Question Number	Scheme	Marks
4(a)	Use of $\frac{335.6}{28} \pm 2.3263 \times \frac{0.9}{\sqrt{28}}$	M1B1
	$= (11.590..., 12.381...)$ **awrt (11.6, 12.4)**	A1A1
		(4)
(b)	The **weights** are normally distributed	B1
		(1)
(c)	As 12 is in the CI there is insufficient evidence against the manufacturer's claim	B1ft
		(1)
(d)	$\frac{5.07-5}{\frac{0.3}{\sqrt{n}}} = 1.19$	M1B1
	$\sqrt{n} = \frac{"1.19" \times 0.3}{0.07}$ (o.e)	dM1
	$[n =] 26$	A1
		(4)

	Notes	Total 10
(a)	**M1**	For use of correct expression with 0.9, 28 and $1 < z < 3$ Ignore their value for $\bar{x}$
	B1	For $z = 2.3263$ or better (calc: 2.326347931)
	1st A1	For awrt 11.6 or awrt 12.4 (must come from awrt 2.33)
	2nd A1	For awrt 11.6 and awrt 12.4 (must come from awrt 2.33)
	Note	M1B0A1A1 is possible
(b)	**B1**	For a suitable comment referring **weights** being normally distributed. It is a normal distribution – B0 Any comments implying not being normally distributed – B0
(c)	**B1ft**	Comment suggesting claim is accepted / true (o.e) and that **12** is in the CI ft on their confidence interval. 12 needs to be seen. It is in the confidence interval and claim is accepted / rejected (o.e) B0. "awrt 11.6 < 12 < awrt 12.4" is equivalent to 12 is in the confidence interval.
(d)	**M1**	For correct standardisation using 5.07, 5 and $\frac{0.3}{\sqrt{n}}$ (o.e) set equal to $1 < z < 3$. Allow $\pm$ provided the signs are compatible.
	B1	awrt 1.19
	dM1	Dependent on 1st method mark. For rearranging to and equation in which n can be found e.g. $\sqrt{n} = \frac{"1.19" \times 0.3}{0.07}$, $\frac{0.3}{n} = "\frac{1}{289}"$ or equivalents. Implied by $n = 26$
	A1	cao (Correct answer with no incorrect work seen 4/4)