

How to Factorise

4 types (OC)
6 types (HC)

(1) HCF

(2) Grouping

(3) Quadratic

$$\begin{array}{l} +30 \\ (1)(30) \\ (3)(10) \\ (6)(5) \end{array}$$

try

$$\begin{array}{r} 6x \\ 5x \\ \hline 11x \end{array}$$

(4) D.O.T.S.

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

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

$$\begin{aligned} ab + 5b + 3a + 15 &= \\ b(a+5) + 3(a+5) &= \\ (b+3)(a+5) &= \end{aligned}$$

$$\begin{aligned} x^2 + 11x + 30 &= \\ (x+6)(x+5) &= \end{aligned}$$

$$36x^2 - 25y^2$$

$$(6x-5y)(6x+5y)$$

(H)

(5) D O T C
(6) S O T C

$$\begin{aligned} a^3 - b^3 &= (a-b)(a^2 + ab + b^2) \\ a^3 + b^3 &= (a+b)(a^2 - ab + b^2) \end{aligned}$$

Quadratic Formula

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

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

$$a = 5$$

$$b = 7$$

$$c = -3$$

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