

数与运算

The sum of 6 and 4 is 10.

- ☐ **number** /ˈnʌmbə/
- 数；数字 whole number; number line
- ☐ **total** /ˈtəʊtəl/
- 总数；总量；合计 total number; total cost; in total
- ☐ **equal** /iːkwəl/
- 相等的；等于 be equal to; equal sign
- ☐ **add** /æd/
- 加；相加 add A to B; add together
- ☐ **subtract** /səbˈtrækt/
- 减；相减 subtract A from B
- ☐ **multiply** /ˈmʌltɪplaɪ/
- 乘；相乘 multiply A by B
- ☐ **divide** /dɪˈvaɪd/
- 除；相除 divide A by B; divide into
- ☐ **sum** /sʌm/
- 和 the sum of A and B
- ☐ **difference** /ˈdɪfərəns/
- 差；差值 difference between A and B
- ☐ **product** /ˈprɒdʌkt/
- 积 product of A and B
- ☐ **quotient** /ˈkwəʊjənt/
- 商 quotient of A and B
- ☐ **value** /ˈvæljuː/
- 值；数值 place value; value of x
- ☐ **digit** /ˈdɪdʒɪt/
- 数字；数位上的数字 a 3-digit number; digit 5
- ☐ **order** /ˈɔːdə/
- 顺序；排列 ascending order; descending order
- ☐ **ascending order** /əˈsendɪŋ ˈɔːdə/
- 升序；从小到大 in ascending order
- ☐ **descending order** /dɪˈsendɪŋ ˈɔːdə/
- 降序；从大到小 in descending order
- ☐ **whole number** /həʊl ˈnʌmbə/
- 非负整数 whole numbers
- ☐ **integer** /ˈɪntɪdʒəl/
- 整数 positive integer; negative integer
- ☐ **positive** /ˈpɒzətɪv/
- 正的；正数的 positive number; positive integer
- ☐ **negative** /ˈnegətɪv/
- 负的；负数的 negative number; negative integer
- ☐ **zero** /ˈzɪərəʊ/
- 零 equal to zero; zero point
- ☐ **odd number** /ɒd ˈnʌmbə/
- 奇数 odd numbers
- ☐ **even number** /iːvən ˈnʌmbə/
- 偶数 even numbers
- ☐ **factor** /ˈfæktə/
- 因数 common factor; prime factor

数与运算 · 续

- ☐ **multiple** /ˈmʌltɪpəl/
- 倍数 common multiple; multiple of
- ☐ **prime number** /praɪm ˈnʌmbə/
- 质数 prime number; prime factor
- ☐ **composite number** /ˈkɒmpəzɪt ˈnʌmbə/
- 合数 composite number
- ☐ **common factor** /ˈkɒmən ˈfæktə/
- 公因数 greatest common factor
- ☐ **greatest common factor** /ˈgreɪtɪst ˈkɒmən ˈfæktə/
- 最大公因数 GCF; HCF
- ☐ **common multiple** /ˈkɒmən ˈmʌltɪpəl/
- 公倍数 least common multiple
- ☐ **least common multiple** /liːst ˈkɒmən ˈmʌltɪpəl/
- 最小公倍数 LCM
- ☐ **remainder** /rɪˈmeɪndə/
- 余数 with a remainder of
- ☐ **estimate** /ˈestɪmeɪt/
- 估算；估计 estimate the answer; estimate the cost
- ☐ **round** /raʊnd/
- 四舍五入；取近似值 round to the nearest; round off
- ☐ **nearest** /ˈneɪəɪst/
- 最接近的 nearest ten; nearest whole number
- ☐ **approximate** /əˈprɒksɪmət/
- 近似的；约等于 approximate value; approximately
- ☐ **exact** /ɪɡˈzækt/
- 精确的 exact value; exact answer
- ☐ **读题与指令**
- Subtract 8 from 20. Find the answer.
- ☐ **find** /faɪnd/
- 求出；找出 find the value; find the answer
- ☐ **calculate** /ˈkælkjuleɪt/
- 计算 calculate the total; calculate the area
- ☐ **answer** /ˈɑːnsə/
- 答案；作答 give the answer; answer the question
- ☐ **more than** /mɔː ðən/
- 多于；大于 5 more than; greater than
- ☐ **less than** /les ðən/
- 少于；小于 3 less than; less than 20
- ☐ **greater than** /ˈgreɪtə ðən/
- 大于 greater than sign
- ☐ **smaller than** /ˈsmɔːlə ðən/
- 小于；较小 smaller than; smallest
- ☐ **distinct** /dɪˈstɪŋkt/
- 互不相同的 distinct digits; distinct integers
- ☐ **exactly** /ɪɡˈzæktli/
- 恰好；正好 exactly two
- ☐ **maximum** /ˈmæksɪməm/
- 最大值 maximum possible value

