Question			Answer	Marks	AO	Guidance	
8			**DR**				
				M1*	**2.1**	**M1** for either term integrated correctly	
			$8x^{\frac{1}{2}} + 3x$	**A1**	**1.1**		
			$\left(8a^{\frac{1}{2}} + 3a\right) - (16 + 12) = 7$	**M1dep***	**1.1**	Correct use of correct limits and equating to 7 – allow one substitution error	
			$3a + 8a^{\frac{1}{2}} - 35 = 0$	**M1**	**1.1**	Forming a 3TQ in $a^{\frac{1}{2}}$	Any three-term form (so terms do not need to be on the same side)
			$\left(3a^{\frac{1}{2}} - 7\right)\left(a^{\frac{1}{2}} + 5\right) = 0$	**M1**	**3.1a**	Dependent on all previous **M** marks – correct method for solving for $a^{\frac{1}{2}}$	Or $8a^{\frac{1}{2}} = 35 - 3a$ $9a^2 - 274a + 1225 = 0$ $(9a - 49)(a - 25) = 0$
			$a^{\frac{1}{2}} \neq -5$ as $a^{\frac{1}{2}}$ can't be negative	**A1**	**2.3**	Explicit rejection of -5 No specific justification required	Explicit rejection of $a = 25$ No specific justification required
			$a^{\frac{1}{2}} = \frac{7}{3} \Rightarrow a = \frac{49}{9}$	**A1**	**2.2a**	Correct value only	
				[7]			