

SIMPLIFYING ALGEBRAIC EXPRESSIONS

When adding and subtracting algebraic expressions, you can only combine **like terms** (that is the algebraic parts that have the same pronumerals).

Be careful that when subtracting terms with brackets, the subtraction must be applied as a negative to each term inside the brackets (as shown in the example below).

Example 1

Simplify each expression by collecting the like terms.

(a) $3x + 2y + 5x - 6y$

(b) $x^2 + 2x - x + 3x^2$

(c) $2(3a - 4b) - 3(a - 5b)$

Solution

(a) $3x + 2y + 5x - 6y$
 $= 3x + 5x + 2y - 6y$
 $= 8x - 4y$

(b) $x^2 + 2x - x + 3x^2$
 $= x^2 + 3x^2 + 2x - x$
 $= 4x^2 + x$

(c) $2(3a - 4b) - 3(a - 5b)$
 $= 6a - 8b - 3a + 15b$
 $= 6a - 3a - 8b + 15b$
 $= 3a + 7b$