

<p>Split the middle term</p> $ax^2 + bx + c$ <p>1st multiply a and c together.</p> <p>2nd find numbers that multiply to get the product from above that add to get b.</p> <p>3rd replace (or split) the middle term with the 2 numbers from step 2.</p> <p>4th Group the first 2 terms together and group the second terms together</p> <p>5th Find the GCF of each set of Parenthesis</p> <p>6th Write as a product of linear factors</p>	$4x^2 + 9x + 2$ $9x^2 + 12x + 4$ $4x^2 - 4x - 35$ $10x^2 + 3x - 4$ $(10x^2 - 5x) + (8x - 4)$ $\underline{5x(2x-1)} + \underline{4(2x-1)}$ $(5x+4)(2x-1)$	$6x^2 - 11x + 4$ $12x^2 - 25x + 7$ $6x^2 + 13x - 25$ $25x^2 - 20x + 4$ $(25x^2 - 10x)(10x + 4)$ $5x(5x-2) - 2(5x-2)$ $(5x-2)(5x-2)$ $(5x-2)^2$
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Both GCF and Split the middle term	$4x^2 - 2x - 20$ $2(2x^2 - x - 10)$ $(2x^2 + 4x)(-5x - 10)$ $2x(x+2) - 5(x+2)$ $2(2x-5)(x+2)$	$-3x^2 + 12x + 15$ $-3(x^2 - 4x - 5)$ $-3(x-5)(x+1)$ $2(6x^2 + 5x - 4)$	$\frac{-5}{-5 \cdot 1}$
$\frac{144}{-12 \cdot -12}$	$8x^2 - 28x - 60$ $4(2x^2 - 7x - 15)$ $(2x^2 - 10x) + (3x - 15)$ $2x(x-5) + 3(x-5)$ $4(2x+3)(x-5)$	$12x^2 + 10x - 8$ $(12x^2 - 6x) + (16x - 8)$ $6x(2x-1) + 8(2x-1)$ $(6x+8)(2x-1)$ $2(3x+4)(2x-1)$	$-6 \cdot 16$
Special Cases	$112x^2 - 168x + 63$ $7(16x^2 - 24x + 9)$ $(16x^2 - 12x)(-12x + 9)$ $4x(4x-3) - 3(4x-3)$ $7(4x-3)(4x-3)$	$x^2 - 49$	
Difference of squares	$x^2 - 25$ $7(4x-3)^2$		
	$4x^2 - 9$	$9x^2 - 1$	