| 读题与指令 · 续

- minimum

/ˈmɪnɪmə/

最小值 minimum possible value

□

must be

/mʌst biː/

必然是 which must be true
- 
- could be

/kʊd biː/
- 可能是 which could be

□

cannot be

/ˈkænɒt biː/

不可能是 which cannot be

□

such that

/sʌtʃ ðæt/

使得；满足条件 integers such that

□

convert

/kənˈvɜːt/

转换；换算 convert A to B; convert into

□

constraint

/kənˈstreɪnt/

限制条件 given constraints

□

compare

/kəmˈpeə/

比较 compare A with B

□

arrange

/əˈreɪndʒ/

排列 arrange in order

□

complete

/kəmˈpliːt/

完成；补全 complete the table; complete the pattern

□

show

/ʃəʊ/

写出；展示 show your working; show that

□

working

/ˈwɜːkɪŋ/

计算过程；演算 show your working

□

explain

/ɪkˈspleɪn/

解释 explain your answer

□

reason

/ˈriːzən/

理由；推理 give a reason

□

represent

/ˌreprɪˈzent/

表示；代表 represent by; represents

□

respectively

/rɪˈspektɪvli/

分别地；依次对应 A and B are 3 and 5 respectively

□

at least

/ət liːst/

至少 at least 10

□

at most

/ət məʊst/

至多；最多 at most 10

□

no more than

/nəʊ mɔː ðən/

不多于；不超过 no more than 20

□

no less than

/nəʊ les ðən/

不少于；至少 no less than 5

□

nonzero

/ˌnɒnˈzɪərəʊ/

非零的 nonzero integer

□

nonnegative

/ˌnɒnˈneɡətɪv/

非负的 nonnegative integer

数论拓展

36 is divisible by 4.

- divisible by

/dɪˈvɪzəbəl baɪ/

能被……整除 divisible by 3; exactly divisible by

| 数论拓展 · 续

- consecutive

/kənˈsekjʊtɪv/

连续的 consecutive integers; consecutive odd integers
- 
- prime factorization

/praɪm ˌfæktəraɪˈzeɪʃən/
- 质因数分解 prime factorization of

□

units digit

/ˈjuːnɪts ˈdɪdʒɪt/

个位数字 units digit of

□

perfect square

/ˈpɜːfɪkt skweə/

完全平方数 perfect square

□

coprime

/ˌkəʊˈpraɪm/

互质的 coprime integers

□

divisibility

/dɪˌvɪzəˈbɪləti/

整除性 divisibility rule

□

divisor

/dɪˈvaɪzə/

约数；除数 positive divisor

□

digit sum

/ˈdɪdʒɪt sʌm/

各位数字之和 sum of the digits

□

perfect cube

/ˈpɜːfɪkt kjuːb/

完全立方数 perfect cube

分数与小数

Three fifths of the pizza is left.

