

The Panda Math Tutor

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Introduction to Algebra

Solutions & Answer Key

Full worked solutions, marking scheme & answer key

IGCSE Mathematics

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Companion to the *Student Worksheet*

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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**.

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 -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.

Preview ends here

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