11	(a)			2	M1	for at least 2 of $12x^2$, $2x$, -20
			$12x^2 + 2x - 20$		A1	
	(b)	$12x^2 + 2x - 20 = 4$ oe		4	M1	ft, for equating their dy/dx to 4
		$12x^2 + 2x - 24\ (= 0)$ **or** $6x^2 + x - 12\ (= 0)$			M1	(dep on M1) ft their dy/dx in the form $ax^2 + bx\ (+ c)$
		eg $(6x - 8)(2x + 3)\ (= 0)$ **or** $(3x - 4)(2x + 3)\ (= 0)$ **or** $x = \frac{-2 \pm \sqrt{(2)^2 - (4 \times 12 \times -24)}}{2 \times 12}$			M1	for solving their three-term quadratic equation using any correct method - if factorising, allow brackets which expanded give 2 out of 3 terms correct (if using formula or completing the square allow one sign error and some simplification – allow as far as eg $\frac{-2 \pm \sqrt{4 + 1152}}{24}$ oe)
		Working required	$\frac{4}{3}, -\frac{3}{2}$		A1	(dep on M2) oe, allow 1.33(3...) for $\frac{4}{3}$, both values – isw any attempt to find y coordinates
						Total 6 marks

12	(a)		28	1	B1	allow 27.5 − 28.5
	(b)		14	1	B1	cao
	(c)			2	M1	for a reading of 38 from vertical axis **or** 50 – (their reading from a height of 35)
		Correct answer scores full marks (unless from obvious incorrect working)	12		A1	cao
						Total 4 marks