Use the Quadratic Formula, 
$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$
, with  $a = 1, b = 3$ , and  $c = 1$ :  
 $x = \frac{-3 \pm \sqrt{3^2 - 4(1)(1)}}{2 \cdot 1} = \frac{-3 \pm \sqrt{9 - 4}}{2} = \frac{-3 \pm \sqrt{5}}{2} = \frac{-3 \pm \sqrt{5}}{2}$