

## Simplifying by Collecting Like Terms

Simplify

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

(b)  $5a + 3a$

(c)  $6b - 4b$

(d)  $4d - 10d$

(e)  $x - 5x + 2x$

(f)  $c + c - 2c$

(g)  $3x + 2x + 3y - y$

(h)  $3a + 5c - a + 2c$

(i)  $p + q - q - p$

(j)  $3x - x + 3 - 2$

(a)  $4x$  (b)  $8a$

(c)  $2b$  (d)  $-6d$

(e)  $-2x$  (f)  $0$

(g)  $5x + 2y$

(h)  $2a + 7c$

(i)  $0$

(j)  $2x + 1$

Simplify

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

(l)  $xy + yx$

(m)  $3cd - 4cd + 2cd$

(n)  $4y^2 - 3y^2$

(o)  $-7ab - ab - 2ab$

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

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

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

(k)  $p + q + 7$

(l)  $2xy$

(m)  $cd$

(n)  $y^2$

(o)  $-10ab$

(p)  $x^2 + 3x$

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

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

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

$4x + 10$

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

$8x - 12$

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

$7ab - 4 + a$