14	(a)	*Correct answer scores full marks (unless from obvious incorrect working)*	117	1	B1	Accept 117 – 117.5
	(b)	Readings are [112, 112.5] and [128, 129]		2	M1	for a correct method to get 2 readings on the weight axis from CF 15 (or 15.25) **and** CF 45 (or 45.75) – **must obtain 2 readings** a correct method means there are lines or marks indicating use of CF 15 (or 15.25) and CF 45 (or 45.75) to obtain readings on the weight axis (even if scale wrongly read) method implied by readings in range
		Correct answer scores full marks (unless from obvious incorrect working)	16		A1	accept 15.5 – 17
						Total 3 marks

15	$\frac{80}{360}\times\pi\times r^2 = 32\pi$ oe		4	M1 for forming a correct equation, allow use of any variable NB: treat consistent use of 32 instead of 32π as the area as a misread (all M marks available)
	$(r=)\sqrt{\frac{32\pi\times 360}{80\times\pi}}$ $(=\sqrt{144}=12)$			M1 for a correct method to solve for *r* NB: misread of the area as 32 gives *r* = 6.7(7…)
	$\frac{80}{360}\times 2\times\pi\times"12"$ $\left(=\frac{16}{3}\pi=16.7(551...)\right)$ oe			M1 substitution of *r* from a correct method to find the arc length NB: misread of the area as 32 gives arc length = awrt 9.5
	Correct answer scores full marks (unless from obvious incorrect working).	40.8		A1 allow an answer in the range 40.7 – 40.8
				Total 4 marks