



Cambridge IGCSE 0580

Algebra Vocabulary

代 数 (Algebra) 词 汇 卡

Topic 2 | Core & Extended

FREE | Cambridge 0580 | Bilingual 双语

📘 Bilingual Vocabulary Cards 双语词汇卡

🎓 For Chinese-English Math Education

适用于中英双语数学教学

👉 Vocab Tables ✂️ Printable Flashcards 📚 Core & Extended

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How to Use This Resource / 使用说明 **What's inside / 内容概览**

- ▣ **Vocabulary Tables** (p. 3–5) — 40+ bilingual terms with pinyin & definitions
- ☒ **Flashcards** (p. 6–11) — 3 sets of printable cards, print front/back pages back-to-back
- ➥ **Extended labels** — Look for *(Ext.)* to spot Extended-only content



Differentiation Tips / 分层教学建议

- ★ **Core students** — Focus on terms without the *(Ext.)* marker
- ➥ **Extended students** — Learn all terms including *(Ext.)* items
- 人群 **Bilingual learners** — Use the Chinese and Pinyin columns for support
- 🖨 **Printing tip** — Print flashcard pages double-sided for front/back cards

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Also available: Number, Coordinate Geometry, Geometry, Measurement, Trigonometry, Vectors & Statistics Vocabulary Cards

2.1–2.2 Expressions & Algebraic Manipulation

C2.1–C2.2/E2.1–E2.2 代数表达式与代数运算

Algebraic Expressions | 代数表达式

| English 英文 | Chinese 中文 | Pinyin 拼音 | Definition 定义 |
|---------------------|------------|----------------|---|
| Variable | 变量 | biàn liàng | A letter that represents an unknown or changing value |
| Constant | 常量 | cháng liàng | A fixed value that does not change, e.g. 5, π |
| Coefficient | 系数 | xì shù | The number multiplying a variable, e.g. 3 in $3x$ |
| Expression | 表达式 | biǎo dá shì | A combination of terms, e.g. $2x + 3y - 1$ |
| Term | 项 | xiàng | A single part of an expression, e.g. $5x^2$ |
| Like terms | 同类项 | tóng lèi xiàng | Terms with the same variable and power, e.g. $3x$ and $-2x$ |
| Formula | 公式 | gōng shì | An equation showing a relationship, e.g. $A = \pi r^2$ |
| Substitution | 代入 | dài rù | Replacing a variable with a number to evaluate |

Algebraic Manipulation | 代数运算

| English 英文 | Chinese 中文 | Pinyin 拼音 | Definition 定义 |
|------------------------------|------------|-----------------|--|
| Simplify | 化简 | huà jiǎn | Collect like terms to write in a shorter form |
| Expand | 展开 | zhǎn kāi | Multiply out brackets, e.g. $2(x + 3) = 2x + 6$ |
| Factorise | 因式分解 | yīn shì fēn jiě | Write as a product of factors, e.g. $6x + 9 = 3(2x + 3)$ |
| Common factor | 公因式 | gōng yīn shì | A factor shared by all terms, e.g. 3 in $6x + 9$ |
| Difference of squares | 平方差 | píng fāng chā | $a^2 - b^2 = (a + b)(a - b)$ (Ext.) |
| Complete the square | 配方 | pèi fāng | Write $ax^2 + bx + c$ as $a(x + p)^2 + q$ (Ext.) |

2.4–2.7 Equations, Inequalities & Sequences

C2.4–C2.7/E2.4–E2.7 方程、不等式与数列

III Indices & Equations | 指数与方程

| English 英文 | Chinese 中文 | Pinyin 拼音 | Definition 定义 |
|--------------------------------|------------|-----------------------|--|
| Index (plural: indices) | 指数 | zhǐ shù | The power in a^n ; rules: $a^m \times a^n = a^{m+n}$ |
| Linear equation | 一次方程 | yī cì fāng chéng | Equation of degree 1, e.g. $3x - 5 = 7$ |
| Quadratic equation | 二次方程 | èr cì fāng chéng | Equation of degree 2, e.g. $x^2 - 5x + 6 = 0$ (Ext.) |
| Simultaneous equations | 联立方程 | lián lì fāng chéng | Two or more equations solved together |
| Subject of a formula | 公式的主项 | gōng shì de zhǔ xiàng | The variable written alone on one side |
| Quadratic formula | 求根公式 | qiú gēn gōng shì | $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ (Ext.) |
| Root / Solution | 根/解 | gēn / jiě | A value of x that satisfies the equation |

III Inequalities & Sequences | 不等式与数列

| English 英文 | Chinese 中文 | Pinyin 拼音 | Definition 定义 |
|------------------------------|------------|---------------------|---|
| Inequality | 不等式 | bù děng shì | A statement using $<$, $>$, \leq , \geq |
| Number line | 数轴 | shù zhóu | A line showing inequality solutions (open/closed circles) |
| Region | 区域 | qū yù | Area on a graph satisfying inequalities (Ext.) |
| Sequence | 数列 | shù liè | An ordered list of numbers following a rule |
| nth term | 通项公式 | tōng xiàng gōng shì | The formula for the general term, e.g. $2n + 1$ |
| Linear sequence | 等差数列 | děng chā shù liè | Common difference between terms, e.g. 3, 7, 11, ... |
| Quadratic sequence | 二次数列 | èr cì shù liè | n th term is a quadratic, e.g. $n^2 + 1$ |

