

附录一 GRE 常用数学术语汇

abscissa	横坐标
absolute value	绝对值, 例如 $ a = -a $, 其中 a 为任意实数
acute angle	锐角
acute triangle	锐角三角形
add (addition)	加 (加法)
adjacent angle	邻角
adjacent vertice	相邻顶点
algebra	代数
algebraic expression	代数式
algebraic fraction	分式, 如 $\frac{2m}{m+n}$
algebraic term	代数项
aliquant	除不尽的
aliquot	除得尽的
alternant	替代物, 交替函数, 交替行列式
alternate angle	内错角
altitude	高
amount to	合计
angle	角
angle bisector	角平分线
apiece	每个, 每件, 每人
approximate	近似
arc	弧
arithmetic mean	算术平均值
arithmetic progression(sequence)	等差数列
arm	直角三角形的股
average value	平均值 (arithmetic mean)
bar graph	柱状图
base	底边, 乘幂的底数, 例如 6^4 中的 6
be equivalent to another equation	与另一方程同等
billion	10 亿
binomial	二项式
bisect	平分
blot out	涂掉
brace	一双, 如: a brace of cats 两只猫
calculate to three decimal places	计算结果保留三位小数
cancellation	相消, 相约
car pool	汽车的合伙使用
cardinal	基数
cent	美分

center of a circle	圆心
centigrade	摄氏
central angle	圆心角
chord	弦
circle	圆
circle graph	饼图, 扇面图, 圆形图
circular cylinder	圆柱体
circumference	周长
circumscribe	外切
clear an equation of fractions	将分式方程整式化
clockwise	顺时针方向
coefficient	系数
combination	组合: $C_n^m = \frac{n!}{m!(n-m)!}$
common base triangles	同底三角形
common denominator	公分母
common divisor	公约数
common factor	公因子
common fraction	普通分数, 简分数
common logarithm	常用对数
common multiple	公倍数
common ratio	公比
common year	平年, 指 365 天的一年
complementary angle	余角
complementary function	余函数
complete quadratic equation	完全二次方程, 如 $x^2+4x+4=0$
complex fraction	繁分数
complex number	复数, 如 $T+i$
composite number	合数, 除 1 及本身外还有其他因子的数
compound annual interest	年复利
compounded interest	复利
concave polygon	凹多边形
concentric circles	同心圆
cone	圆锥 (体积 = $\frac{1}{3}\pi r^2 \cdot h$)
congruent	全等的
consecutive even integer	连续偶数
consecutive number	连续整数
consecutive odd integer	连续奇数
constant	常数
convex polygon	凸多边形
coordinate	坐标
coordinate system	坐标系
corresponding angle	同位角

cross multiply	交叉相乘
cross section	横截面
cube	立方体, 立方数
cube root	立方根
cubic metre	立方米
cumulative graph	累积图
decagon	十边形
decimal	小数
decimal arithmetic	十进制运算
decimal fraction	纯小数
decimal point	小数点
decimal system, decimal scale	十进制
decrease	减少
decrease by	减少了
decrease to	减少到
define	定义, 化简
denominator	分母
denote	代表, 表示
depreciation	折旧
depth	深度
diagonal	对角线
diameter	直径
difference	差
differential	微分
digit	数字
dime	一角, 一角硬币
dimension	大小, 度量 (指长、宽、高等)
direct proportion	正比
discount	折扣
distinct	不同的
divide	除
divided evenly	被整除
dividend	被除数, 红利
divisible	可被整除的, 如 10 is divisible by 5
division	除法
division sign	除号÷, 斜线分数号(/)
divisor	因子, 除数
down payment	直接付款, 首付
dozen	一打, 十二个
edge	棱
endpoint	端点
equal	相等
equation	方程
equation of the first degree	一次方程
equilateral	等边形, 相等的边