- fraction

/ˈfrækʃən/

分数 proper fraction; fraction of
- 
- numerator

/ˈnjuːməreɪtə/
- 分子 numerator of a fraction

□

denominator

/dɪˈnɒmɪneɪtə/

分母 common denominator

□

proper fraction

/ˈprɒpə ˈfrækʃən/

真分数 proper fraction

□

improper fraction

/ɪmˈprɒpə ˈfrækʃən/

假分数 improper fraction

□

mixed number

/mɪksɪd ˈnʌmbə/

带分数 convert to a mixed number

□

equivalent fraction

/ɪˈkwɪvələnt ˈfrækʃən/

等值分数 equivalent fractions

□

simplify

/ˈsɪmplɪfaɪ/

化简；简化 simplify a fraction; simplify an expression

□

lowest terms

/ˈləʊɪst tɜːmz/

最简形式；最简分数 in lowest terms

□

decimal

/ˈdesɪmə/

小数 decimal number; decimal point

□

decimal point

/ˈdesɪməl pɔɪnt/

小数点 place the decimal point

□

decimal place

/ˈdesɪməl pleɪs/

小数位 one decimal place; two decimal places

□

half

/hɑːf/

一半；二分之一 half of; one half

□

quarter

/ˈkwɔːtə/

四分之一；一刻钟 a quarter of; one quarter

百分数与比例

A \$100 book has a 20% discount.

- percentage

/pə'sentɪdʒ/

百分数；百分比

percentage of; percentage increase

percent

/pə'sent/

百分之……

25 percent; percent of

ratio

/ˈreɪʃiəʊ/

比；比率

ratio of A to B; simplify a ratio

rate

/reɪt/

率；速率；单位率

unit rate; rate per hour

proportion

/prə'pɔːʃən/

比例；成比例关系

direct proportion; in proportion

unit rate

/ˈjuːnɪt reɪt/

单位率

find the unit rate

increase

/ɪnˈkriːs/

增加；增长

increase by; increase to; percentage increase

decrease

/dɪˈkriːs/

减少；下降

decrease by; decrease to; percentage decrease

discount

/ˈdɪskaʊnt/

折扣

a 20% discount; discount price

original price

/əˈrɪdʒənəl praɪs/

原价

original price

profit

/ˈprɒfɪt/

利润

make a profit; profit percentage

loss

/lɒs/

亏损

make a loss; loss percentage

interest

/ˈɪntərəst/

利息

simple interest; compound interest

speed

/spiːd/

速度

average speed; speed = distance/time

计数与概率拓展

Choose one shirt and one pair of trousers.

- in how many ways

/ɪn haʊ ˈmeni weɪz/

有多少种方法

in how many ways can...

arrangement

/ə'reɪndʒmənt/

排列；排法

possible arrangements

permutation

/ˌpɜːmjʊ'teɪʃən/

排列

permutation of objects

combination

/ˌkɒmbɪˈneɪʃən/

组合

combination of objects

factorial

/fæk'tɔːriəl/

阶乘

factorial notation; 5!

casework

/ˈkeɪswɜːk/

分类讨论

solve by casework

overcounting

/ˌəʊvəˈkaʊntɪŋ/

重复计数

avoid overcounting

sample space

/ˈsɑːmpəl speɪs/

样本空间

sample space of outcomes

计数与概率拓展 · 续

- favorable outcome

/ˈfeɪvərəbəl ˈaʊtkʌm/

有利结果

number of favorable outcomes

complement

/ˈkɒmplɪmənt/

补集；对立事件

complement of an event

without replacement

/wɪðˈðaʊt rɪˈpleɪsmənt/

不放回

draw without replacement

with replacement

/wɪð rɪˈpleɪsmənt/

放回

draw with replacement

几何拓展

The two triangles are similar.

