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How to factorise a cubic polynomial (Method 2)

If $f(x)$ is a polynomial and $f(p)=0$ then $x-p$ is a factor of $f(x)$ or If $f(x)$ is a polynomial and $f(-q)=0$ then $x+q$ is a factor of $f(x)$	
factorise $2x^3 - 3x^2 - 11x + 6$	$f(x) \equiv (x+2)(2x^2 + bx + 3)$
let $f(x) \equiv 2x^3 - 3x^2 - 11x + 6$	Compare x^2 terms
$\therefore f(1) = 2(1)^3 - 3(1)^2 - 11(1) + 6$ $= -6$	$bx^2 + 4x^2 \equiv -3x^2$
$\therefore f(-1) = 12, f(2) = -12$	$\therefore b + 4 = -3$
$\therefore f(-2) = 2(-2)^3 - 3(-2)^2 - 11(-2) + 6$ $= 0$	$\therefore b = -7$
$\therefore x+2$ is a factor	$\therefore f(x) \equiv (x+2)(2x^2 - 7x + 3)$
$\therefore f(x) \equiv (x+2)(?)$	$\equiv (x+2)(2x-1)(x-3)$

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