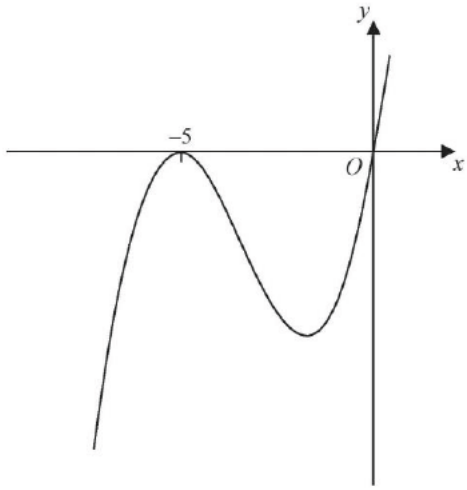
Question	Scheme	Marks	AOs
13(a)	$x^3+10x^2+25x=x(x^2+10x+25)$	M1	1.1b
	$=x(x+5)^2$	A1	1.1b
		(2)	
(b)	 A cubic with correct orientation Curve passes through the origin (0, 0) and touches at (− 5, 0) (see note below for ft)	M1	1.1b
		A1ft	1.1b
		(2)	
(c)	Curve has been translated a to the left	M1	3.1a
	$a = -2$	A1ft	3.2a
	$a = 3$	A1ft	1.1b
		(3)	
			(7 marks)

Notes:

(a)

M1: Takes out factor x

A1: Correct factorisation – allow $x(x + 5)(x + 5)$

(b)

M1: Correct shape

A1ft: Curve passes through the origin (0, 0) and touches at (− 5, 0) – allow follow through from incorrect factorisation

(c)

M1: May be implied by one of the correct answers for a or by a statement

A1ft: ft from their cubic as long as it meets the x-axis only twice

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