




Edexcel IGCSE 4MA1

Sequences, Functions & Graphs Vocabulary

数列、函数与图像词汇卡

Topic 3 | Foundation & Higher

FREE | **Edexcel 4MA1** | **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  Foundation & Higher

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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) — 38+ bilingual terms with pinyin & definitions
- ✂️ **Flashcards** (p. 6–11) — 3 sets of printable cards, print front/back pages back-to-back
- 🔍 **Higher labels** — Look for (H) to spot Higher-only content



Differentiation Tips / 分层教学建议

- ★ **Foundation students** — Focus on terms without the (H) marker
- 🔍 **Higher students** — Learn all terms including (H) 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 for Edexcel 4MA1: **Numbers & Number System, Equations, Formulae & Identities, Geometry & Trigonometry, Vectors & Transformation Geometry, Statistics & Probability** Vocabulary Cards

3.1 Sequences & 3.3 Graphs (Coordinates)

3.1 数列 3.3 图形 (坐标)

Coordinate System | 坐标系

English 英文	Chinese 中文	Pinyin 拼音	Definition 定义
Cartesian coordinates	笛卡尔坐标	dí kǎ ěr zuò biāo	A system using x and y axes to locate points
x-axis	x 轴	x zhóu	The horizontal axis in a coordinate plane
y-axis	y 轴	y zhóu	The vertical axis in a coordinate plane
Origin	原点	yuán diǎn	The point $(0, 0)$ where the axes intersect
Quadrant	象限	xiàng xiàn	One of 4 regions divided by the x and y axes
Plot	描点	miáo diǎn	To mark a point on a coordinate plane using (x, y)

Sequences | 数列

English 英文	Chinese 中文	Pinyin 拼音	Definition 定义
Sequence	数列	shù liè	An ordered list of numbers following a pattern
Term	项	xiàng	Each number in a sequence; e.g., T_1, T_2, T_3, \dots
nth term	第 n 项	dì n xiàng	A formula to find any term in a sequence; $T_n = \dots$
Term-to-term rule	逐项规则	zhú xiàng guī zé	A rule showing how to get from one term to the next
Position-to-term formula	位置公式	wèi zhì gōng shì	A formula expressing T_n in terms of n (H)
Arithmetic sequence	等差数列	děng chā shù liè	A sequence with a constant difference between terms (H)
Common difference	公差	gōng chā	The constant added between terms in an arithmetic sequence (H)

3.2 Function Notation & 3.3 Graphs (Linear)

3.2 函数符号 3.3 图形 (线性)

Functions | 函数

English 英文	Chinese 中文	Pinyin 拼音	Definition 定义
Function	函数	hán shù	A relationship where each input has exactly one output
Function notation	函数记号	hán shù jì hào	Writing functions as $f(x)$, $g(x)$, etc.
Domain	定义域	dìng yì yú	The set of all possible input values (x -values) (H)
Range	值域	zhí yú	The set of all possible output values (y -values) (H)
Composite function	复合函数	fù hé hán shù	A function of a function; e.g., $f(g(x))$ or $fg(x)$ (H)
Inverse function	反函数	fǎn hán shù	A function that "undoes" another; written as $f^{-1}(x)$ (H)

Linear Graphs | 线性图

English 英文	Chinese 中文	Pinyin 拼音	Definition 定义
Linear equation	线性方程	xiàn xíng fāng chéng	An equation whose graph is a straight line, e.g. $y = 2x + 1$
Gradient	斜率	xié lǜ	Steepness of a line; rise \div run; m in $y = mx + c$
y-intercept	y 轴截距	y zhóu jié jù	Where a line crosses the y -axis; c in $y = mx + c$
Slope-intercept form	斜截式	xié jié shì	$y = mx + c$; shows gradient and y -intercept
Parallel lines	平行线	píng xíng xiàn	Lines with the same gradient; they never intersect
Perpendicular lines	垂直线	chuí zhí xiàn	Lines meeting at 90° ; product of gradients $= -1$ (H)

