GENERAL QUADRATIC EQUATIONS

To solve $ax^2 + bx + c = 0$, factorise the trinomial if possible.

Example 11

Solve:

(a) $x^2 - 5x + 6 = 0$ **(b)** $2x^2 = x + 3$ **(c)** $x(x - 2) = 3$ **(d)** $(3x + 4)(x - 3) = 16$

Solution

(a)
$$x^2 - 5x + 6 = 0$$
$$(x - 2)(x - 3) = 0$$
$$x = 2 \quad \text{or} \quad x = 3$$

(b)
$$2x^2 = x + 3$$
$$2x^2 - x - 3 = 0$$
$$(2x - 3)(x + 1) = 0$$
$$x = 1.5 \quad \text{or} \quad x = -1$$

(c)
$$x(x - 2) = 3$$
$$x^2 - 2x - 3 = 0$$
$$(x - 3)(x + 1) = 0$$
$$x = 3 \quad \text{or} \quad x = -1$$

(d)
$$(3x + 4)(x - 3) = 16$$
$$3x^2 - 5x - 12 = 16$$
$$3x^2 - 5x - 28 = 0$$
$$(3x + 7)(x - 4) = 0$$
$$x = -2\frac{1}{3} \quad \text{or} \quad x = 4$$