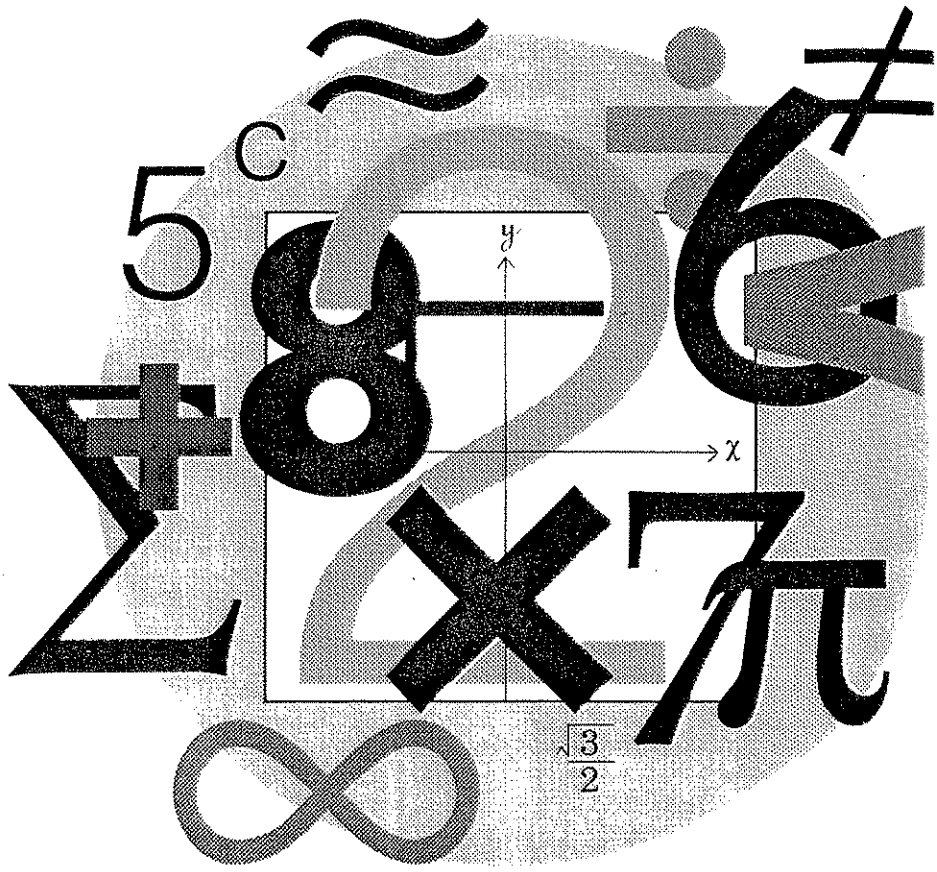
High School Mathematics Glossary

Calculus



English-Chinese

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HIGH SCHOOL MATHEMATICS GLOSSARY

CALCULUS

ENGLISH - CHINESE

高中英漢數學詞匯手册

微積分

Chinese/Asian Bilingual Education Technical Assistance Center
Division of Bilingual Education
Board of Education of the City of New York
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INTRODUCTION

The ***High School English-Chinese Mathematics Glossary: Calculus*** was developed to assist the limited English proficient Chinese high school students in understanding the vocabulary that is included in the New York City High School Calculus Curriculum. To meet the needs of the Chinese students from different regions, both traditional and simplified character versions are included. The bilingual mathematics teachers may also use this glossary as reference material.

This is one of a series of English-Chinese glossaries that is being developed by the Chinese/Asian Bilingual Education Technical Assistance Center (CABETAC), Division of Bilingual Education, Board of Education of the City of New York. The project is made possible by a grant from the Office of Bilingual Education, New York State Education Department.

The following is a list of the glossary series. The Mathematics and Science glossaries will be available by the end of May, 1995. The Social Studies glossaries will be available by the end of September, 1995.

The Mathematics Series:

- Integrated Mathematics (Course I)
- Integrated Mathematics (Course II)
- Integrated Mathematics (Course III)
- Pre-calculus
- Calculus

The Science Series:

- High School General Science
- Junior High School Science
- Chemistry
- Physics
- Biology

The Social Studies Series:

- Global History 1
- Global History 2
- Global History 3
- Global History 4
- American Government
- American History 1
- American History 2

For information or recommendation, contact CABETAC office, Division of Bilingual Education, c/o Seward Park High School, 350 Grand Street, Room 518, New York, NY 10002, Tel: (212) 677-0493 Fax: (212) 677-0398.

