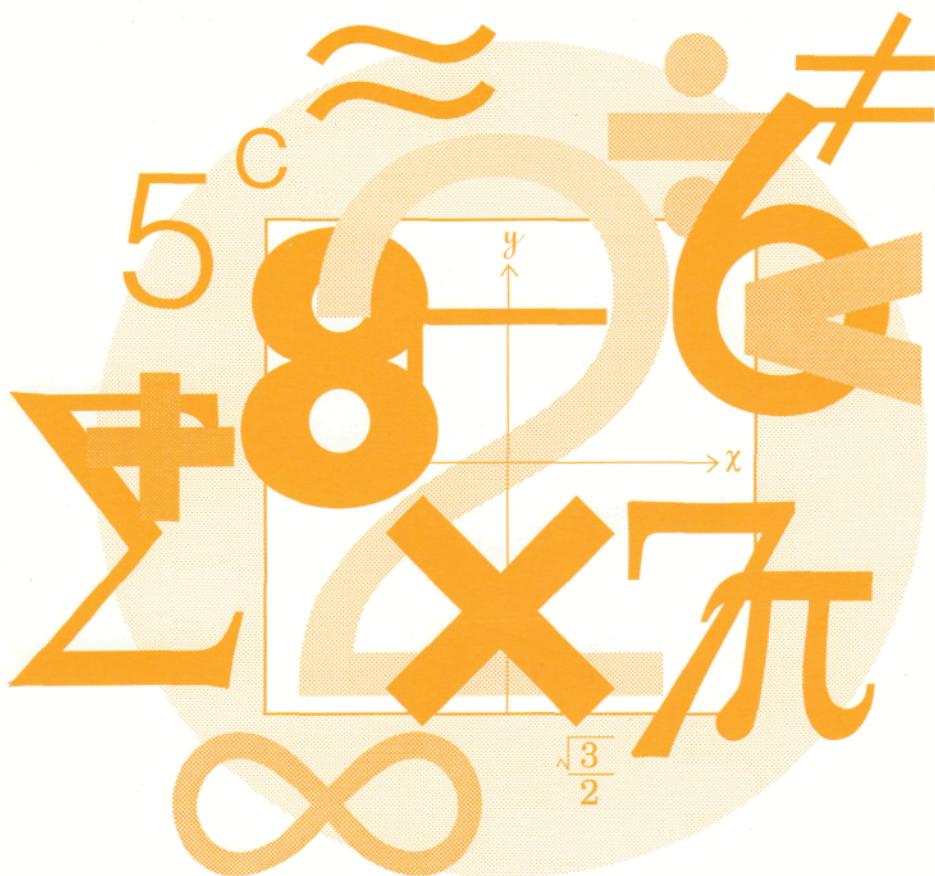


# High School Mathematics Glossary

## Pre-calculus



**English-Chinese**



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# **HIGH SCHOOL MATHEMATICS GLOSSARY**

## **PRE-CALCULUS**

**ENGLISH - CHINESE**

**高中英漢數學詞匯手冊  
微積分預科**

**Chinese/Asian Bilingual Education Technical Assistance Center  
Division of Bilingual Education  
Board of Education of the City of New York  
1995**

## INTRODUCTION

The *High School English-Chinese Mathematics Glossary: Pre-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 Pre-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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简 体 字 版