- congruent

/ˈkɒŋgruənt/

全等的

congruent triangles

similar

/ˈsɪmɪlə/

相似的

similar triangles

diagonal

/daɪˈæɡənəl/

对角线

diagonal of a rectangle

midpoint

/ˈmɪdpɔɪnt/

中点

midpoint of AB

hypotenuse

/haɪˈpɒtənjuːz/

斜边

hypotenuse of a right triangle

surface area

/ˈsɜːfɪs ˈeəriə/

表面积

surface area of a solid

corresponding

/ˌkɒrɪˈspɒndɪŋ/

对应的

corresponding sides; corresponding angles

scale factor

/skeɪl ˈfæktə/

缩放倍数；比例因子

scale factor of 2

bisect

/baɪˈsekt/

平分

bisect an angle

angle bisector

/ˈæŋɡəl baɪˈsektə/

角平分线

angle bisector

Pythagorean theorem

/paɪˌθæɡəˈriːən ˈθiərəm/

勾股定理

use the Pythagorean theorem

line of symmetry

/laɪn əv ˈsɪmətri/

对称轴

a line of symmetry

reflection

/rɪˈflekʃən/

轴对称变换

reflection across a line

rotation

/rəʊˈteɪʃən/

旋转

rotation through 90°

translation

/trænzˈleɪʃən/

平移

translation by a vector

dilation

/daɪˈleɪʃən/

位似；缩放

dilation with scale factor 2

net

/net/

展开图

net of a cube

prism

/ˈprɪzəm/

棱柱

triangular prism

cylinder

/ˈsɪlɪndə/

圆柱

volume of a cylinder

几何拓展 · 续

- cone

/kəʊn/

圆锥 volume of a cone

□

sphere

/sfɪə/

球 surface area of a sphere

□

equidistant

/ˌiːkwɪˈdɪstənt/

等距的 equidistant from A and B

代数与规律

Solve  $x + 3 = 8$ .

- expression

/ɪkˈspresjən/

表达式；代数式 algebraic expression; simplify an expression

□

equation

/ɪˈkweɪʒən/

方程 linear equation; solve an equation

□

solve

/sɒlv/

解；求解 solve the equation; solve a problem

□

unknown

/ʌnˈnəʊn/

未知数 one unknown; unknown quantity

□

variable

/ˈveəriəbəl/

变量 variable x; dependent variable

□

constant

/ˈkɒnstənt/

常数 constant term; constant value

□

term

/tɜːm/

项 like terms; constant term

□

coefficient

/ˌkəʊɪˈfɪjənt/

系数 coefficient of x

□

like terms

/laɪk tɜːmz/

同类项 combine like terms

□

formula

/ˈfɔːmjʊlə/

公式 use the formula; substitute into a formula

□

substitute

/ˈsʌbstɪtjuːt/

代入 substitute  $x = 3$  into

□

linear

/ˈlɪniə/

线性的；一次的 linear equation; linear graph

□

inequality

/ˌɪnɪˈkwɒləti/

不等式 linear inequality; solve an inequality

□

index

/ˈɪndeks/

指数 index notation; integral index

□

power

/ˈpaʊə/

幂；乘方 power of; raise to the power

□

square

/skweə/

平方 square of a number; square number

□

square root

/skweə ruːt/

平方根 square root of

□

pattern

/ˈpætən/

规律；模式 number pattern; find the pattern

□

sequence

/ˈsiːkwəns/

数列；序列 number sequence; arithmetic sequence

□

let

/let/

设；令 let x be; let x represent

代数拓展

For  $f(x)=2x+1$ , the input 3 gives output 7.

- function

/ˈfʌŋkʃən/

函数 function f; function value

□

satisfy

/ˈsætɪsfaɪ/

满足 satisfy the equation

□

absolute value

/ˈæbsəluːt ˈvæljuː/

绝对值 absolute value of

□

defined by

/drɪˈfaɪnd baɪ/

定义为 f is defined by

□

input

/ˈɪnpʊt/

输入值 input value

□

output

/ˈaʊtpʊt/

输出值 output value

□

system of equations

/ˈsɪstəm əv ɪˈkweɪʒənz/

方程组 solve a system of equations

□

solution

/səˈluːʃən/

解 solution to an equation

□

reciprocal

/rɪˈsɪprəkəl/

倒数 reciprocal of 3/5

□

arithmetic sequence

/ˌæɪθˈmetɪk ˈsiːkwəns/

等差数列 arithmetic sequence

□

geometric sequence

/ˌdʒiːəˈmetrɪk ˈsiːkwəns/

等比数列 geometric sequence

□

nth term

/enθ tɜːm/

第 n 项 find the nth term

□

common difference

/ˈkɒmən ˈdɪfərəns/

公差 common difference

□

common ratio

/ˈkɒmən ˈreɪʃjəʊ/

公比 common ratio

度量与单位

The bus travels at 40 km per hour.