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繁體字版

TRADITIONAL CHARACTERS

A

abscissa of absolute convergence 絶對收斂的横座標

abscissa of convergence 收斂横座標

absolute continuity 絶對連續性

absolute convergence 絶對收斂性

absolute differential 絶對微分

absolute error 絶對誤差

absolutely convergent series 絶對收斂級數

abstract number 不名數;抽象數

accelerating convergence 加速收斂

addition of ordinates 縱坐標相加

alternate function 交代函數

alternate notation 交錯記號

alternating method 交錯法

alternation series 交錯級數

analytic curve 解析曲綫

antiderivative 反導數;反微商

antidifferential 反微分

anti－isomorphism 反同構

approach a limit 趨向於一極限

approximate continuity 近似連續

approximate integration 近似積分

approximately continuous 近似連續

approximating function [可]逼近函數

approximation by least squares 用最小二乘方的近似

approximation in the mean 平均逼近

arbitrary function 任意函數

arcsec function 反正割函數

arcsin function 反正弦函數

arctan function 反正切函數

asymptotic convergence 漸近收斂

asymptotic curvature 漸近曲率

auxiliary variable 輔助變數

B

binomial differential 二項式微分

binomial series 二項級數

bounded interval 有界區間

C

calculus 微積分;計算

center of curvature 曲率中心

central quadric 有心二次曲面

central difference interpolation
中心差分插值法

closed interval 閉區間

cofactor 餘因子

colatitude 餘緯度

complete integrability 完全可積分性

complete integral 完全積分

complete limite 完全極限

complex integration 複積分

complex series 複級數

conditionally convergent series 條件收斂級數

condition of integrability 可積條件

conic section 圓錐曲綫;二次曲綫

consecutive points 相鄰點

constant of integration 積分常數

constrained extreme value 約束極值

constrained maxima and minima
約束極大和極小值

continuity from above 上連續

continuity from below 下連續

continuous arc 連續弧

continuous convergence 連續收斂

continuous curve 連續曲綫

continuous integral 連續積分

continuous variable 連續變量

continuously differentiable function
連續可微函數

continuum 連續統;閉聯集

convergence domain 收斂域

convergence from above 由上收斂性

convergence from below 由下收斂性

convergence in mean 平均收斂

convergent 收斂的

convergent integral 收斂積分

convergent series 收斂級數

correlation function 相關函數

corss product 叉積;向量積

cosine integral 餘弦積分

critical point 臨界點

critical value of function 函數臨界值

cross ratio 交比;非調和比

crossing zero 相交零點

cubic convergence 三次收斂

cubic function 三次函數

curvature vector 曲率向量

cusp 尖點;歧點

cycloid 旋輪綫;擺綫

cylindrical coordinates 柱面坐標

cylindrical polar coordinate 柱(面)極坐標

cylindrical shell 圓柱殼

D

decay 衰變;衰退

decomposition 分解

define implicitly 隱定義

definite integral 定積分

degeneracy 蛻化;退化

degenerate 退化的

degenerate differential equation 退化微分方程

degenerate variables 退化變量

degree of convergence 收斂度

degree of freedom 自由度

denotation 外延,所指

dense everywhere 處處稠密

derived curve 導出曲綫

derivate 導數

derivation of algebra 代數的求導運算

derivative 導數;微商

derivative discontinuity 導數的;不連續性

derivatives of higher order
高階導數;高階微商

derivative on the left 左導數;左微商

derivative on the right 右導數;右微商

derivative order 微分階

derived equation 導出方程

differentiable 可微的

differentiable curve 可微分曲綫

differentiable function 可微分函數

differentiability 可微性

differential 微分

differential and integral calculus 微積分

differential calculus 微分(學)

