

Expanding Triple Brackets Mark Scheme

1	$= (x^2 + 5x + 6)(x + 4)$	[1] – Multiplication of first double bracket
	$= x^3 + 5x^2 + 6x + 4x^2 + 20x + 24$	[1] - Expansion of all brackets
	$= x^3 + 9x^2 + 26x + 24$	[1] – Collecting like terms
2	$= (m^2 + m - 2)(m + 5)$	[1] – Multiplication of first double bracket
	$= m^3 + m^2 - 2m + 5m^2 + 5m - 10$	[1] - Expansion of all brackets
	$= m^3 + 6m^2 + 3m - 10$	[1] – Collecting like terms
3	$= (y^2 - 8y + 12)(y - 2)$	[1] – Multiplication of first double bracket
	$= y^3 - 8y^2 + 12y - 2y^2 + 16y - 24$	[1] - Expansion of all brackets
	$= y^3 - 10y^2 + 28y - 24$	[1] – Collecting like terms
4	$= (3x^2 + 8x + 5)(4 + x)$	[1] – Multiplication of first double bracket
	$= 12x^2 + 32x + 20 + 3x^3 + 8x^2 + 5x$	[1] - Expansion of all brackets
	$= 3x^3 + 20x^2 + 37x + 20$	[1] – Collecting like terms
5	$= -((2x^2 + 7x - 15)(y + 3))$	[1] – Expansion of first brackets
	$-(2x^2y + 7xy - 15y + 6x^2 + 21x - 45)$	[1] – Expansion of all brackets
	$-2x^2y - 7xy + 15y - 6x^2 - 21x + 45$	[1] – Correct signs used
6	Area of face $= \frac{1}{2}(2x - 2)(x + 3)$	
	$= \frac{1}{2}(2x^2 + 4x - 6)$	[1] – Area of Triangle formula used
	$= x^2 + 2x - 3$	[1] - Expansion of brackets
	Volume of prism $= (x^2 + 2x - 3)(2x + 4)$	[1] – Volume of prism with correct terms substituted in
	$= 2x^3 + 4x^2 - 6x + 4x^2 + 8x - 12$	[1] – Expansion of all brackets
	$= 2x^3 + 8x^2 + 2x - 12$	[1] – Collecting like terms

END