- length

/lenθ/

长度 length of; measure the length

□

width

/wɪð/

宽度 length and width

□

height

/haɪt/

高度 height of; perpendicular height

□

distance

/ˈdɪstəns/

距离 distance between; travel a distance

□

capacity

/kəˈpæsəti/

容量 capacity of a container

□

mass

/mæs/

质量 mass of; measure the mass

□

weight

/weɪt/

重量 weight of

□

time

/taɪm/

时间 elapsed time; time taken

| 度量与单位 · 续

- unit

/ˈjuːnɪt/

单位 standard unit; unit of measurement
- convert units

/kənˈvɜːt ˈjuːnɪts/

单位换算 convert cm to m; convert units

| 图形与空间

Find the area and perimeter of the rectangle.

- perimeter

/pəˈrɪmɪtə/

周长 perimeter of a shape
- area

/ˈeəriə/

面积 area of; square units
- volume

/ˈvɒljuːm/

体积 volume of; cubic units
- angle

/ˈæŋɡəl/

角 angle ABC; measure an angle
- right angle

/raɪt ˈæŋɡəl/

直角 a right angle; 90 degrees
- acute angle

/əˈkjuːt ˈæŋɡəl/

锐角 acute angle
- obtuse angle

/əbˈtjuːs ˈæŋɡəl/

钝角 obtuse angle
- straight angle

/streɪt ˈæŋɡəl/

平角 straight angle
- reflex angle

/ˈriːfleks ˈæŋɡəl/

优角；反角 reflex angle
- degree

/dɪˈɡriː/

度 90 degrees; degree symbol
- parallel

/ˈpærəlel/

平行的 parallel lines; parallel to
- perpendicular

/ˌpɜːpənˈdɪkjələ/

垂直的 perpendicular lines; perpendicular to
- line

/laɪn/

直线；线 straight line; number line
- line segment

/laɪn ˈseɡmənt/

线段 line segment AB
- ray

/reɪ/

射线 ray AB
- point

/pɔɪnt/

点 point A; data point
- triangle

/ˈtraɪæŋɡəl/

三角形 right-angled triangle; triangle ABC
- equilateral triangle

/ɪˈkwɪlətərəl ˈtraɪæŋɡəl/

等边三角形 equilateral triangle
- isosceles triangle

/aɪˈsɒsəliːz ˈtraɪæŋɡəl/

等腰三角形 isosceles triangle
- scalene triangle

/ˈskeɪliːn ˈtraɪæŋɡəl/

不等边三角形 scalene triangle
- right-angled triangle

/ˌraɪtˈæŋɡəld ˈtraɪæŋɡəl/

直角三角形 right-angled triangle

| 图形与空间 · 续

- quadrilateral

/ˌkwɒdrɪˈlætərəl/

四边形 quadrilateral ABCD
- rectangle

/ˈrektæŋɡəl/

长方形；矩形 area of a rectangle
- square

/skweə/

正方形 side of a square; square number
- parallelogram

/ˌpærəˈleləɡræm/

平行四边形 opposite sides of a parallelogram
- rhombus

/ˈrɒmbəs/

菱形 diagonals of a rhombus
- trapezium

/ˈtrəːpiːziəm/

梯形 area of a trapezium
- polygon

/ˈpɒlɪɡən/

多边形 regular polygon; polygon sides
- regular polygon

/ˈregjələ ˈpɒlɪɡən/

正多边形 regular polygon
- circle

/ˈsɜːkəl/

圆 centre of a circle; circumference
- centre

/ˈsentə/

圆心；中心 centre of the circle
- radius

/ˈreɪdiəs/

半径 radius of a circle
- diameter

/daɪˈæmɪtə/

直径 diameter of a circle
- circumference

/səˈkʌmfərəns/

圆周长 circumference of a circle
- arc

/ɑːk/

弧 arc length; minor arc
- sector

/ˈsektə/

扇形 area of a sector
- 3-D figure

/ˌθriːˈdiː ˈfɪɡə/

立体图形 3-D figure; solid
- cube

/kjuːb/

