Question	Scheme	Marks
1	$\sqrt{48}=\sqrt{16}\sqrt{3}=4\sqrt{3}$	B1
	Method A	
	$\dfrac{a-\sqrt{48}}{\sqrt{3}+1}=b\sqrt{3}-9 \Rightarrow a-4\sqrt{3}=3b-9+\sqrt{3}(b-9)$	M1
	$[a=3b-9 \text{ and } -4=b-9]$	M1
	$b=5,\ a=6$	A1
		[4]
	Method B	
	$\dfrac{(a-4\sqrt{3})}{(\sqrt{3}+1)}\times\dfrac{(\sqrt{3}-1)}{(\sqrt{3}-1)}=\dfrac{a\sqrt{3}-a-12+4\sqrt{3}}{2}=b\sqrt{3}-9$	[M1M1
	$b=5,\ a=6$	A1]
		Total 4 marks

Question	Notes	Marks
1	$$\frac{a-\sqrt{48}}{\sqrt{3}+1}=b\sqrt{3}-9$$	
	Simplifies $\sqrt{48}=\sqrt{16}\sqrt{3}=4\sqrt{3}$ - Seen anywhere.	B1
	Method A – Both sides multiplied by $\sqrt{3}+1$, collects terms and equates rational and irrational parts and obtains two equations at least one of which must be correct. $a-4\sqrt{3}=\left(b\sqrt{3}-9\right)\left(\sqrt{3}+1\right)=\left(3b-9\right)+\sqrt{3}\left(b-9\right)$ $\Rightarrow a=3b-9$ and $-4=b-9$	M1
	Solves their equations. The equation $-4=b-9$ must be solved correctly and the result substituted into the second equation to find a Allow one processing error here. **This is an A mark in Epen**	M1
	For $a=6$ and $b=5$	A1 [4]
	Simplifies $\sqrt{48}=\sqrt{16}\sqrt{3}=4\sqrt{3}$	B1
	Method B – rationalises the denominator, collects terms and equates rational and irrational parts and obtains two equations at least one of which must be correct. . $\frac{\left(a-4\sqrt{3}\right)}{\left(\sqrt{3}+1\right)}\times\frac{\left(\sqrt{3}-1\right)}{\left(\sqrt{3}-1\right)}=\frac{\sqrt{3}\left(a+4\right)-\left(a+12\right)}{2}=b\sqrt{3}-9$ $\Rightarrow \frac{-\left(a+12\right)}{2}=-9 \qquad \frac{a+4}{2}=b$ oe	M1
	Solves their equations: The equation $\frac{-\left(a+12\right)}{2}=-9$ must be solved correctly and the result substituted into the second equation to find b Allow one processing error here. **This is an A mark in Epen**	M1
	For $a=6$ and $b=5$	A1 [4]
		Total 4 marks