equilateral triangle	等边三角形
equivalence relation	等价关系
equivalent equation	同解方程式, 等价方程式
equivalent fractions	等值分数
estimation	近似
even integer, even number	偶数
evenly even integer	能再平分的数
evenly spaced	等间隔的
exponent	指数, 幂
extent	维数 (A plane figure is 2- extent)
exterior angle	外角
exterior angles on the same side of the transversal	同旁外角
factor	因子
factorable quadratic equation	可因式分解的二次方程
factorial	阶乘
factorization	因式分解
face of a solid	立体的面
factorization	因式分解
Fahrenheit	华氏
finish line	终点线
foot	英尺
fraction	分数
gallon	加仑 (1 gallon=4 quart)
geometric mean	几何平均数, 如 $\sqrt[4]{abcd}$
geometric progression (sequence)	等比数列
geometry	几何
graph	图
graph theory	图论
gross	十二打, 箩; 总额
heptagon	七边形
hexagon	六边形
hyperbola	双曲线
hypotenuse	斜边
improper fraction	假分数, 如
inch	英寸
included angle	夹角
included side	夹边
incomplete quadratic equation	不完全二次方程, 如: $2x^2 + 5$
increase	增加
increase by	增加了
increase to	增加到
inequality	不等式
inference	推理, 推论
infinite decimal	无穷小数

infinitesimal	无穷小
infinity	无穷大
inscribe	内切
inscribed triangle	内接三角形
integer	整数
intercalary year (leap year)	闰年 (366 天)
intercept	截距
interest	利息
interior angle	内角
intersect	相交
inverse	倒数
inverse function	反函数
inverse proportion	反比
irrational	无理数
irrational number	无理数
isosceles triangle	等腰三角形
least common denominator	最小公分母
least common multiple	最小公倍数
least possible value	最小可能值
leg	三角形的直角边, 梯形的两条不平行的边
length	长
less than	小于
like terms	同类项
line	直线
line graph	线图
line segment	线段
linear	一次的, 线性的
linear algebra	线性代数
linear equation	线性方程, 一次方程
linear function	线性函数, 一次函数
linear transformation	线性变换, 一次变换
list price	标价
literal coefficient	字母系数
logarithm	对数
margin	利润, 赚头
markup (markdown)	涨价 (降价)
maximum	极大值
mean	平均数
median	中数
median of a triangle	三角形的中线
meter	米
micron	微米
midpoint	中点
minimum	最小值
minuend	被减数

minus (take away)	减, 负, 负数
minute	分 (角的度量单位, 60 分=1 degree)
mixed decimal	混合小数
mixed number	带分数
mode	众数
monomial	单项式
multilateral	多边的
multinomial	多项式
multiple	倍数
multiplicand	被乘数
multiplication	乘法
multiplier	乘数
multiply (times)	乘
natural logarithm	自然对数
natural number	自然数
negative number	负数
negative whole number	负整数
nickel	五美分硬币
nonagon	九边形
nonnegative	非负的
normal matrix	正规矩阵
null set (empty set)	空集
number line	数轴
number theory	数论
numerator	分子
numerical coefficient	数字系数
oblateness (ellipse)	椭圆形
oblique	斜三角形
obtuse angle	钝角
octagon	八角形
odd integer, odd number	奇数
opposite	(直角三角形中的) 对边
ordinal	序数
ordinary scale	十进制
ordinate	纵坐标
origin	原点
original equation	原方程
overlap	重叠
parallel lines	平行线
parallelogram	平行四边形
parentheses	括号
penny	一美分硬币
pentagon	五边形
per capita	人均
percentage	百分比

perimeter	周长
permutation	排列 ($P_n^m = \frac{n!}{(n-m)!}$)
perpendicular	垂直
pie chart	饼图
pint	品脱
plane	平面
plane geometry	平面几何
polygon	多边形
polynomial	多项式
positive number	正数
power	幂, 乘方
prime factor	质因子
prime number	质数
product	积
profit	利润
progression	数列
proper fraction	真分数
proper subset	真子集
proportion	比例
pyramid	角锥体
Pythagorean theorem	毕达哥拉斯定理, 勾股定理
quadrant	象限
quadratic equation	二次方程
quadrihedron	三角锥
quadrilateral	四边形
quantic	齐次多项式, 多元齐次多项式
quart	夸脱 ($1 \text{ quart} = \frac{1}{4} \text{ gallon} = 2 \text{ pint}$)
quarter	四分之一
quartic equation	四次方程
quotient	商
radian	弧度
radical sign	根号
radius	半径
range	值域
ratio	比率
rational number	有理数
real number	实数
reciprocal	倒数, 倒数的
rectangle	长方形
rectangular coordinate	直角坐标系
rectangular hyperbola	等轴双曲线
rectangular solid	长方体

