11	1c	Solve $2^{2x+1} = 32$.	2

State Mean: **1.74/2**

$$\begin{aligned} 2^{2x+1} &= 32 \\ 2^{2x+1} &= 2^5 \\ \therefore\ 2x + 1 &= 5 \\ 2x &= 4 \\ x &= 2 \end{aligned}$$

* These solutions have been provided by *projectmaths* and are not supplied or endorsed by the Board of Studies

Board of Studies: Notes from the Marking Centre

Nearly as many candidates approached this question by taking logarithms of both sides compared to writing 32 as 2^5 and equating indices. A number of candidates misread the question as $2^{x+1} = 32$. Many candidates incorrectly manipulated the expression involving logarithms to obtain $x = \dfrac{\log(32)}{2\log(2)} - 1$ or incorrectly divided by 2 to obtain $2x + 1 = 16$. Some candidates did not use the same base for the logarithm on each side of the equation.

Source: **http://www.boardofstudies.nsw.edu.au/hsc_exams/**