SIMPLIFIED  
CHARACTERS

# A

abridge division 捷除法	ambiguous sign 分歧号; 重号
abridged multiplication 捷乘法	amplitude of a periodic function 周期函数振幅
abridged notation 简记法	amplitude of function 函数振幅
abridged proof 捷证法	analogue 模拟
adjacent vertices 相邻顶点	analogue calculator 模拟计算器
adjoining figure 伴随图形	analogue multiplier 模拟乘法
adjoining rectangles 伴随矩形	angle of inclination 斜角
adjoining Venn diagram 伴随文氏图	angle of incidence 入射角
adjoint determinant 伴随行列式	angle of parallelism 平行角
adjusted proportionally 调整比例	angle of reflection 反射角
admissible error 容许误差	anharmonic ratio 交比; 非调和比; 重比
advance estimate 事前估计值	anticommutative property 反交换性质
algebraic cone 代数锥; 代数锥面	antilogarithm 反对数
algebraic spiral 代数螺线	approximate convergence 近似收敛
algebraically complete 代数封闭	approximate expansion 近似展开式
alternate determinant 交错行列式	approximate the norm 近似范数; 近似规格
alternating positive and negative 正负交错(排列)	arbitrary parameter 任意参数
	arbitrary sequence 任意数列
alternative formula 择一公式	arithmetic progression 算术级数
alternative symbolism 择一符号	arithmetic series 算术级数
ambiguous data 模棱资料	arithmetical series 算术级数; 等差级数

array 阵列; 数组	asymptotically equal 渐近相等
assertion 断定	asymptotically equivalent 渐近等价
associative axiom 结合公理	augmented matrix 增广矩阵
astroid 星形线	automorphic 自同构的; 自守的
asymmetrical step function 非对称阶梯函数	automorphic function 自守函数
asymptotic 渐近的	automorphism 自同构
asymptotic approximation 渐近逼近法	auxiliary circle 辅[助]圆
asymptotic characteristic 渐近特性	axiom of comparison 比较公理
asymptotic circle 渐近圆	axiomatic 公理的
asymptotic series 渐近级数	axioms of order 秩序公理

# B

base vectors 基向量	bound for the magnitude 对数量的界限
basis vector 基本向量	boundary 界; 边界; 边缘
binomial distribution 二项分配	boundary complex 边界复形
binomial theorem 二项式定理	boundary line 界线
biorthogonal 双正交	boundary maxima and minima 边缘极大和极小
bisecant 二度割线	boundary of half-plane 半平面的界限
block of digits 一组数字	bounded 有界的
Boolean algebra 布尔代数	bounded above 上有界的
Boolean expression 布尔表达式	bounded below 下有界的
Boolean factor 布尔因子	Briggsian logarithm 常用对数
bound 界; 边界; 约束	

# C

cardioid 心脏线	comparison function 比较函数
center of curvature 曲率中心	complement of set 补集
characteristic cone 特徵锥; 特徵锥面	completeness 完全性
characteristic constant 特徵常数	completeness of axiom systems 公理系统的完全性
characteristic curve 特徵[曲]线	components of a vector 向量的分量
characteristic determinant 特徵行列式	composite determinant 合成行列式
characteristic equation 特徵方程	composite matrix 合成[矩]阵
characteristic function 特徵函数	composition of probabilities 概率合成
characteristic root 特徵根	composition of vectors 向量的合成
characteristic vector 特徵向量	coefficient of correlation 相关系数
circle of curvature 曲率圆	coincidence 叠合; 重合
closed half-plane 闭半平面	coincidence number 叠合数
closed interval 闭区间	coincident lines 重合直线
coefficient matrix 系数矩阵	column matrix 列矩阵
cofunction 餘函数	concave downward 凹向下的
cologarithm 餘对数	concave upward 凹向上的
column vector 列向量	conchoid 蚌线
common difference 公差	conditional convergence 条件收敛
common divisor 公约数	conditionally convergent 条件收敛
common or Briggsian logarithms 常用对数	conditional probability 条件机率
commom ratio 公比	

