FACTORISING

Please check your answers by multiplying out the brackets and simplifying. You SHOULD always end up back where you started.

Quick reminder: First terms in brackets multiply to give first term in quadratic.

Second terms in brackets multiply to give last term in quadratic.

Example: $x^2 - 6x - 7$ First terms in brackets MUST be $x \; and \; x$ $\gg\gg\gg$ $(x \quad)(x \quad)$

Second terms in brackets MUST be $1 \; and \; 7$ $\gg\gg\gg$ $(x \quad 1 \;)(x \quad 7)$

Looking for a " -6" in the centre so MUST be $+1 \quad and - 7$

As $+ \; 1 - \; 7$ = " -6" $\gg\gg\gg\gg\gg$ $(x \; + \; 1 \;)(x \; - \; 7)$

Now try these

$x^2 + 8x + 7$	$x^2 + 6x + 5$	$x^2 + 12x + 11$	$x^2 - 4x + 5$	$x^2 - 6x - 7$
$x^2 + 5x + 6$	$x^2 - 5x + 6$	$x^2 + 5x - 6$	$x^2 - 5x - 6$	$x^2 - 7x + 6$
$x^2 + 2x - 3$	$x^2 + 7x + 10$	$x^2 - 10x - 24$	$x^2 - 24x + 80$	$x^2 - 24x + 23$
$x^2 - 8x - 9$	$x^2 + 8x - 20$	$x^2 - 2x + 1$	$x^2 + 13x - 30$	$x^2 - 6x - 16$

SOLUTIONS – THE ORDER OF THE FACTORS DOES NOT MATTER (x + 1)(x − 3) = (x − 3)(x + 1)

$(x+1)(x+7)$	$(x+1)(x+5)$	$(x+1)(x+11)$	$(x-1)(x+5)$	$(x+1)(x-7)$
$(x+2)(x+3)$	$(x+1)(x-6)$	$(x-1)(x+6)$	$(x-2)(x-3)$	$(x-6)(x-1)$
$(x+3)(x-1)$	$(x+5)(x+2)$	$(x-12)(x+2)$	$(x-20)(x-4)$	$(x-23)(x-1)$
$(x-9)(x+1)$	$(x-2)(x+10)$	$(x-1)^2$	$(x+15)(x-2)$	$(x-8)(x+2)$