

Factorising is the opposite of expanding brackets in an expression.

One way of factorising quadratics is to use the St Andrews Cross method.

To factorise $x^2 + 3x + 2$, first find the factors of x^2 , and put these on the left of the cross, so x and x .

Find the factors of the constant term, which is two, that also add to make the x term, in this case three.

So, the factors here are two and one.

Put these values on the right of the cross.

The terms across the top go in the first bracket, $x + 2$, and the terms across the bottom go in the second bracket, $x + 1$.

$3x^2 - x - 4$ is a trickier example as it includes a multiple of x^2 and negative terms.

In this case, the factors for $3x^2$ are $3x$ and x .

There are lots of factor pairs for negative four. The pair that fits are negative four and one because they multiply to give negative four x plus three x which add to get the middle term, negative x .

Put these in the cross and transfer to the brackets.

$3x - 4$ and $x + 1$.