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Introduction to Algebra

Solutions & Answer Key

Full worked solutions, marking scheme & answer key

IGCSE Mathematics

The Panda Math Tutor

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Companion to the *Student Worksheet*

Contents

4 Part IV — Complete Solutions **2**
4.1 Solutions — Variables, Constants and Terms . . . 2
4.2 Solutions — Algebraic Notation and Conventions . . . 4
4.3 Solutions — Writing Expressions from Words . . . 5
4.4 Solutions — Substitution . . . 8
4.5 Solutions — Simplifying Expressions . . . 10
4.6 Solutions — Forming Expressions and Formulas . . . 12
4.7 Solutions — Expressions, Equations, Identities and Formulas . . . 14
4.8 Solutions — Real-World Applications . . . 16
4.9 Solutions — Mixed Review . . . 18
4.10 Marking Scheme — Examination-Style Practice . . . 20

5 Part V — Common Mistakes & Learning Tips **22**

6 Part VI — Final Answer Key **23**

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Note

About this booklet. These are the complete solutions to every question in the *Introduction to Algebra — Student Worksheet*. Question numbers match exactly (V1–V6, N1–N6, W1–W7, S1–S7, SM1–SM7, FE1–FE6, E1–E6, A1–A6, the Mixed Review MR1–MR10, and the examination questions Q1–Q8).
Each solution follows the notes' reasoning pattern — identify what is given, state what is required, choose the method *and say why it fits*, work through it, then check. Depth is scaled to difficulty. Part V collects the common mistakes to watch for, and Part VI is a quick answer key for fast marking.

4 Part IV — Complete Solutions

Note

Each solution follows the same reasoning pattern used in the notes: identify what is given, decide what is required, choose the method *and say why it fits*, work through it, then check. Depth is scaled to difficulty — brief for basic questions, fuller for harder ones.

4.1 Solutions — Variables, Constants and Terms

Solution V1

The expression $8x + 5$ has two terms: $8x$ and 5.

(a) Variable: x.

(b) Coefficient of x: 8 (the number multiplying the variable).

(c) Constant term: 5 (the term with no variable).

Solution V2

Terms are separated by the $+$ and $-$ signs: $6a$, $-3b$ and 9.
There are 3 terms, and the constant term is **9**.

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Solution V3

Split $5p^3 - 7p + 2$ into its terms and read off each part:

Term	Variable part	Coefficient
$5p^3$	p^3	5
$-7p$	p	-7
2	none (constant)	—

The expression has 3 terms, and the constant term is 2.

Solution V4

Read each coefficient together with the sign in front of it:

(a) Coefficient of m^2: 9.

(b) Coefficient of m: -1 (since $-m$ means $-1m$).

(c) Coefficient of n: 4.

(d) Constant term: -13.

Solution V5

Rewrite the expression as a sum so that every sign is attached to its own term:

$$4 - 7t = 4 + (-7t).$$

Error 1: the coefficient of t is $-\mathbf{7}$, not 7 — the minus sign belongs to the term $-7t$.
Error 2: the constant term is **4**, not -4 — the 4 is positive and comes first.

Common Mistake

When reading off a coefficient, always take the sign *in front of* the term with it. A useful habit is to rewrite every subtraction as an addition of a negative term before answering.

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Preview ends here

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