Question	Answer	Marks	AO	Guidance	
ENSURE THAT PAGE 20 (WHICH APPEARS ABOVE QUESTION 1) IS EITHER LINKED TO THE CORRESPONDING QUESTION OR ANNOTATED AS 'BP' OR 'SEEN'. NOTE 5(b), 7(b) AND 9(b) ARE OVER TWO PAGES AND THEREORE THE 2nd PAGE MUST BE CHECKED AND MARKED IF USED, OR ANNOTATED AS 'SEEN' IF NOT USED					
1	$4^{2x+1}=5^x \Rightarrow (2x+1)\log 4 = x\log 5$	**M1***	**1.1**	Take logs of both sides (any base) correctly and use power law correctly **at least once**. Common correct answers that score **M1** are: $2x+1=\log_4 5^x$, $\log_5 4^{2x+1}=x$, $(2x+1)\ln 4 = \ln(5^x)$	Condone lack of bracket on the $2x+1$ term
	$x(2\log 4 - \log 5) = -\log 4$	**M1dep***	**1.1**	Re-arrange to get an equation with a single term in x – condone sign errors only e.g. the following score the first two **M** marks $\frac{1}{x}+2 = \frac{\log 5}{\log 4}$, $x\left(2-\frac{\log 5}{\log 4}\right) = -1$, $x(\log_4 5 - 2) = 1$, $x(1-2\log_5 4) = \log_5 4$ $x(2\ln 4 - \ln 5) + \ln 4 = 0$ This mark can be implied by a correct answer provided the first **M** mark was awarded (that is, we must see logs being taken and the power law used at least once)	
	$x = \dfrac{\log 4}{\log 5 - 2\log 4} = -1.19$	**A1**	**1.1**	awrt -1.19	$-1.19184404\ldots$ **Correct answer with no working scores no marks**

		[3]			
1	**ALTERNATIVE**				
	$4^{2x+1} = 5^x \Rightarrow \left(\dfrac{5}{16}\right)^x = 4$	**B1**		Correctly re-writes the given equation in the form $a^x = b$ with a and b correct (check carefully for other equivalent correct equations)	
	$x = \log_{\frac{5}{16}} 4$ or $x \log \dfrac{5}{16} = \log 4$	**M1**		Taking logs correctly of **their** $a^x = b$, where a and b are both positive, to obtain either $x \log a = \log b$ (any base) or $x = \log_a b$ (for their a and b)	Not dependent on the **B** mark
	$x = -1.19$	**A1**		awrt -1.19	$-1.19184404\ldots$ **Correct answer with no working scores no marks**
		[3]			