

# Fill in the Blanks

# Expanding Harder Brackets

Double Brackets Form	Grid				Expanded Form	Simplified Expanded Form
$x(x^2 + 2x + 3)$	×	$x^2$	$+2x$	$+3$	$x^3 + 2x^2 + 3x$	$x^3 + 2x^2 + 3x$
	$x$	$x^3$	$+2x^2$	$+3x$		
$2x(x^2 - x + 4)$	×	$x^2$	$-x$	$+4$	$2x^3 - 2x^2 + 8x$	$2x^3 - 2x^2 + 8x$
	$2x$	$2x^3$	$-2x^2$	$+8x$		
$(x + 1)(x^2 + 3x + 2)$	×	$x^2$	$+3x$	$+2$	$x^3 + 3x^2 + 2x + x^2 + 3x + 2$	$x^3 + 4x^2 + 5x + 2$
	$x$	$x^3$	$+3x^2$	$+2x$		
	$+1$	$+x^2$	$+3x$	$+2$		
$(x + 2)(x^2 + 4x - 3)$	×	$x^2$	$+4x$	$-3$	$x^3 + 4x^2 - 3x + 2x^2 + 8x - 6$	$x^3 + 6x^2 + 5x - 6$
	$x$	$x^3$	$+4x^2$	$-3x$		
	$+2$	$+2x^2$	$+8x$	$-6$		
$(x - 4)(x^2 - x + 5)$	×	$x^2$	$-x$	$+5$	$x^3 - x^2 + 5x - 4x^2 + 4x - 20$	$x^3 - 5x^2 + 9x - 20$
	$x$	$x^3$	$-x^2$	$+5x$		
	$-4$	$-4x^2$	$+4x$	$-20$		

$(x + 5)(2x^2 + x - 1)$	×	$2x^2$	$+x$	$-1$	$2x^3 + x^2 - x + 10x^2 + 5x - 5$	$2x^3 + 11x^2 + 4x - 5$
	$x$	$2x^3$	$+x^2$	$-x$		
	$+5$	$+10x^2$	$+5x$	$-5$		
$(x - 3)(3x^2 + 2x - 1)$	×	$3x^2$	$+2x$	$-1$	$3x^3 + 2x^2 - x - 9x^2 - 6x + 3$	$3x^3 - 7x^2 - 7x + 3$
	$x$	$3x^3$	$+2x^2$	$-x$		
	$-3$	$-9x^2$	$-6x$	$+3$		
$(2x + 1)(x^2 - 5x + 2)$	×	$x^2$	$-5x$	$+2$	$2x^3 - 10x^2 + 4x + x^2 - 5x + 2$	$2x^3 - 9x^2 - x + 2$
	$2x$	$2x^3$	$-10x^2$	$+4x$		
	$+1$	$+x^2$	$-5x$	$+2$		
$(3x - 2)(6 - 3x - x^2)$	×	$6$	$-3x$	$-x^2$	$18x - 9x^2 - 3x^3 - 12 + 6x + 2x^2$	$-3x^3 - 7x^2 + 24x - 12$
	$3x$	$18x$	$-9x^2$	$-3x^3$		
	$-2$	$-12$	$+6x$	$+2x^2$		
$(7 - 2x)(6 - x - 3x^2)$	×	$6$	$-x$	$-3x^2$	$42 - 7x - 21x^2 - 12x + 2x^2 + 6x^3$	$6x^3 - 19x^2 - 19x + 42$
	$7$	$42$	$-7x$	$-21x^2$		
	$-2x$	$-12x$	$+2x^2$	$+6x^3$		