

# EXPANDING BRACKETS

The **distributive law** is used to expand and remove brackets. A term on the outside of the brackets is multiplied by each term inside the brackets.

$$\begin{aligned} a(b + c) &= ab + ac & \text{or} & & a(b - c) &= ab - ac \\ -a(b + c) &= -ab - ac & \text{or} & & -a(b - c) &= -ab + ac \end{aligned}$$

If the number in front of the brackets is negative, the sign of each of the terms inside the brackets will change when expanded.

**Example:**

$$-2(x - 3) = -2x + 6, \text{ since } -2 \times x = -2x \text{ and } -2 \times (-3) = 6.$$

## EXPANDING BRACKETS

Expand  $3(x + 4)$        $3(x + 4) = 3x + 12$

Expand  $5(x - 11)$        $5(x - 11) = 5x - 55$

Expand  $-2(x - 5)$        $-2(x - 5) = -2x + 10$

Expand and collect like-terms

$2 - 3(x - 4)$        $2 - 3(x - 4) = 2 - 3x + 12$

Therefore  $2 - 3(x - 4) = 14 - 3x$