recurring decimal	循环小数
regular polygon	正多边形
regular prism	正棱柱
regular pyramid	正棱锥
regular solid regular polyhedron	正多面体
remainder	余数
remote interior angle	不相邻内角
retail price	零售价
rhombus	菱形
right angle	直角
right circular cone	直圆锥
right circular cylinder	直圆柱体
right triangle	直角三角形
root	根
root sign	根号
round angle	周角
round off	四舍五入
round to/ round off	四舍五入
scalene	斜的, 不等边的
scalene cylinder	斜柱体
scalene triangle	不等边三角形
score	二十 (指 20)
segment of a circle	弧形
semicircle	半圆
sequence	序列, 数列
set	集合
side	边长
sign	符号
similar terms	同类项
simple (common) fraction	简分数
simple interest	单利
simultaneous equations	联立方程组
slope	斜率
solid	立体
solid geometry	立体几何
solution	解, 答集
solution set	解集
sphere	球体 (表面积 $4\pi r^2$, 体积 $\frac{4}{3}\pi r^3$)
square	正方形, 平方
square measure	平方制单位
square root	平方根
straight angle	平角, 即 180° 角
straight line	直线
subtract	减

subtrahend	减数
sum	和
supplementary angles	补角
surface area	表面积
table	表格
tangent	切线
tens	十位
tenths	十分位
the extremes of a proportion	比例外项
the means of a proportion	比例内项
tie	并列, 打平
to the nearest	四舍五入, 精确到
transversal	截线
trapezoid	梯形
triangle	三角形
triangle inequality	三角不等式
trigonometric function	三角函数
trigonometry	三角学
trinomial	三项式
union	并集
unit	单位
units	个位
variable	变量
vertex (vertices)	顶点
vertical angle	对顶角
volume	体积
vulgar fraction	普通分数 (与 decimal fraction 相对)
weighted average	加权平均值
whole number	整数
width	宽
yard	码
zero	零

附录二 GRE 常用数学符号及其英文表达

+	plus, positive
-	minus, negative
×	multiplied by, times
÷ (/)	divided by
=	is equal to, equals
≠	not equal to
≈	is approximately equal to, approximately equals
>	greater than
<	less than
≥	equal to or greater than
≤	equal to or less than
>>	much greater than
<<	much less than
∈	is a member of the set
⊂	is a subset of
()	round brackets, parentheses
[]	square brackets
{ }	braces
∞	similar to
≡	congruent to
⊥	perpendicular to, at right angles with
//	parallel to
∠	angle
⊙	circle
\overline{AB}	length of line from A to B
e	the base of natural logarithms, approx. 2.71828
π	pi; the ratio of the circumference of a circle to its diameter, approx. 3.14159
n!	factorial n, n (n - 1) (n - 2) (n - 3) . . . 1
x	the absolute value of x
x ²	x square; x squared; the square of x; the second power of x; x to the second power; x raised to the second power
x ³	x cube; x cubed; the cube of x; x to the third power; the third power of x; x raised to the third power
x ⁻¹⁰	x to the minus tenth (tenth power)
\sqrt{x}	the square root of x, root x
$\sqrt[3]{x}$	the cube root of x
x ⁿ	the nth power of x, x to the power n, x raised to the nth power, x to the nth power