3.3 Graphs (Quadratic & Non-linear) & 3.4 Calculus

3.3 图形 (二次与非线性) 3.4 微积分

≡ Quadratic & Other Graphs | 二次与其他图像

English 英文	Chinese 中文	Pinyin 拼音	Definition 定义
Quadratic graph	二次图像	èr cì tú xiàng	Graph of $y = ax^2 + bx + c$; U-shaped curve (parabola)
Parabola	抛物线	pāo wù xiàn	The U-shaped curve formed by a quadratic function
Vertex	顶点	dǐng diǎn	The turning point (maximum or minimum) of a parabola
Cubic graph	三次图像	sān cì tú xiàng	Graph of $y = ax^3 + bx^2 + cx + d$; S-shaped curve (H)
Reciprocal graph	反比例图像	fǎn bǐ lì tú xiàng	Graph of $y = \frac{k}{x}$; hyperbola with asymptotes (H)
Exponential graph	指数图像	zhǐ shù tú xiàng	Graph of $y = a^x$; rapid growth or decay curve (H)

≡ Gradient Functions (Calculus) | 梯度函数 (微积分)

English 英文	Chinese 中文	Pinyin 拼音	Definition 定义
Gradient function	梯度函数	tī dù hán shù	A function giving the gradient at any point on a curve (H)
Differentiation	微分	wēi fēn	The process of finding the gradient function (H)
Derivative	导数	dào shù	Another name for gradient function; $\frac{dy}{dx}$ (H)
Stationary point	驻点	zhù diǎn	A point where the gradient = 0 (turning point) (H)
Maximum	极大值	jí dà zhí	The highest point in a region; gradient changes from + to - (H)
Minimum	极小值	jí xiǎo zhí	The lowest point in a region; gradient changes from - to + (H)
Turning point	转折点	zhuǎn zhé diǎn	A point where a curve changes direction (max or min) (H)

Flashcards — Front (Terms)

闪卡正面 — 术语

Sequence

数列

n th term

第 n 项

Function

函数

Domain

定义域

**Composite
Function**

复合函数

Inverse Function

反函数

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

n th term

第 n 项

A formula to find any term in a sequence
求数列任意项的公式

Sequence

数列

An ordered list of numbers following a pattern
按规律排列的有序数列

Domain

定义域

The set of all possible input values
所有可能输入值的集合

Function

函数

A relationship where each input has one output
每个输入对应唯一输出的关系

Inverse Function

反函数

A function that "undoes" another; $f^{-1}(x)$
使函数"还原"的函数; $f^{-1}(x)$

Composite Function

复合函数

A function of a function; $f(g(x))$
函数的函数; $f(g(x))$

🖨️ 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

Quadratic Graph

二次图像

Parabola

抛物线

Gradient

斜率

y -intercept

y 轴截距

Parallel Lines

平行线

**Arithmetic
Sequence**

等差数列

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

Parabola

抛物线

The U-shaped curve
of a quadratic function
二次函数的 U 形曲线

Quadratic Graph

二次图像

Graph of $y = ax^2 + bx + c$; U-shaped curve
 $y = ax^2 + bx + c$ 的图像; U 形曲线

y -intercept

y 轴截距

Where a line crosses the y -axis
直线与 y 轴的交点

Gradient

斜率

Steepness of a line; rise \div run
直线的陡峭程度; 上升 \div 水平距离

Arithmetic Sequence

等差数列

A sequence with constant
difference between terms
项间差值恒定的数列

Parallel Lines

平行线

Lines with the same gra-
dient; never intersect
斜率相同、永不相交的直线

🖨️ 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

**Gradient
Function**

梯度函数

Differentiation

微分

Stationary Point

驻点

Maximum

极大值

Minimum

极小值

Turning Point

转折点

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

Differentiation

微分

The process of finding the gradient function
求梯度函数的过程

Gradient Function

梯度函数

A function giving the gradient at any point
给出曲线上任意点梯度的函数

Maximum

极大值

The highest point; gradient changes + to -
最高点; 梯度从正变负

Stationary Point

驻点

A point where the gradient = 0
梯度为零的点

Turning Point

转折点

A point where a curve changes direction
曲线改变方向的点

Minimum

极小值

The lowest point; gradient changes - to +
最低点; 梯度从负变正

🖨️ 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。