Question Number	Scheme	Marks
6(a)	$H_0 : \mu = 280$ $H_1 : \mu > 280$	B1
	$z = \frac{290-280}{70/\sqrt{125}}$ or $\frac{c-280}{70/\sqrt{125}} = 1.6449$	M1
	$=1.597\ldots$ $c = 290.299$	
	CV = 1.6449	B1
	Not significant / accept H_0 / not in the critical region	M1
	There is insufficient evidence to support Baako's claim	A1cso
		(5)
(b)	$H_0 : \mu_f = \mu_w + 100$ $H_1 : \mu_f > \mu_w + 100$	B1
	$z = \frac{410-290-100}{\sqrt{\frac{90^2}{300}+\frac{60^2}{200}}}$	M1 M1
	$= 2.9814\ldots$	A1
	CV = 2.5758	B1
	Significant / reject H_0 / accept H_1 / in the critical region	M1
	There is sufficient evidence to support Ayodele's claim	A1cso
		(7)
(c)	(i) The plants to receive fertiliser are allocated **randomly**	B1
	(ii) [n is sufficiently large that the CLT holds so that the] standard deviation of sample $\approx$ standard deviation of population	B1
		(2)
		Total 14

(a)	**B1**	Both hypotheses correct in terms of μ
	M1	Standardising with 290, 280 and $\frac{70}{\sqrt{125}}$ (or awrt 6.26)
	B1	CV 1.64(49) or better (or p = awrt 0.055)
	M1	For a correct non-contradictory non-contextual statement (may be implied)
	A1cso	Fully correct solution with a correct comment in context dep upon all previous marks in (a)
(b)	**B1**	Both hypotheses correct – must be clear which is μ_f and μ_w NB: If use t-test send to review
	M1	for $\pm\frac{410-290}{\sqrt{\frac{90^2}{300}+\frac{60^2}{200}}}$ ie ignore incorrect or missing 100
	M1	for $\pm\frac{410-290\pm100}{\sqrt{\frac{90^2}{300}+\frac{60^2}{200}}}$
	A1	Awrt $\pm$ 2.98
	B1	CV ± 2.5758 (condone awrt 2.58) and compatible sign with their test statistic (or p = awrt 0.0014)
	M1	Correct non-conflicting comment following from their test statistic and their critical value
	A1cso	Fully correct solution with a correct comment in context dep upon all previous marks in (b)
(c)	**B1**	Idea that plants allocated at random to be given fertiliser
	B1	Realising that they need the sd of the population