

Simplifying Expressions 1

LI

- Simplify expressions involving 1 letter.

SC

- +, - numbers.

An **expression** is any combination
of letters and numbers

Algebra is the study
of expressions

In this course, like terms
are those which have
the same letter

Collecting like terms means
adding and/or subtracting
like terms

Simplifying an expression means to
write the expression with smaller
numbers and/or fewer letters/
numbers; this is often done
by collecting like terms

Example 1

Collect like terms :

$$5a + a = \boxed{6a}$$

Example 2

Simplify the expression :

$$10b + 6b - 5b = \boxed{11b}$$

Example 3

Simplify :

$$20c + 100c - 10c = \boxed{110c}$$

Example 4

Collect like terms :

$$18p + 38p - 8p = \boxed{48p}$$

Example 5

Simplify :

$$5000x - 25x + \text{one thousand } x = \boxed{5975x}$$

Simplify these expressions by collecting like terms :

1) $6a + 5a - 2a - 3a$

2) $4p - 3p + 2p + 6p$

3) $9w + 14w - 7w - 3w$

4) $11z - 8z - 2z + 23z$

5) $15b + 11b - 6b - 7b$

6) $35k - 12k - 18k + 17k$

7) $47h + 67h - 19h - 29h$

8) $198r - 54r - 75r + 99r$

9) $200v + 78v - 79v - 29v$

10) $587x - 46x - 68x + 54x$

11) $2000y - y + \text{forty } y$

12) $1 \text{ million } j - 32j + 2000j$

Answers

1) $6a + 5a - 2a - 3a$ 6a

2) $4p - 3p + 2p + 6p$ 9p

3) $9w + 14w - 7w - 3w$ 13w

4) $11z - 8z - 2z + 23z$ 24z

5) $15b + 11b - 6b - 7b$ 13b

6) $35k - 12k - 18k + 17k$ 22k

7) $47h + 67h - 19h - 29h$ 66h

8) $198r - 54r - 75r + 99r$ 168r

9) $200v + 78v - 79v - 29v$ 170v

10) $587x - 46x - 68x + 54x$ 527x

11) $2000y - y + \text{forty}y$ 2039y

12) $1 \text{ million } j - 32j + 2000j$ 1\,001\,968j