2.3, 2.8–2.13 Graphs, Functions & Advanced Algebra

E2.3, C2.9–C2.11/E2.8–E2.13 图形、函数与高级代数

☰ Graphs | 图形

| English 英文 | Chinese 中文 | Pinyin 拼音 | Definition 定义 |
|---------------------------------|------------|-----------------|--|
| Gradient / Slope | 斜率 | xié lù | Steepness of a line; rate of change |
| y-intercept | y 轴截距 | y zhóu jié jù | Where a graph crosses the y -axis |
| Travel graph | 行程图 | xíng chéng tú | Distance–time graph showing a journey |
| Tangent (to curve) | 切线 | qiē xiàn | A line touching a curve at one point |
| Asymptote | 渐近线 | jiàn jìn xiàn | A line a curve approaches but never reaches (Ext.) |
| Turning point | 极值点 | jí zhí diǎn | A maximum or minimum on a curve (Ext.) |

☰ Functions & Advanced Algebra | 函数与高级代数

| English 英文 | Chinese 中文 | Pinyin 拼音 | Definition 定义 |
|---------------------------|------------|-----------------|--|
| Function | 函数 | hán shù | A rule mapping each input to one output, $f(x)$ (Ext.) |
| Domain | 定义域 | dìng yì yù | The set of allowed input values (Ext.) |
| Range | 值域 | zhí yù | The set of possible output values (Ext.) |
| Inverse function | 反函数 | fǎn hán shù | $f^{-1}(x)$: reverses the effect of f (Ext.) |
| Composite function | 复合函数 | fù hé hán shù | $fg(x) = f(g(x))$ — apply g then f (Ext.) |
| Derivative | 导数 | dǎo shù | $\frac{dy}{dx}$: rate of change of y w.r.t. x (Ext.) |
| Algebraic fraction | 代数分式 | dài shù fēn shì | A fraction with algebraic expressions, e.g. $\frac{x+1}{x-2}$ (Ext.) |
| Direct proportion | 正比例 | zhèng bǐ lì | $y \propto x$: y increases as x increases (Ext.) |
| Inverse proportion | 反比例 | fǎn bǐ lì | $y \propto \frac{1}{x}$: y decreases as x increases (Ext.) |

Flashcards — Front (Terms)

闪 卡 正 面 — 术 语

Variable

变 量

Factorise

因 式 分 解

Linear Equation

一 次 方 程

Quadratic Equation

二 次 方 程

Sequence

数 列

Inequality

不 等 式

Cut along dashed lines. Print this and next back-to-back. 沿虚线剪开。本页与下一页双面打印。

Flashcards — Back (Definitions)

闪卡背面—定义

Factorise

因式分解

Write as a product of factors,
e.g. $6x + 9 = 3(2x + 3)$

写成因式乘积, 如 $6x + 9 = 3(2x + 3)$

Variable

变量

A letter representing an unknown or changing value
代表未知或变化值的字母

Quadratic Equation

二次方程

Equation of degree 2, e.g. $x^2 - 5x + 6 = 0$
二次方程, 如 $x^2 - 5x + 6 = 0$

Linear Equation

一次方程

Equation of degree 1, e.g. $3x - 5 = 7$
一次方程, 如 $3x - 5 = 7$

Inequality

不等式

A statement using $<$, $>$, \leq , \geq
使用 $<$, $>$, \leq , \geq 的数学陈述

Sequence

数列

An ordered list of numbers following a rule
按规则排列的有序数列

🖨️ Print pages 6–7 back-to-back, then cut along dashed lines. 第6–7页双面打印, 沿虚线剪裁。

Flashcards — Front (More Terms)

闪卡正面 — 更多术语

Gradient

斜率

Function

函数

Expand

展开

n th Term

通项公式

Simultaneous Eq.

联立方程

Derivative

导数

Cut along dashed lines. Print this and next back-to-back. 沿虚线剪开。本页与下一页双面打印。

Flashcards — Back (Definitions)

闪 卡 背 面 — 定 义

Function

函数

A rule mapping each input to one output, $f(x)$

将每个输入映射到一个输出的规则 $f(x)$

Gradient

斜率

Steepness of a line; rate of change

直线的陡峭程度; 变化率

n th Term

通项公式

Formula for the general term, e.g. $2n + 1$

通项公式, 如 $2n + 1$

Expand

展开

Multiply out brackets, e.g. $2(x+3) = 2x+6$

展开括号, 如 $2(x + 3) = 2x + 6$

Derivative

导数

$\frac{dy}{dx}$: rate of change of y w.r.t. x

$\frac{dy}{dx}$: y 对 x 的变化率

Simultaneous Eq.

联立方程

Two or more equations solved together

两个或多个方程联合求解

🖨 Print pages 8–9 back-to-back, then cut along dashed lines. 第 8–9 页双面打印, 沿虚线剪裁。

Flashcards — Front (Even More Terms)

闪卡正面 — 更多术语

Expression

表达式

Coefficient

系数

Simplify

化简

Subject

主项

Arithmetic Seq.

等差数列

Domain

定义域

Cut along dashed lines. Print this and next back-to-back. 沿虚线剪开。本页与下一页双面打印。

Flashcards — Back (Definitions)

闪 卡 背 面 — 定 义

Coefficient

系数

The number multiplying a variable, e.g. 3 in $3x$

变量前的数字系数, 如 $3x$ 中的 3

Expression

表达式

A combination of terms, e.g. $2x + 3y - 1$

项的组合, 如 $2x + 3y - 1$

Subject

主项

The variable written alone on one side of a formula

公式中单独写在一边的变量

Simplify

化简

Collect like terms to write in a shorter form

合并同类项, 化为最简形式

Domain

定义域

The set of allowed input values (Ext.)

允许的输入值集合

Arithmetic Seq.

等差数列

Common difference between terms, e.g. 3, 7, 11, ...

相邻项之间有公差, 如 3, 7, 11, ...

🖨️ Print pages 10–11 back-to-back, then cut along dashed lines. 第 10–11 页双面打印, 沿虚线剪裁。