Question Number	Scheme	Marks
4 (a)	$2\times\text{awrt } 2.5758\times\text{SE}=0.964-0.9$ or $\text{awrt } 2.5758\times x=0.032$	M1 B1
	$\Rightarrow\dfrac{0.964-0.9}{2\times\text{awrt } 2.5758}\left[=0.0124\right]*$ or $x=\dfrac{0.032}{\text{awrt } 2.5758}\left[=0.0124\right]*$	A1*
		(3)
(b)	$\left[\overline{x}=\right]\dfrac{0.964+0.9}{2}\left[=0.932\right]$ or $\left[\overline{x}=\right]0.964-'2.5758'\times0.0124[=\text{awrt}0.932]$ or $\left[\overline{x}=\right]0.9+'2.5758'\times0.0124[=\text{awrt}0.932]$	M1
	$'0.932'\pm1.96\times0.0124$	M1 B1
	$(0.9076...,\ 0.9563...)$ awrt $(0.908,\ 0.956)$	A1
		(4)
(c)	$2\times z\times0.0124=0.04$	M1
	$z=1.612...$ awrt 1.61	A1
	$\text{P}(Z>'1.61')=\text{P}(Z<-'1.61')=1-'0.9463'$	M1
	$=0.0537$ (Calculator gives 0.05371….) awrt 0.0537	
	Confidence level $=\left[100\times\right](1-2\times'0.0537')$ or $\left[100\times\right]('0.9463'\times2-1)$	M1
	$=89.26$ awrt 89.3	A1
		(5)

	Notes	Total 12
(a)	**M1**	For $2\times z$ value $\times\text{SE}=0.964-0.9$ oe or z value × x = 0.032 oe where $2<z<3$ May be implied by $\dfrac{0.964-0.9}{2\times\text{awrt } 2.5758}$ or $\dfrac{0.032}{\text{awrt } 2.5758}$
	B1	awrt 2.5758
	A1*	Answer is given so no incorrect working must be seen. Must be at least one line of correct working between M1 and the final answer. Must use awrt 2.5758 May be implied by awrt 0.01242…
(b)	**M1**	Accept awrt 0.932 to imply a correct method. If using a z value, then this must be awrt 2.5758 or consistent with the z value used in part (a)
	M1	For $\overline{x}\pm z$ value $\times0.0124$ ft their $\overline{x}$ and where $1.5<z<2$
	B1	awrt 1.96
	A1	for (awrt 0.908, awrt 0.956) Allow awrt $0.908<\mu<$ awrt 0.956
(c)	**M1**	For $2\times z\times0.0124=0.04$ oe May be implied by awrt 1.61
	A1	For z = awrt 1.61
	M1	For awrt 0.946 or awrt 0.947 or awrt 0.053 or awrt 0.054 **NB awrt 0.946 or or awrt 0.947 or awrt 0.053 or awrt 0.054 scores M1A1M1**
	M1	For $\left[100\times\right](1-2\times'0.0537')$ or $\left[100\times\right]('0.9463'\times2-1)$ ft their $\text{P}(Z>'1.61')$ (May be implied by 89.26 or awrt 89.2 or awrt 89.3 or 0.8926 or awrt 0.892 or awrt 0.893)
	A1	For awrt 89.3 **NB** An answer of 89.2 or 89 can score M1A1M1M1A0