




 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


25Maths | IGCSE Mathematics Visual Resources

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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

 **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, Mensuration, 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

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

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 lǜ	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)

闪卡背面一定义

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)

闪卡背面一定义

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)

闪卡背面一定义

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 be-
tween 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。