8(a)	$(x-4)^2-19$	2	M1: $(x-4)^2$ seen
(b)	(4, -19)	1	f.t. (a)
		[3]	
9	318 – 319	4	M3: $\pi \times 6.3 \times (16-16.1)$
	Answer 316 – 317 scores M3		M2: 16 – 16.1 seen or $\sqrt{14.8^2+6.3^2}$
			M1: $14.8^2 \pm 6.3^2$ plus M1 for clear attempt at $\pi \times 6.3 \times$ their l $(l \neq 14.8)$
		[4]	
10(a)	$x(80-2x)$ o.e. i.s.w.	1	
(b)	7.4 and / or 32.6	4	M3: correct subst into quad form
			M2: $x^2-40x+241(=0)$ or equiv (eg x2)
			M1: their (a) = 482
		[5]	
11	124 –124.4	3	M2: $\sin L = \dfrac{18.5\sin 85}{21}$ or 61 – 61.4 seen
			M1: $\dfrac{\sin L}{18.5} = \dfrac{\sin 85}{21}$ or 85 seen. Acc their F vice 85 for M marks
		[3]	
12	Ruled line of best fit drawn	1	
	a = 1.5 to 2.0	1	can award if no line
	b = their s intercept f.t.	1	cannot award without intercept (tol +/- 0.2)
		[3]	
13(a)	Valid comment	1	
(b)	Stratified / proportional method	1	Quota (sample).
	For example $\frac{153}{690} \times 100$ or 22 seen	1	(7, 22) (8, 22 / 23) (9, 23) (10, 18) (11, 14)
		[3]	
14	$\frac{3}{2}\mathbf{a} - \frac{1}{2}\mathbf{b}$	4	M3: (via O) $-\frac{1}{2}(\mathbf{a}+\mathbf{b})+2\mathbf{a}$ o.e.
			(via A) $\frac{1}{2}(\mathbf{a}-\mathbf{b})+\mathbf{a}$ o.e.
			(via B) $\frac{1}{2}(\mathbf{b}-\mathbf{a})-\mathbf{b}+2\mathbf{a}$ o.e.
			M2: above with ***XO, BA, AB***
			or $\frac{1}{2}(\mathbf{a}+\mathbf{b})$, $\frac{1}{2}(\mathbf{a}-\mathbf{b})$, $\frac{1}{2}(\mathbf{b}-\mathbf{a})$ seen
		[4]	M1: $(\mathbf{a}-\mathbf{b})$, $(\mathbf{b}-\mathbf{a})$ seen

Total for Section B 25