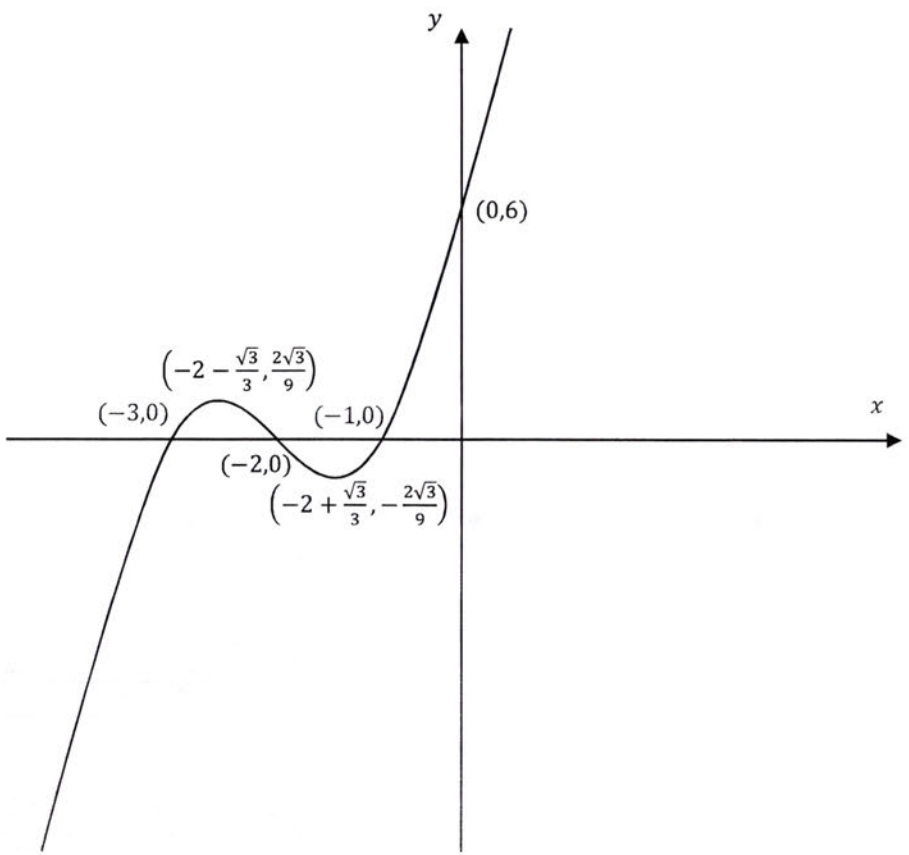
4(a)	y-intercept is $(0,6)$	M1
	Finds 1 factor via the factor theorem e.g. $(x+1)$	M1
	Polynomial division to a quadratic e.g. $y=(x+1)(x^2+5x+6)$	M1
	$y=(x+1)(x+2)(x+3)$ so x-intercepts are $(-1,0)$, $(-2,0)$, $(-3,0)$	M1
	$\frac{dy}{dx}=3x^2+12x+11=0$ at turning points.	M1
	Turning points at $x=-2\pm\frac{\sqrt{3}}{3}$	M1
	Turning points at $y=\pm\frac{2\sqrt{3}}{9}$	
	The sketch can now be produced,  	B1 For general shape B1 For correctly labelled x-intercepts and y-intercepts B1 For correctly labelled turning points
		[9]

4(b)	Deduction that A and C are < 0	M1 Accept correct calculation of A and C
	$\int x^3 + 6x^2 + 11x + 6 \, dx = \frac{1}{4}x^4 + 2x^3 + \frac{11}{2}x^2 + 6x + c$	M1
	$B = \left(\frac{1}{4}(-2)^4+2(-2)^3+\frac{11}{2}(-2)^2+6(-2)\right) - \left(\frac{1}{4}(-3)^4+2(-3)^3+\frac{11}{2}(-3)^2+6(-3)\right)$	M1
	$D = \left(\frac{1}{4}(0)^4+2(0)^3+\frac{11}{2}(0)^2+6(0)\right) - \left(\frac{1}{4}(-1)^4+2(-1)^3+\frac{11}{2}(-1)^2+6(-1)\right)$	
	$B = 0.25$ and $D = 2.25$	M1
	D is the largest	B1
		[5]
		[14 marks]