arcsin; $\sin^{-1}$	Arc sine; inverse sine	$\arcsin x$; $\sin^{-1} x$	Arc sine x; the angle whose sine is x; inverse sine x; sine minus one x
arccos; $\cos^{-1}$	Arc cosine; inverse cosine	$\arccos x$; $\cos^{-1} x$	Arc cosine x; the angle whose cosine is x; inverse cosine x; cosine minus one x
arctan; $\tan^{-1}$	Arc tangent; inverse tangent	$\arctan x$; $\tan^{-1} x$	Arc tan x; the angle whose tangent is x; inverse tangent x; tangent minus one x
arccot; $\cot^{-1}$	Arc cotangent; inverse cotangent	$\operatorname{arccot} x$; $\cot^{-1} x$	Arc cotangent x; the angle whose cotangent is x; inverse cotangent x; cotangent minus one x
sinh	Hyperbolic sine	$\sinh x$	Shine x; hyperbolic sine x
cosh	Hyperbolic cosine	$\cosh x$	Kosh x; hyperbolic cosine x
tanh	Hyperbolic tangent	$\tanh x$	Than x; hyperbolic tangent x
coth	Hyperbolic cotangent	$\coth x$	Koth x; hyperbolic cotangent x

coseh	Hyperbolic cosecant	coseh *x*	Kosetch *x*; hyperbolic cosecant *x*
sech	Hyperbolic secant	sech *x*	Setch *x*; hyperbolic secant *x*
arcsinh; $\sinh^{-1}$	Arc (inverse) hyperbolic sine	$\sinh^{-1} x$	Inverse shine *x*; shine minus one *x*
arccosh; $\cosh^{-1}$	Arc (inverse) hyperbolic cosine	$\cosh^{-1} x$	Inverse kosh *x*; kosh minus one *x*
arctanh; $\tanh^{-1}$	Arc (inverse) hyperbolic tangent	$\tan^{-1} x$	Inverse than *x*; than minus one *x*
arccoth; $\coth^{-1}$	Arc (inverse) hyperbolic cotangent	$\coth^{-1} x$	Inverse koth *x*; koth minus one *x*
arccosech; cosech^{-1}	Arc (inverse) hyperbolic cosecant	$\mathrm{cosech}^{-1} x$	Inverse kosetch *x*; kosetch minus one *x*
arcsech; sech^{-1}	Arc (inverse) hyperbolic secant	$\mathrm{sech}^{-1} x$	Inverse setch *x*; setch minus one *x*

Wording of more complicated formulas

Each example is given in two versions
1) This version may be used whenever the reading is supported by visual inspection by the listener.
2) This version is intended to eliminate all ambiguity that may be involved in the version 1).

$$\frac{a}{b(c+d)}$$

1) a over b times c plus d in parentheses
2) a over the product of b times (initial) parenthesis c plus d parenthesis

$$\left(\frac{a}{b}c+d\right)$$

1) a over b times c plus d in parentheses
2) parenthesis, a over b, this fraction multiplied by c plus d, (final) parenthesis

$$\left(\frac{a}{bc+d}\right)$$

1) a over b times c plus d in parentheses
2) a over the product bc this fraction followed by plus d, all in parentheses

$$A=\frac{\cosh\frac{2w}{Lp}}{\coth\frac{2w}{Lp}}=\sinh\frac{2w}{Lp}$$

1) Capital a equals hyperbolic cosine two w over capital l small p divided by hyperbolic tangent two w over capital l small p equals hyperbolic sine two w over capital l small p
2) Capital a equals fraction bar; over the fraction bar hyperbolic cosine of the fraction two w over capital l small p; below the fraction bar hyperbolic cotangent of the fraction two w over capital l small p; behind the fraction bar equals hyperbolic sine of two w over capital l small p

$$\int_{x_a}^{x_b}\frac{I_p^3}{p+I_n^{-3}}dx$$

1) Integral between the limits x sub a and x sub b of I sub p cubed over p plus I sub n to the minus three times dx
2) Integral between the limits x subscript a and x subscript n of the fraction capital i sub p cubed over the sum of p plus capital i sub n to the power minus three, this fraction multiplied by the dx

$$\pm\frac{1}{2T}\sqrt{\left\{B\pm\left[(3+\varepsilon)^2\left(\frac{E_0}{E}\right)^{\frac{2}{m}}-(3+\varepsilon)^2\,3^{x-2}\right]\right\}}$$