differential coefficient 微分系數;微商

differential divisor 微分因子

differential equation of first order
一階微分方程

differential equation 微分方程

differential equation of higher order
高階微分方程

differential expression 微分式

differential of arc 微弧;弧元素

differential of area 面積元素

differential polynomial 微分多項式

differentiate 求微分;微分

differentiation 微分法

differentiating operator 微分算子

differentio－integral equation 微分積分方程

digital integration 數字積分

directed segment 有向綫段

directed tangent 有向切綫

directed tangent line 有向切綫

directional derivative 方向導數;方向微商

direction angle 方向角

direction numbers 方向數

direction reversal 反轉方向

discarding finite numbers 去掉有限個數

discontinuity 間斷性;不連續性

discontinuous 不連續;間斷的

discontinuous distribution 不連續分布

discontinuous function 不連續函數

divergent 發散的;差異的

double cusp 雙尖點

double series 二重級數

dot product 點積

dummy variable 虛變數

E

eigenvalue 特徵向量;特徵值

element of the integral 積分元素

ellipsoid 橢面;橢球

ellipsoid of revolution 回轉橢(圓)面;回轉橢球

elliptic cone 橢圓錐面

elliptic paraboloid 橢圓拋物面

equivalence class 等價類

Euler line 歐拉綫

even－numbered terms 雙數項

exact differential 恰當微分;正合微分

exponential decay 呈指數退化

extreme value theorem 極值定理

F

finite discontinuity 有限不連續性

first derivation 一階求導；一階求微

first integral 初積分

frustum 平截頭體；平截頭墩；平截頭台

frustum of a cone 平截頭圓錐體

frustum of a pyramid 平截頭棱錐體

fundamental lemma 基本引理

functional limit 函數極限

G

general derivative 一般導數;一般微商

generalized limit 廣義極限

generalized theorem of mean 廣義平均值定理

generator of cylinder 柱的母綫

gradient 斜率;傾斜量;梯度

gradient vector 梯度向量

graphical integration 圖解積分法

grid 格子;網路

gyrate 圓形的;盤旋的;迴轉;旋轉

gyration 迴轉;旋轉

H

half－open interval 半開區間

harmonic 調和的

helix 螺旋；螺旋綫

hemicontinuous 半連續的

hemisphere 半球

higher derivative 高階導數；高階微商

hyperbolic cosine 雙曲餘弦

hyperbolic paraboloid 雙曲拋物面

hyperboloid 雙曲面

I

immediate inference 直接推理

immediate integration 直接積分法

implicit definition 隱定義

implicit difference equations 隱式差分方程

implicit differentiation 隱微分法

implicit function 隱函數

implicit method 隱含法

improper integral 非正常積分；廣義積分

improper maximum 非正常極大

improper minimum 非正常極小

inclination of line 直綫的傾角或斜角

increase without bound 無限增加

indefinite integration 不定積分法

indeterminate forms 不定形式；未定形式

index of summation 和的指數

indirect differentiation 間接微分法

inertial coordinates 慣性坐標

infinite integral 無窮積分

infinite point 無限遠點；無窮遠點

infinitely small 無窮小；無限小

infinitely great 無窮大；無限大

infinitely near 無窮近；無限近

infinitely near points 無限接近點

infinitesimal 無窮小；無限小

infinitesimal element 無窮小元素

infinity 無限大；無窮

inflection point 拐點；回折點

initial velocity vector 初速向量

inner derivation 內部求導

instantaneous velocity 瞬時速度

integrable 可積分的

integrable function 可積分函數

integrability 可積性

integral calculus 積分學

integral constant 積分常數

integral curve 積分曲綫

integral differential equation 積分微分方程

integral differential operation 積分微分運算

integral inequality 積分不等式

integral invariant 積分不變式

integral operation 積分運算

integrand 被積分函數

integrating factor 積分因子

integration 積分

integration by partial fraction
部分分式積分法

integration by parts 分部積分法

integration by substitution
代換積分法;換元積分法

integration constant 積分常數

intermediate differential 中間微分

intermediate value theorem 中間值定理

intermediate variables 中間變數

invariant integral 不變積分

inverse operator 逆算子

involute 漸伸綫;切展綫

involute of circle 圓的漸伸綫

irregular region 不規則區域

iterated integral 叠積分

L

Largrange multiplier 拉格朗日乘子

least square method 最小平方法

left continuous function 左連續函數

