3. Factorising Quadratics: Reuse the Grouping Method

Guide Number →

+6

6×1

-6×-1

3×2

-3×-2

$x^2 - 5x + 6$
$x^2 - 3x - 2x + 6$
$x(x - 3) - 2(x - 3)$
$(x - 3)(x - 2)$

	x	***– 3***
x	x^2	***– 3x***
-2	***-2x***	***+6***

The factors are (x - 3) (x – 2)

→

-42

$\pm$ { 1×42, 2×21, 3×14, 6×7

$2x^2 - 11x - 21$
$2x^2 - 14x + 3x - 21$
$2x(x - 7) + 3(x - 7)$
$(2x + 3)(x - 7)$

	x	***– 7***
2x	$2x^2$	***– 14x***
+3	***+3x***	***-21***

The factors are (2x + 3) (x – 7)

Over to you

Factorise the following quadratic using grouping: $3x^2 - 17 + 20$