conic	二次曲线的; 圆锥的	consistency of linear equation
conic projection	二次曲线投影	线性方程的相容性
conic section	圆锥曲线; 二次曲线	consistent 相容的; 一致的; 无矛盾的
conic with center	有心二次曲线	constant polynomial 常数多项式
conic without center	无心二次曲线	continuity 连续性
conical point	锥顶点	continuous function 连续函数
conical function	圆锥函数	convergence 收敛
conicoid	二次曲面	convergent 收敛的
conjugate angle	共轭角	convergent geometric series 收敛几何级数
conjugate arc	共轭弧	convergent sequence 收敛序列
conjugate axis	共轭轴	conversion equations 转换方程
conjugate conics	配极二次曲线; 共轭二次曲线	convex domain 凸域
conjugate curves	共轭曲线	convex region 凸区域
conjugate hyperbolas	共轭双曲线	convexity 凸性
conjugate hyperboloids	共轭双曲面	coplanar vector 共面向量
conjugate imaginary	共轭虚数	coprime 互素数
conjugate lines	共轭直线	core 柱心
conjugate lines in a conic	二次曲线的共轭直线	counterexample 反例
		critical point 临界点
conjugate matrice	共轭[矩]阵	cross line 正交线
conjugate of function	函数的共轭	crystallographic group 结晶体群
conjugate pairs	共轭数对	crystallographic axes 结晶体轴
conjugate points	共轭点	cubic curve 三次曲线
conjugate radicals	共轭根式(数)	cubic equation 三次方程
		cubic polynomial 三次多项式

cubic surface 三次曲面

curve of distribution 分配曲线

cuboid 长方体

cycloid 旋轮线; 摆线

curvature 曲率

cyclotomic 割圆

curvature invariant 曲率不变式

cylinder 柱; 柱面

curvature of a conic 二次曲线的曲率

cylindrical helix 柱面螺旋线

curvature of graph 图形的曲率

cylindrical projection 圆柱投影

# D

De Moiver's Theorem 棣美弗定理	determinant rank 行列式秩
decreasing degree 次数递减	determinantal 行列式的
decreasing function 递减函数	determinantal expansion 行列式展开
decreasing sequence 下降序列	diagonal coefficients 对角系数
decreasing series 递减级数	diagonal element 对角元素
deductive logic 演绎逻辑	dimensions of matrix 矩阵的维数
degenerate critical point 退化临界点	direction angles 方向角
degenerate conic 退化二次曲线	direction coefficient 方向系数
degenerated curve 退化曲线	direction component 方向分量
degree of freedom 自由度	direction cosine 方向余弦
demand matrix 需求矩阵	direction numbers 方向数
denumerable 可数的	direction vector 方向向量
denying premise 否定前题	directrix 准线
dependent random event 相依随机事件	discontinuous function 不连续函数
dependent variable 应变数	disjoint sequences 不相交的序列
Descartes' rule of signs 笛卡儿正负号规则	displacement 移位; 刚体运动
determinate 行列式	displacement of n unites to the left 向左移n单位
determinant divisor 行列式因子	distinct elements 不同的元素
determinant factor 行列式因子	distinct limits 不同的极限
determinant of coefficient 系数行列式	divergence 发散性; 散度; 发散量
determinant of transformation 变换行列式	

divergent	发散的	double-angle identity	倍角恒等式
divergent arbitrarily large	发散到任意大	double ratio	交比; 非调和比
divergent series	发散级数		

# E

eccentric angle 离心角; 偏心角	escribed circle 旁切圆
eccentric circle 离心圆	Euler circle 欧拉圆
eccentricity 离心率; 偏心率	Euler's equation 欧拉方程
eight-leaved rose curve 八瓣玫瑰线	even function 偶函数
element of matrix 矩阵的元素	excircle 外圆
elliptic 椭圆的; 椭圆形的	exclusive 不可兼; 排除; 排斥
elliptic cylinder 椭圆柱面	exclusive events 互斥事件
ellipse 椭圆	exhaustion 穷举
entry 进入; 通路; 表值	expanded form 展开式
equilateral hyperbola 等轴双曲线; 直角双曲线	expansion in series 级数展开
equilibrium 平衡	expansion of a determinant 行列式的展开
equivalent sequences 等价序列	expected revenue 期望收益
error correction 误差校正; 纠错	expected value 期望值
error estimate 误差估计	exponential series 指数级数
escenter of a triangle 三角形的旁心	exterior product 外积
escribe 旁切	external ratio 外分比

# F

finite progression 有限级数	focal ellipse 焦椭圆
finite sequence 有限数列	focal radius 焦半径
finite series 有限级数	focoid 虚圆点
five-leaved rose curve 五瓣玫瑰线	folium 叶形线
focal axis 焦轴	formal axiomatics 形式公理学
focal chord 焦弦	frequency of occurrence 出现次数
focal circle 焦圆	function of dispersion 分散函数
focal conic 焦点二次曲线	fundamental direction vector 基本向量
focal distance 焦距	

