Factoring Polynomials

Number of Terms	Factoring Technique		Example
2 or more	greatest common factor		$3x^3+6x^2-15x$ $3x(x^2+2x-3)$
2	difference of squares	$a^2-b^2=(a+b)(a-b)$	$4x^2-25$ $(2x+5)(2x-5)$
3	perfect square trinomials	$(a+b)^2=a^2+2ab+b^2$ $(a-b)^2=a^2-2ab+b^2$	x^2+6x+9 $(x+3)^2$ $4x^2-4x+1$ $(2x-1)^2$
	x^2+bx+c	$x^2+bx+c=(x+m)(x+n)$ where $m\cdot n=c$ and $m+n=b$.	$x^2-9x+20$ $(x-5)(x-4)$
	ax^2+bx+c	guess and check!	$6x^2-x-2$ $(3x-2)(2x+1)$
4 or more	factoring by grouping	$ax+bx+ay+by$ $x(a+b)+y(a+b)$ $(x+y)(a+b)$	$3xy-6y+5x-10$ $3y(x-2)+5(x-2)$ $(x-2)(3y+5)$