

Simplifying by Collecting Like Terms

Simplify:

(a) $x + x + y + y$

(b) $a + a + b + a + b$

(c) $2a + 3a + 4b + 2b$

(d) $4x + x + y + 9y$

(e) $6a + 3b + 2a + b$

(f) $a + 2b + 4a + b + 5a$

(a) $2x + 2y$

(b) $3a + 2b$

(c) $5a + 6b$

(d) $5x + 10y$

(e) $8a + 4b$

(f) $10a + 3b$

Simplify:

(a) $a + a + a - a + b + b$

(b) $5x - 2x + 3y + 4y$

(c) $4c + 7c + 6d - 3d$

(d) $8x - 6x + 3y - 2y$

(e) $7a + 2b - 5a + 6b$

(f) $10x + 8y - 3x - 5y$

(a) $2a + 2b$

(b) $3x + 7y$

(c) $11c + 3d$

(d) $2x + y$

(e) $2a + 8b$

(f) $7x + 3y$

Simplify

(a) $5p - 3q + 2 - 4p + 5 + 4q$

(b) $4x^2 + 5x - 3x^2 - 2x$

(c) $x^2 + y^3 - 2x^2 + 4y^3$

(d) $x^2y + xy + x^2y$

(a) $p + q + 7$

(b) $x^2 + 3x$

(c) $-x^2 + 5y^3$

(d) $xy + 2x^2y$

(a) A rectangle has a width x cm and a length $x + 5$ cm. Write down a simplified expression for its perimeter.

(b) A square has sides of length $2x - 3$ cm. Write down a simplified expression for its perimeter.

(a) $x + x + x + 5 + x + 5$
 $= 4x + 10$

(b) $8x - 12$

A triangle has sides of lengths $ab + 3$, $2ab - 7$ and $4ab + a$ cm. Write a simplified expression for the perimeter of the triangle.

$ab + 3 + 2ab - 7 + 4ab + a$
 $= 7ab + a - 4$