正方体 face of a cube; cube number
- cuboid

/ˈkjuːbɔɪd/

长方体 volume of a cuboid
- face

/feɪs/

面 face of a solid
- edge

/edʒ/

棱 edge of a cube
- vertex

/ˈvɜːteks/

顶点 vertex of an angle; vertex of a solid
- base

/beɪs/

底；底面；底数 base of a triangle; base of a solid
- 坐标与数据

Plot the point A(2,1).
- coordinate

/kəʊˈɔːdɪneɪt/

坐标 coordinates of a point

| 坐标与数据 · 续

- ☐
**x-axis** /ˈɛks ˌæksɪs/
 

x 轴；横轴
 on the x-axis
- ☐
**y-axis** /ˈwaɪ ˌæksɪs/
 

y 轴；纵轴
 on the y-axis
- ☐
**origin** /ˈɒrɪdʒɪn/
 

原点
 the origin (0,0)
- ☐
**plot** /plot/
 

描点；绘制
 plot a point; plot a graph
- ☐
**graph** /gra:f/
 

图；图像
 line graph; graph of a function
- ☐
**table** /ˈteɪbəl/
 

表格
 data table; frequency table
- ☐
**data** /ˈdeɪtə/
 

数据
 collect data; data set
- ☐
**frequency** /ˈfri:kwənsi/
 

频数；出现次数
 frequency table; frequency of
- ☐
**bar chart** /bə: tʃɑ:t/
 

棒形图；条形图
 draw a bar chart
- ☐
**line graph** /laɪn gra:f/
 

折线图
 draw a line graph
- ☐
**pictogram** /ˈpɪktəgrəm/
 

象形图
 read a pictogram
- ☐
**pie chart** /paɪ tʃɑ:t/
 

圆形图；饼图
 sector of a pie chart

| 统计与概率

Find the median of 2, 3, 5 and 8.

- ☐
**mean** /mi:n/
 

平均数；算术平均数
 arithmetic mean; find the mean
- ☐
**median** /ˈmi:diən/
 

中位数
 find the median
- ☐
**mode** /məʊd/
 

众数
 find the mode
- ☐
**range** /reɪndʒ/
 

极差；范围
 find the range
- ☐
**average** /ˈævərɪdʒ/
 

平均；平均数
 average score; average speed
- ☐
**probability** /ˌprəbəˈbɪləti/
 

概率；可能性
 probability of an event
- ☐
**chance** /tʃɑ:ns/
 

机会；可能性
 chance of; equally likely
- ☐
**certain** /ˈsɜ:tən/
 

必然的
 a certain event
- ☐
**impossible** /ɪmˈpəseɪbəl/
 

不可能的
 an impossible event
- ☐
**likely** /ˈlaɪkli/
 

可能的；较可能
 more likely; equally likely
- ☐
**equally likely** /ˈi:kwəli ˈlaɪkli/
 

等可能的
 equally likely outcomes

| 统计与概率 · 续

- ☐
**outcome** /ˈaʊtkʌm/
 

结果（随机试验）
 possible outcomes
- ☐
**event** /ɪˈvent/
 

事件
 probability of an event
- ☐
**random** /ˈrændəm/
 

随机的
 random sample; random experiment
- ☐
**fair** /feə/
 

公平的；等可能的
 fair die; fair coin

| 应用题语言

Four boxes contain six pencils each.

- ☐
**altogether** /ˌɔ:ltəˈgeðə/
 

总共；合计
 how many altogether
- ☐
**remaining** /rɪˈmeɪnɪŋ/
 

剩余的
 the remaining amount; how many remain
- ☐
**each** /i:tʃ/
 

每个；每一
 each group; each costs
- ☐
**per** /pɜ:/
 

每；每一
 per hour; per kilogram
- ☐
**share** /ʃeə/
 

平均分；分享
 share equally; share among
- ☐
**equally** /ˈi:kwəli/
 

平均地；相等地
 divide equally; equally likely
- ☐
**double** /ˈdʌbəl/
 

两倍；加倍
 double the number
- ☐
**triple** /ˈtripəl/
 

三倍；变为三倍
 triple the amount
- ☐
**twice** /twais/
 

两次；两倍
 twice as many as
- ☐
**times** /taɪmz/
 

倍；乘以
 three times as many; times table