

$x = -\frac{b}{2a} \pm \sqrt{\frac{b^2 - 4ac}{4a^2}}$	Simplify the surd	$x + \frac{b}{2a} = \pm \sqrt{\frac{b^2 - 4ac}{4a^2}}$	Rearrange to make x the subject
Divide through by a	Complete the square	$\left(x + \frac{b}{2a}\right)^2 = \frac{b^2}{4a^2} - \frac{c}{a}$	Write the fraction on the R.H.S. as a single fraction
$\left(x + \frac{b}{2a}\right)^2 = \frac{b^2 - 4ac}{4a^2}$	Take the square root of both sides	$x = -\frac{b}{2a} \pm \frac{\sqrt{b^2 - 4ac}}{2a}$	Finish with $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
Combine the remainder and the constant term $-\frac{b^2}{4a^2} + \frac{c}{a}$	Rearrange to separate the completed square giving . . .	<b>Start</b>	Consider $ax^2 + bx + c = 0$