$\frac{1}{x^n}$	one over x to the n
$\frac{\alpha^5}{\beta^2}$	α to the five over β squared
$x^{\frac{1}{n}} \quad (\sqrt[n]{x})$	the nth root of x, x to the power one over n
$y = f(x)$	y is a function of x
$a + b$	a plus b; the sum of a and b; the total of a and b; a added to b; a increased by b; a more than b; a greater than b
$a - b$	a minus b; a less b the difference of a and b; from a subtract b; a takes away b; d decreased by b; a diminished by b; b is subtracted from a; b less than a
$a \times b$	(a) (b); a. b; a multiplied by b; the product of a and b; a times b
$a \div b$	a divided by b; the quotient of a and b
$a : b$	the ratio of a to b
$a : b :: c : d$	$a : b = c : d$; a is to b as c is to d; the ratio of a to b equals the ratio of c to d
$xX + yY = 1$	little x times big X plus little y times big Y equals one
$\frac{x}{X} + \frac{y}{Y} = \frac{z}{Z}$	little x over big X plus little y over big Y equals little z over big Z
%	per cent
‰	per mille
$\frac{1}{2}$	a half; one half
$\frac{3}{4}$	three fourths; three quarters
$3\frac{1}{2}$	plus three and a half
0.035	decimal (point) naught three five
5.32	five point three two
$4.0\dot{3}\dot{2}\dot{5}$	four point naught three two five, two five recurring
100°C	100 hundred degrees Centigrade
50°F	fifty degrees Fahrenheit
$a \in A$	a is a member of set A
$a \notin A$	a is not a member in set A
$A \subset B, A \subseteq B$	set A is contained in set B
$A \not\subset B$	set A is not contained in set B
$A \cap B, A \bullet B$	intersection of sets A and B
$A \cup B, A + B$	union of sets A and B

附录三 GRE 常用数学公式

1. Permutation: $P_n^m = \frac{n!}{(n-m)!} = n(n-1)(n-2)\cdots(n-m+1)$
2. Combination: $C_n^m = \frac{n!}{m!(n-m)!} = \frac{n(n-1)(n-2)\cdots(n-m+1)}{1 \times 2 \times 3 \cdots m}$
3. Discount = Cost \times rate of Discount
4. The number of factors of $Z = x^a \cdot y^b \cdot z^c$ (x, y, z is prime number), $n = (a+1)(b+1)(c+1)$
5. Quadratic formula $x = \frac{1}{2a}(-b \pm \sqrt{b^2 - 4ac})$
6. Arithmetic progression $a_n = a_1 + (n-1)d$, $S_n = \frac{n(a_1 + a_n)}{2} = na_1 + \frac{n(n-1)}{2}d$
7. Geometric progression $a_n = a_1q^{(n-1)}$, $S_n = \frac{a_1(1-q^n)}{1-q}$
8. Distance between points (x, y) and (a, b) is $\sqrt{(x-a)^2 + (y-b)^2}$
9. Area of triangle = $\frac{1}{2}bh$
10. Special formula of area of triangle = $\sqrt{s(s-a)(s-b)(s-c)}$, $s = \frac{1}{2}(a+b+c)$
11. Area of rectangular = lw
12. Area of parallelogram = bh
13. Area of a rhombus = $\frac{\text{Product of two diagonals}}{2}$
14. Area of a trapezoid = $\frac{(b_1 + b_2)}{2}h$
15. Volume of cubic solid = a^3
16. Volume of rectangular solid = $l \times w \times h$
17. Volume of right circular cylinder = $\pi r^2 \cdot h$
18. Volume of right circular cone = $\frac{1}{3} \pi r^2 \cdot h$
19. Volume of ball = $\frac{4}{3} \pi r^3$

附录四 Measurements

Length: 1 mile (mi) = 1,760 yards = 5280 feet

1 yard (d) = 3 feet

1 foot (ft) = 12 inches (in)

Area: 1 square yard (sq yd) = 9 square feet (sq ft)

1 square foot (sq ft) = 144 square inches (sq in)

Time: 1 decade = 10 years

1 year = 52 weeks

1 year = 365 days

1 week = 7 days

1 day = 24 hours

1 hour = 60 minutes

1 minute = 60 seconds

Volume: 1 quart (qt) (夸脱) = 2 pints (pt) (品脱)

1 gallon (gal 加仑) = 4 quarts (qt)

1 bushel (bu) (蒲式耳) = 4 pecks (pk) (配克)

1 pint = 2 cups

Weight: 1 ton (T) = 2,000 pounds

1 pound (lb) = 16 ounces (oz)

1 ounce = 16 drams (打兰)