

Q	Marking Instructions	AO	Marks	Typical Solution
7(a)	Uses $n \log_a x = \log_a x^n$ correctly	AO1.1a	M1	$\log_a y = 2 \log_a 7 + \log_a 4 + \frac{1}{2}$ $\Rightarrow \log_a y = \log_a 7^2 + \log_a 4 + \frac{1}{2}$ $= \log_a (49 \times 4) + \frac{1}{2}$ $= \log_a 196 + \frac{1}{2} \log_a a$ $= \log_a 196 + \log_a \sqrt{a}$ $= \log_a 196 \sqrt{a}$ $\therefore y = 196 \sqrt{a}$
	Uses $\log_a x + \log_a y = \log_a xy$ or $\log_a x - \log_a y = \log_a \frac{x}{y}$ correctly	AO1.1a	M1	
	Obtains $\sqrt{a}$	AO1.1b	B1	
	Obtains correct answer in any correct form.	AO1.1b	A1	
7(b)	Explains that $-\frac{3}{2}$ should be rejected as it is not possible to evaluate $\log_a \left(-\frac{3}{2}\right)$	AO2.3	E1	$-\frac{3}{2}$ should be rejected as it is not possible to evaluate $\log_a \left(-\frac{3}{2}\right)$
	<b>Total</b>		<b>5</b>	