# G

Gaussian Elimination 高斯消去法

generator 母线; 生成元

geometric means 几何平均数

geometric progression 几何级数

geometric projection 几何投影

geometrical series 几何级数; 等比级数

geometry of the sphere 球面几何

greatest lower bound 最大下界

group theory 群论

# H

half-angle identities 半角恒等式	heterogeneous 不纯一的; 参差
harmonic mean 调和平均; 调和中项; 调和中数	homogeneity 齐性
harmonic motion 调和运动	homogeneous 齐性[的]; 齐次; 齐的
harmonic progression 调和级数	homogeneous equation 齐次方程
harmonic ratio 调和比	homogeneous linear equation 齐次线性方程式
harmonic series 调和级数	hyperbolic spiral 双曲螺线
harmonics 调和函数	hypothetical models 拟设模式
helicoid 螺旋面	

# I

icosahedron	二十面体	induction hypothesis	归纳假设
identity matrix	单位方阵	infinite determinant	无穷行列式
identity function	恒等函数	infinite dimensional	无限维
identity mapping	恒等映射	infinite discontinuity	无穷不连续点
identity matrix of order n	n秩单位矩阵	infinite quantity	无穷量
imaginary ellipsoid	虚椭圆面; 虚椭球	infinite sequence	无穷数列
imaginary intersection	虚相交	infinite series	无穷级数
imaginary part	虚部	infinite trigonometric series	无限三角级数
imaginary sphere	虚球	inflection	拐折; 回折
immediate predecessor	紧接前元	inflection point	拐点; 回折点
immediate successor	紧接后元	initial column	初始列
immediate vicinity	紧接的部份	initial point	始点
improper conic	退化二次曲线	inner product	内积
improper quadric	退化二次曲面	input coefficient	输入系数
improper subset	假子集	input-output matrix	输入输出矩阵
inaccessible number	不可达数	inscribed polyhedron	内接多面体
incidence matrix	关联矩阵	inscribed prism	内接棱柱
inclined plane	斜面	inscribed square	内接正方形
increase steadily	稳定增加	integral multiple	整数倍
increasing without bound	无界增加	integralization	整化
indicated limit	所指的极限	interchanging coordinates	座标交换

intermediate convergent 中间收敛	inverse circular function 反三角函数
interpolation by central difference 中差插值法	inverse matrix 逆[矩]阵
interrelationship 相互关系	inverse rotations 逆转; 反转
intersection of solution sets 解集之交	inverted sequence 逆序; 反序
invariant 不变; 不变式; 不变量	invertible matrix 可逆[矩]阵
invariant under rotation 旋转不变量	irreducible over F 在F系不可约

# J

joint occurrence 联合出现	linear combination 一次组合; 线性组合
Lagrange's interpolation formula 拉格朗日插值公式	linear correlation 线性相关
lattice 格	linear interpolation 线性插值法
leading term 首项	linear minimization 线性极小化
least limit 最小极限	linear relation 一次关系; 线性关系
lemniscate 双纽线	lituus 连锁螺线
limit 极限	local maximum 局部极大
limit of function 函数的极限	logarithmic function 对数函数
limit of sequence 数列的极限	logarithmic spiral 对数螺线
line of curvature 曲率线	lower bound 下界
line of reference 参考线; 基础; [直]线	loxodrome 斜驶线

