

2 Simplifying and expanding – Part 1

Name: _____ Class: _____ Date: _____

Vocabulary

Write each word three times.

English

Write it 3 times (English)

Algebra

term

Like terms

expand

Recall

Algebra uses letters to stand for numbers. A **term** is a single part, like $3a$ or $-b$.

New ideas

Read these first, then do the Practice.

■ 1 Collecting like terms

Like terms have the same letter. You can add or subtract them:

$$\begin{array}{c}
 3a + 2a + 4b - b \\
 \downarrow \text{collect like terms} \\
 5a + 3b
 \end{array}$$

You **cannot** combine unlike terms (e.g. a and b stay separate).

■ 2 Expanding brackets

To **expand** a bracket, multiply each term inside by the term outside:

	x	2	
3	$3x$	6	

$$3(x + 2) = 3x + 6$$

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Watch out: you can only collect **like terms** (same letter) – a and b stay apart. When expanding, multiply the outside term by **every** term inside the bracket, keeping the signs.

Practice

Try these in order.

2.1 Simplify $5a + 3a$. [1]

2.2 Simplify $7x + 2y - 3x + 4y$. [2]

2.3 Expand $4(x + 3)$. [1]

2.4 Expand $2(3x - 5)$. [1]

2.5 Simplify $6p + 2q - p - 5q$. [2]

2.6 Challenge. Expand and simplify $3(x + 2) + 2(x - 1)$.

[3]