1) Plus or minus one over two T times the square root of B plus or minus three plus ε squared times E sub zero over E to the power two over m minus three plus ε squared times three to the power x minus two

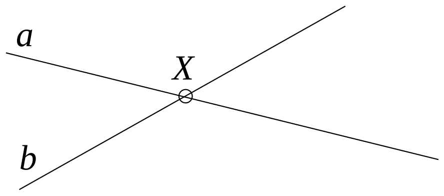
2) Plus or minus one over two capital t the whole multiplied by the square root of initial brace capital b plus or minus initial bracket, the sum of three plus ε in parentheses squared multiplied by the fraction capital e subscript zero over capital e in parentheses to the power fraction two over m minus the sum of three plus ε in parentheses squared multiplied by three to the power difference x minus two bracket brace

$$\varphi=m\tan^{-1}\left[-\frac{2Q\frac{\Delta f}{f_0}\left(\sqrt{\frac{Q_1}{Q_2}}+\sqrt{\frac{Q_2}{Q_1}}\right)}{(\varepsilon+1)-\left(2Q\frac{\Delta f}{f_0}\right)^2}\right]$$

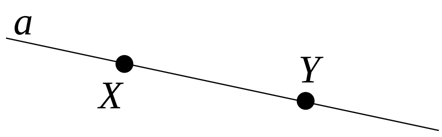
1) φ equals m times inverse tangent of minus two Q times Δf, over f sub zero times the square root of Q sub one over Q sub two plus the square root of Q sub two over Q sub one in parentheses over ε plus one minus two Q times Δf over f sub zero in parentheses squared in brackets.

2) φ equals m times tangent to the power minus one of initial four-line bracket minus long fraction bar above the fraction bar two capita q times the fraction capital delta f over f subscript zero multiplied by initial two-line parenthesis square root of the fraction capital q subscript one over capital q subscript two this fraction plus the square root of the fraction capital q sub two over capital q sub one final parentheses below the fraction bar the sum of ε plus one times the fraction capital delta f over f sub zero final parenthesis squared final four-line bracket