# M

m-fold factor m重因式

major axis 长轴

matrix 矩阵;真值表

matrices 矩阵(多数)

matrix algebra [矩]阵代数

matrix equation 矩阵方程式

matrix of coefficients 系数矩阵

minor axis 短轴

minor of a determinant 子行列式

mixed-product 混合积

monotone decreasing 单调递减

monotone function 单调函数

monotone increasing 单调递增

monotone sequence 单调序列

multiple factors 多因子

multiplication of determinants 行列式乘法

multiplication of vectors 向量乘法

multiplicity of root 根的阶;根的重数

# N

n-dimensional space	n维空间	nonparallel vectors	不平行向量
Napierian logarithms	自然对数; 讷皮尔对数	nonoverlapping subsets	不相交子集合
nephroid	肾脏线	nonvertical lines	非垂直直线
Newton's method	牛顿法	normal distribution	常态分配
non-degenerate circle	常态圆	normal curvature	法曲率
non-degenerated curve	常态曲线	normal probability distribution	常态机率分配
noncoincident parallel lines	不重合平行线	nth power	n次幂
nondecreasing	不减少的	null function	零函数
nondecreasing convergent sequence		null matrix	零矩阵
非减收敛序列		numerical determinant	数字行列式

# O

odd function 奇函数	orthogonal component 正交分量
odd-numbered term 奇数项	orthogonal cone 正交锥面
one-side limit from the right 右单侧极限	orthogonal coordinates 正交坐标
opposite in signs 符号相反	orthogonal vectors 正交向量
order 阶	orthogonalization 正交化
order of a determinant 行列式的阶	orthonormal vectors 正交单位向量
order of a matrix [矩]阵阶	orthorhombic 斜方晶系的
oriented direction 有向距离	oscillatory series 振荡级数
orthogonal 正交的; 直角的; 矩形的	outer product 外积
orthogonal circles 正交圆	oval 卵形线

# P

parabolic curve 抛物曲线	polar curve 配极曲线; 极坐标曲线
parameter 参数; 变量	polar distance 极距
parametric equation 参数方程式	polar equation 极方程
partial sum 部份和	polar form 极形式; 极型
pericycloid 周摆线	polar form of complex number 复数的极式
periodic changes 周期变化	polar normal 极法线
periodic function 周期函数	polar radius 极半径
perform successively 连续运算	pole 极; 极点
permutation matrix 置换矩阵; 排列矩阵	polycylinder 多圆柱
perpendicular component 垂直分量	polydisc 多圆柱
perpendicular component of a vector 向量的垂直分量	polyhedral angle 多面角
phase shift 相移	polyhedral convex cone 多面凸锥
point of increase 增点	polyhedroid 多面体
point of inflection 拐点; 反凹点; 变曲点	polynomial function 多项式函数
point sphere 点球	polynomial interpolation 多项式内插法
polar 极的; 极面; 极线	polynomial over the field F F体上多项式
polar angle 极角	portion of a series 级数的部份
polar axis 极轴	preceding term 前项
polar coordinates 极坐标	preserve validity 有效性不变
polar coordinates in the plane 平面极坐标	prime linear factor 一次质因子; 线性质因子

prime linear polynomial over C	principal vector 主向量
C中的素一项式	probability distribution 机率分配
primitive function 原函数	production matrix 积矩阵
principal axis 主轴	progression 级数
principle of inference 推理原理	projective geometry 投影几何
principal value 主值	proof by contradiction 矛盾证明法; 反证法
principal value of arcsine 反正弦函数主值	provide a counterexample 举一反例

# Q

quartic 四次

quintic equation 五次方程

quintic 五次

quintuple space 五维空间

# R

radical axis 根轴; 等幂轴	reduced matrix 简化矩阵
radical center 根心; 等幂心	reducible over $F$ 在 $F$ 中化简
radical circl 根圆	reduction formulas 归约公式; 化简公式
radical exponent 根指数	regression line 回归直线
rank 秩	regular matrix 正则矩阵
random experiment 随机试验	relative maximum or minimum 相对极大或极小
random variables 随机变数	relative maximum point 相对极大点
rank of a determinant 行列式的秩	relative minimum point 相对极小点
rank of matrix 矩阵的秩	relatively prime 相对互质
rigid body 刚体	remainder theorem 馈式定理
reciprocal function 倒函数; 互反函数	resolvable 可解; 可解决
rectangle rule with left end points 左端点矩形法	resolution of vectors 向量的分解
rectangle rule with midpoints 中点矩形法	resolving vector 分解向量
rectangular array 矩阵列; 长方阵列	reversion of a series 级数的反演
rectangular matrix 矩阵	revolution 回转
recurring series 循环级数	root of multiplicity K K重根
recursion 递归(式); 递推; 循环	roster of the elements of a set 列出集中元素
recursion formula 递推公式; 递归公式	rotating coordinate axes 旋转坐标轴
recursive 递归的	rotating cylinder 旋转柱体
recursive definition 递归定义; 递推定义	

