Question Number	Scheme	Marks
5(a)	$\left[\dfrac{24.7034+26.8966}{2}=\right]25.8$	B1 (1)
(b)	$26.8966-24.7034=2\times1.6449\times\dfrac{\sigma}{\sqrt{36}}$ oe or $26.8966-"25.8"=1.6449\times\dfrac{\sigma}{\sqrt{36}}$ oe or $"25.8"-24.7034=1.6449\times\dfrac{\sigma}{\sqrt{36}}$ oe	M1B1
	$\dfrac{6(26.8966-24.7034)}{2(1.6449)}=\sigma$ oe or $\dfrac{6(26.8966-25.8)}{1.6449}=\sigma$ oe or $\dfrac{6(25.8-24.7034)}{1.6449}=\sigma$ oe or $\dfrac{3.2898}{6}\sigma=2.1932$ oe or $\dfrac{\sigma}{6}=\dfrac{2}{3}$ oe leading to $\sigma=4$*	A1*
		(3)
(c)	$2\times z\times\dfrac{4}{\sqrt{36}}=1.6$ oe	M1
	$z=1.2$	A1
	$P(Z>1.2)=0.1151$ or $P(Z<1.2)=0.8849$	M1
	Confidence level = $100\times(1-2\times0.1151)$ or $100\times(2\times0.8849-1)$	M1
	= 77 awrt 77	A1
		(5)
(d)	$2\times1.6449\times\dfrac{4}{\sqrt{n}}<0.6$ oe	M1
	$\sqrt{n}>\dfrac{8\times1.6449}{0.6}\left[\Rightarrow\sqrt{n}=21.932\right]$ or $\sqrt{n}>\dfrac{8\times1.64485...}{0.6}\left[\Rightarrow\sqrt{n}=21.9313...\right]$	dM1
	n = 481.01… so n = 482 or n = 480.98… so n = 481	A1
		(3)
	Notes	**Total 12**

Mark parts (a) and (b) together		
(a)	**B1**	Cao
(b)	**M1**	for $26.78-24.82=2\times z$ value$\times\dfrac{\sigma}{\sqrt{36}}$ oe or $26.78-"25.8"=z$ value$\times\dfrac{\sigma}{\sqrt{36}}$ oe or $"25.8"-24.82=z$ value$\times\dfrac{\sigma}{\sqrt{36}}$ oe ft their 25.8
	B1	1.6449 or better
	A1*cso	at least one line of working from M1 to the given answer with no incorrect working seen (Allow 4.00)
(c)	**M1**	for $2\times z\times\dfrac{4}{\sqrt{36}}=1.6$ may be implied by z = 1.2
	A1	z = 1.2
	M1	for $P(Z>1.2)=0.1151$ or $P(Z<1.2)=0.8849$ ft their z may be implied by 0.7699 or awrt 77