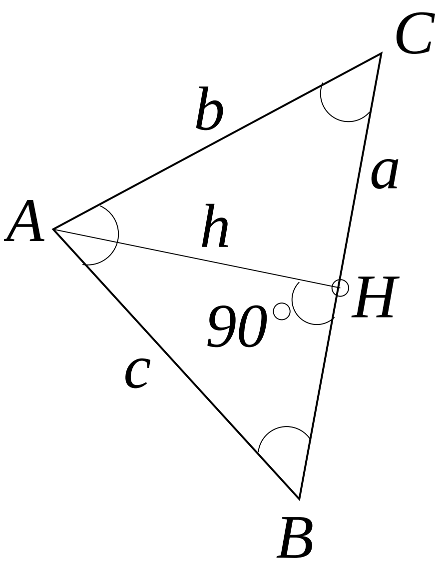
Geometry



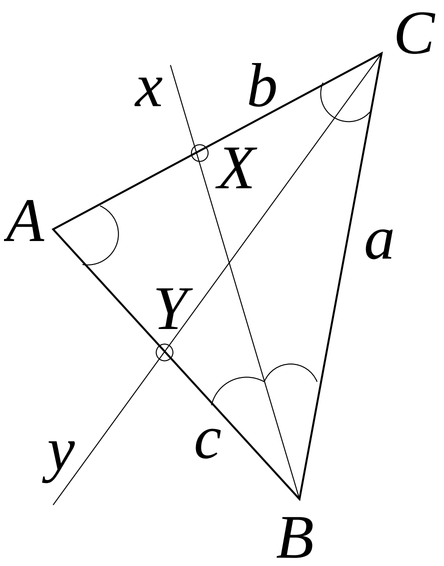
(straight) lines *a* and *b* intersect in the point (capital) *x*; the point (capital) *x* the the common point for (straight) lines *a* and *b*; (straight) lines *a* and *b* are incident with (the same, common) point (capital) *x*



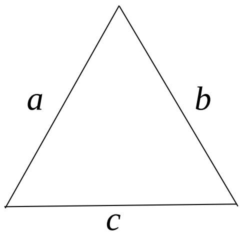
(straight) line *a* runs through points (capital) *x* and (capital) *y*; the (straight) line *a* is a common line for both points (capital) *x* and (capital) *y*; both points (all capital) *x* and *y* are incident with (the same, common) straight line *a*



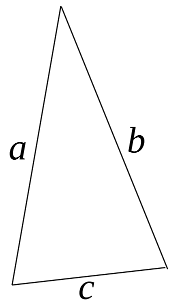
triangle with vertices (all capital) *a*, *b*, *c* and edges *a*, *b*, *c*; the side *a* subtends the vertex (capital) *a* (the angle, all capital *b*, *a*, *c*) (similarly for all other edges); the length of the (straight) segment (all capital) *a h* (contained in the straight line *h*) is the altitude of the triangle; all altitudes intersect in a point called *orthocenter* of a triangle



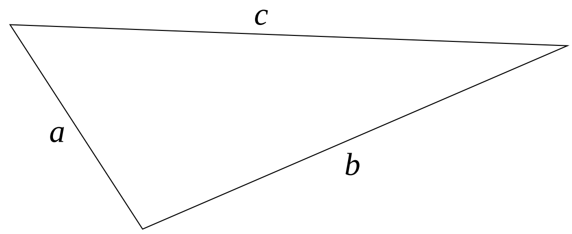
once the angles (all capital) *a*, *b*, *x* and (all capital) *x*, *b*, *c* are equal, the line *x* is called an *angle bisector* (*bisector* of the angle, all capital *a*, *b*, *c*); all bisectors intersect in a point called *incenter*; once the lengths of (straight) segments (all capital) *a*, *y* and *y b* are equal, the line *y* is called a *median*; all medians intersect in a point called *centroid* (or *geometric barycenter*)



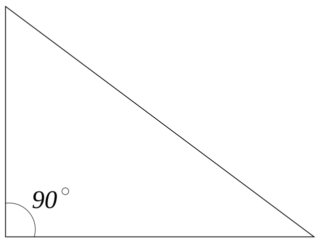
equilateral triangle (lengths of all edges equal)



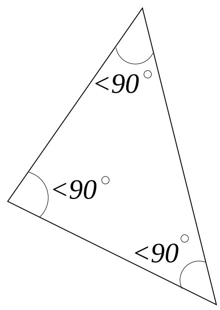
isosceles triangle (lengths of two edges equal)



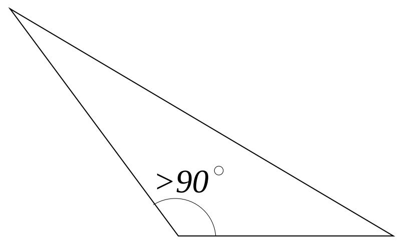
scalene triangle (lengths of all edges different)



right triangle (with one right angle)