rotation about the origin 绕原点旋转

row rank 行秩

row matrix 行矩阵

row vector 行向量

row operation 行运算

# S

same orientation 同定向	shift to the right 向右移
scalar 纯量; 数量; 无向量	shifting 移位
scalar multiple 纯量相乘	simplicity of notation 记号简化
scalar multiple of a vector 向量和纯量乘积	Simpson's rule 辛浦森法
scalar multiplication 纯量乘法	sine wave 正弦波
scalar product of vectors 向量分量的乘积	sinusoid 正弦曲线
scale equation 标度方程; 尺度方程	skew 斜; 偏斜
schematic diagram 图表; 图解; 略图	sliding vector 滑动向量
self-orthogonal 自成正交	spiral 螺线; 蜷线
semimajor axes 半长轴	spiral of Archimedes 阿基米得螺线
semiminor axes 半短轴	square array 正方阵列
semiperimeter 半周长	square matrix 方阵
separating point 分离点	square matrix of order 方阵阶
sequence 序列	standard deviation 标准差
series 级数	standard position 标准位置
series expansion 级数展开	stereographic projection 球极平面射影
serpentine 蛇形线	stochastic matrix 随机矩阵
serpentine curve 蛇形线	straight line approximation method 直线近似法
set theory 集合论	
sextic 六次线; 六次	straight line of infinity 无限直线
sextic equation 六次方程	subdeterminant 子[行列]式

subinterval 子区间	superior limit 上限
subsequence 子序列; 部份序列	symmetric equation 对称方程
subseries 子级数	symmetrical determinant 对称行列式
subtend (弦; 边; 角等)对向(弧或对角等)	synonym 同义语
subtense 弦; 对边	synthetic 综合; 合成
succeeding term 次一项	synthetic division 综合除法
summation sign 求和符号; 连加号	synthetic – substitution 综合代换(法)
summation symbol 求和符号	

# T

tangent plane 切面	transpose 转置; 移项
tangent vector 切向量	transposed matrix 转置矩阵
terminal point 终点	transverse axis 横截轴
terminal ray 终边	trapezoidal 梯形的; 不规则四边形的
terminal row 末行	trapezoidal rule 梯形法
tetragonal 四角形的; 四边形的	triangle inequality 三角不等式
theory of numbers 数论	triangular array 三角阵列; 三角数组
three-leaved rose curve 三瓣玫瑰线	triangular surface 三角平面
topology 拓扑学	trigonometric open sentences 三角开放句
transition matrix 转移矩阵	trifolium 三叶线
transitive property of order 秩序的递移性	trochoid 次摆线

# U

uncertainty relation 不定关系

unconditional convergence 无条件收敛

unconditional inequality 无条件不等式

unconditionally convergent 无条件收敛的

underdeterminant 子行列式

uncorrelated variables 不相关变量

uniform continuity 一致连续性

uniform convergence 一致收敛

uniform divergence 一致发散

unit matrix 单位[矩]阵

unit angle 单位角

unit vector 单位向量

universe of variable 泛变数; 全变数

upper bound 上界

upper sum 上界和

unreduced matrix 不可约矩阵

# V

variation of sign 符号的变更

Venn diagram 文氏图

vector angle 向量角

vertical force upward 垂直向上的力

vector inner product 向量内积

virtual asymptotic line 假渐近线

vector product 向量积

virtual circle 假圆

vector space 向量空间

variation 变分; 变差

velocity of particle 质点(运动)速度

X

x approaches c x趋近c

Z

zero matrix 零矩阵

zero polynomial 零多项式