

Start

Consider
 $ax^2 + bx + c = 0$

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