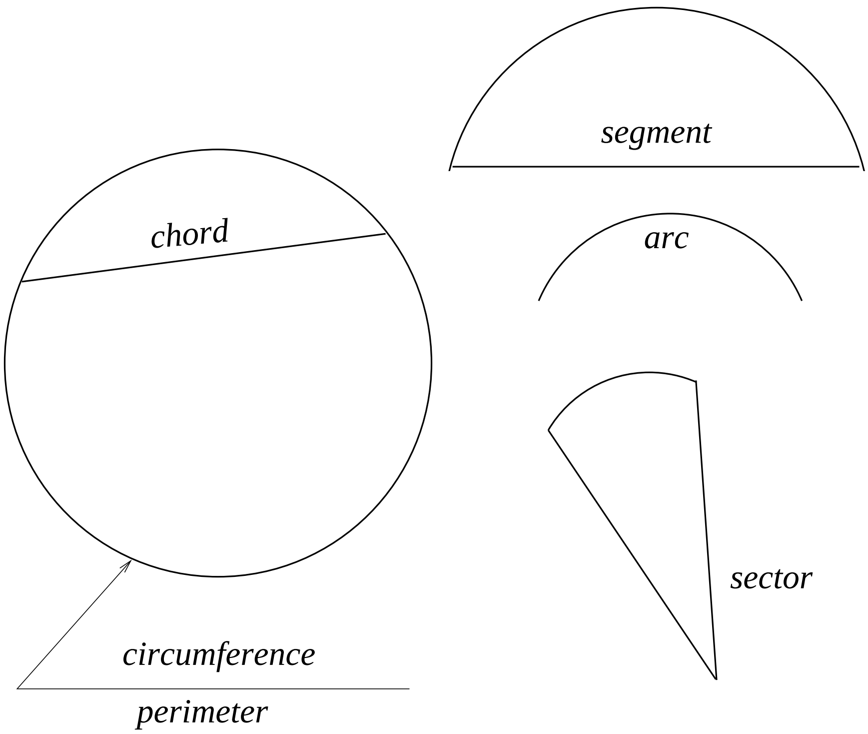


obtuse triangle

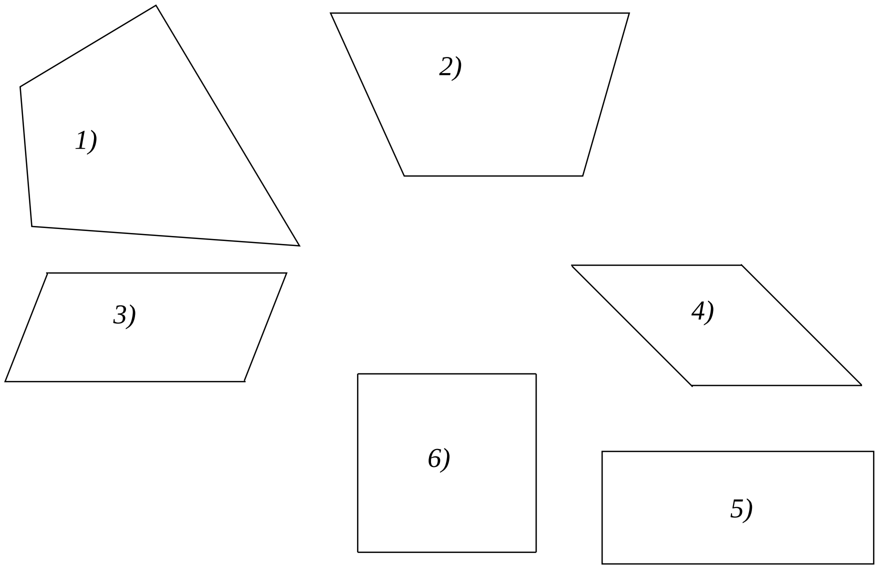


acute triangle

Note: obtuse and acute triangles (together) are named oblique triangles



about circles



quadrilaterals (quadrangles, quads):
1) trapezoid (UK) trapezium (US)
2) trapezium (UK) trapezoid (US)
3) parallelogram or rhomboid
4) rhomb or rhombus
5) rectangle
6) square