15	(a)	$(2x + 5)(x + 1) = 2x^2 + 2x + 5x + 5$ $(= 2x^2 + 7x + 5)$ **or** $(x + 1)(3 – x) = –x^2 + 3x – x + 3$ $(= –x^2 + 2x + 3)$ **or** $(3 – x)\ (2x + 5) = –2x^2 + 6x – 5x + 15$ $(= –2x^2 + x + 15)$		3	M1 for multiplying out two brackets correctly at least 3 terms correct	M2 for at least 4 terms correct out of a maximum of 8 terms $6x^2 –2x^3 + 6x – 2x^2 + 15x – 5x^2 +15 – 5x$
		E.g. $[(2x^2 + 7x + 5)(3 – x) =]$ $–2x^3 – 7x^2 – 5x + 6x^2 + 21x + 15$ **or** $[(–x^2 + 2x + 3)(2x + 5) =]$ $–2x^3 – 5x^2 + 10x + 4x^2 + 6x + 15$ **or** $[(–2x^2 + x + 15)(x + 1) =]$ $–2x^3 – 2x^2 + 15x + x^2 + x + 15$			M1 for at least 3 terms correct out of a maximum of 6 terms **or** for at least 4 terms correct out of a maximum of 8 terms	
			Shown		A1	

15	(b)	$\left(\frac{dV}{dx}=\right)16-2x+\left(3\times-2x^2\right)$ oe		5	M1 for the correct differentiation of at least 2 correct terms from 16 **or** $-2x$ **or** $(3\times-2x^2)$
		$\left(\frac{dV}{dx}=\right)16-2x-6x^2$ oe			A1 for a correct differentiated expression
		$'16-2x-6x^2{}'=0$ oe			M1 (dep on M1) for equating their differentiated expression to zero
		E.g. $(x=)\ \frac{-2\pm\sqrt{2^2-4\times6\times-16}}{2\times6}$ oe (accept + in place of ±) or E.g. $6\left(\left(x+\frac{1}{6}\right)^2-\left(\frac{1}{6}\right)^2\right)-16(=0)$ oe			M1 (dep on M1) for a complete method to solve their 3-term quadratic equation (allow one sign error and some simplification – allow as far as $\frac{-2\pm\sqrt{4+384}}{12}$)
			1.47		A1 dep on M1 for answer in range 1.47 – 1.5 from correct working (Must reject −1.80 to −1.81 if calculated)
					Total 8 marks