left derivative 左導數

left－hand continuity 左方連續性

left－hand derivative 左微商;左方導數

left－hand limit 左方極限

left－handed system 左旋坐標系

left limit 左極限

limacon 蚶綫

limit of function 函數的極限

limit superior 上極限

limitable 可求極限的

limited function 有界函數

limiting function 極限函數

limiting point 極限點

limiting position 極限位置

line at infinity 無窮遠綫

line of best fitting 最適合直綫

logarithmic 對數的

logarithmic differentiation 對數微分

lower integral 下積分

M

Maclaurin series 馬克勞林級數

minimax approximation 極小極大逼近

momentum vector 動力向量

multiple integral 多重積分

N

nappe 葉

neighborhood of a point 點的鄰域

normal 正規; 垂直; 正交; 法綫; 正態

normal integral 正規積分

normal to the curve 曲綫的法綫

O

oblate ellipsoid 扁橢面,扁橢球

oblate spheroid 扁球面;扁球

oblateness 扁率

odd－numbered terms 單數項

one－sided approximation 單側逼近

one－side limit from the left 左單側極限

one－sided limits 單側極限

oppositely oriented 方位相反

orientation 定方向

osculating circle 密切圓

osculating plane 密切面

osculation 密切

outward derivative 外向導數;外導數;外微商

P

parabolic cylinder 拋物柱面

paraboloid 拋物面

paraboloid of revolution 迴轉拋物面

parametric 參數的

parametric derivative 參數導數;參數微商

partial derivative 偏導數;偏微商

partial fraction 部份分式

point of discontinuity 不連續點;間斷點

point of division formula 分點公式

point of density 密集點

point of inflection 拐點;回折點

point of reference 參考點;基準點

positive infinite 正無限大

power function 冪函數;功效函數

power series 冪級數

principal derivative 主導數;主微商

principal normal vector 主法向量

prismoid 平截頭棱錐體

prismoidal formula 平截頭棱錐體公式

projection of v on w　v在w的投影

prolate spheroid 長球;長球面

Q

quadric 二次曲面;二次

R

radius of curvature 曲率半徑

radius of gyration 迴轉半徑

rectangular grid 矩形格子

rectifiable 可求長的

rectifiable arc 可求長的弧

rectifiable curve 可求長的曲綫;有長曲綫

rectification 求長法

regular integral 正則積分;正常積分

regular tetrahedron 正四面形

related rates 相關變率

relative maximum 相對極大值

relative minimum 相對極小

repeated integral 累積分

repeated summation 累次求和

restrictedly convergent 限制收斂

right differential coefficient 右微商

right continuous function 右連續函數

right－handed coordinate system 右方坐標系

right－hand derivative 右微商;右導數

right－hand system 右手系

round－off error 捨入誤差

S

saddle point 鞍點

sandwich digit 中間數字;中間位數

schematic 圖解的;綱要的

second derivative 第二階導數

semi－closed interval 半閉區間

semi－closure 半閉[合]

sexadecimal system 十六進制

signature function 符號函數

similarly oriented 方位相同

slope function 斜率函數;坡度函數

solid of revolution 回轉體

solid of rotation 旋轉體

spherical coordinates 球面坐標

spheroid 球體

spiral of Archimedes 阿基米德·螺線

step by step integration 逐步積分

strophoid 環索綫

subdifferentiable 次可微分

subscripts for function 添標函數

successive derivative 逐次微商,逐次導數

successive differentiation 逐次微分

successive integration 逐次積分

surface of revolution 回轉曲面

T

tangential 切綫的；正切的

Taylor expansion 泰勒展開式

Taylor polynomial 泰勒各項式

Taylor series 泰勒定理

tend to L 趨近L值

term by term differentiation 逐項微分

term by term integration 逐項積分

termwise differentiation 逐項微分

termwise integration 逐項積分

theorem of pappus 冠毛定理

transverse 橫的；橫軸的；橫截；橫軸

transverse axis of hyperbola
雙曲線的橫截軸

translation of axes 坐標軸平移

trigonometric substitution 三角代換

triple integral 三重積分

trivial solution 平凡解

two－sided limit 雙邊極限

U

unbounded interval 無界區間

uniform continuity 一致連續性

unilateral continuity 單向連續[性]

unilateral limits 單側極限

uniqueness of limit 極限的唯一性

upper limit 上限

U

variable of integration 積分變數

vicinity of a point 點的鄰近

volume integral 體積積分

W

weighting coefficients 加權系數

weighting function 加權函數

weighted means 加權平均值