How to Factorise

4 types (OL)
6 types (HL)

1. HCF

$3x^2 + 6xy = 3x(x + 2y)$

2. Grouping

$ab + 5b + 3a + 15$
$b(a+5) + 3(a+5)$
$(b+3)(a+5)$

3. Quadratic

$x^2 + 11x + 30$
$(x + 6)(x + 5)$

+30
(1×30)
$(3)(10)$
$(6)(5)$ try

6x
5x
11x ✓

4. D.O.T.S.

$a^2 - b^2 = (a+b)(a-b)$

$36x^2 - 25y^2$
$(6x - 5y)(6x + 5y)$

(HL)

5. DOTC

$a^3 - b^3 = (a-b)(a^2 + ab + b^2)$

6. SOTC

$a^3 + b^3 = (a+b)(a^2 - ab + b^2)$

Quadratic Formula

Use the quadratic formula to find the roots of the equation $5x^2 + 7x - 3 = 0$, correct to two decimal places.

$$ax^2 + bx + c = 0$$
$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$a = 5$
$b = 7$
$c = -3$

$$x = \frac{-(7) \pm \sqrt{(7)^2 - 4(5)(-3)}}{2(5)}$$