Question Number	Scheme	Marks
7 (a)	$\mathrm{E}(\bar{X}) = \dfrac{(a-1)+(a+5)}{2} = a+2$	M1 A1
	So $\bar{X} - 2$ is an unbiased estimator for a	A1
		(3)
(b)	$\mathrm{SE}(\bar{X} - 2) = \mathrm{SE}(\bar{X})$	B1ft
	$\mathrm{Var}(X) = \dfrac{\left((a+5)-(a-1)\right)^2}{12} = 3$	M1 A1
	$\mathrm{SE} = \dfrac{s}{\sqrt{n}} = \dfrac{\sqrt{3}}{3} = 0.57735...$ awrt 0.577	M1 A1
		(5)

	Notes		**Total 8**
(a)	**M1**	for use of $\dfrac{a+b}{2}$	
	A1	for a + 2	
	A1	Cao	
(b)	**B1ft**	for $\mathrm{SE}(\bar{X} - 2) = \mathrm{SE}(\bar{X})$ ft their unbiased estimator in part (a) May be implied by awrt 0.577	
	M1	for use of $\dfrac{(b-a)^2}{12}$	
	A1	Cao	
	M1	for use of $\dfrac{s}{\sqrt{n}}$	
	A1	awrt 0.577	