



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
<b>Variable</b>	变量	biàn liàng	A letter that represents an unknown or changing value
<b>Constant</b>	常量	cháng liàng	A fixed value that does not change, e.g. 5, $\pi$
<b>Coefficient</b>	系数	xì shù	The number multiplying a variable, e.g. 3 in $3x$
<b>Expression</b>	表达式	biǎo dá shì	A combination of terms, e.g. $2x + 3y - 1$
<b>Term</b>	项	xiàng	A single part of an expression, e.g. $5x^2$
<b>Like terms</b>	同类项	tóng lèi xiàng	Terms with the same variable and power, e.g. $3x$ and $-2x$
<b>Formula</b>	公式	gōng shì	An equation showing a relationship, e.g. $A = \pi r^2$
<b>Substitution</b>	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
<b>Simplify</b>	化简	huà jiǎn	Collect like terms to write in a shorter form
<b>Expand</b>	展开	zhǎn kāi	Multiply out brackets, e.g. $2(x + 3) = 2x + 6$
<b>Factorise</b>	因式分解	yīn shì fēn jiě	Write as a product of factors, e.g. $6x + 9 = 3(2x + 3)$
<b>Common factor</b>	公因式	gōng yīn shì	A factor shared by all terms, e.g. 3 in $6x + 9$
<b>Difference of squares</b>	平方差	píng fāng chā	$a^2 - b^2 = (a + b)(a - b)$ (Ext.)
<b>Complete the square</b>	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
<b>Index (plural: indices)</b>	指数	zhǐ shù	The power in $a^n$ ; rules: $a^m \times a^n = a^{m+n}$
<b>Linear equation</b>	一次方程	yī cì fāng chéng	Equation of degree 1, e.g. $3x - 5 = 7$
<b>Quadratic equation</b>	二次方程	èr cì fāng chéng	Equation of degree 2, e.g. $x^2 - 5x + 6 = 0$ (Ext.)
<b>Simultaneous equations</b>	联立方程	lián lì fāng chéng	Two or more equations solved together
<b>Subject of a formula</b>	公式的主项	gōng shì de zhǔ xiàng	The variable written alone on one side
<b>Quadratic formula</b>	求根公式	qiú gēn gōng shì	$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ (Ext.)
<b>Root / Solution</b>	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
<b>Inequality</b>	不等式	bù děng shì	A statement using $<$ , $>$ , $\leq$ , $\geq$
<b>Number line</b>	数轴	shù zhóu	A line showing inequality solutions (open/closed circles)
<b>Region</b>	区域	qū yù	Area on a graph satisfying inequalities (Ext.)
<b>Sequence</b>	数列	shù liè	An ordered list of numbers following a rule
<b><math>n</math>th term</b>	通项公式	tōng xiàng gōng shì	The formula for the general term, e.g. $2n + 1$
<b>Linear sequence</b>	等差数列	děng chā shù liè	Common difference between terms, e.g. 3, 7, 11, ...
<b>Quadratic sequence</b>	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

### III Graphs | 图形

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

### III Functions & Advanced Algebra | 函数与高级代数

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

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## 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

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## 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

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## 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。