

Question Number	Answer	Mark
13(a)	$\text{kg m}^2\text{s}^{-2}$ (1)	(1)
13(b)(i)	Use of $T = 2\pi\sqrt{\frac{\ell}{g}}$ (1) $\ell = 0.99 \text{ m}$ (1) <u>Example of calculation</u> $2.000 \text{ s} = 2\pi\sqrt{\frac{\ell}{9.81 \text{ m s}^{-2}}}$ $\therefore \ell = 9.81 \text{ m s}^{-2} \times \left(\frac{2 \text{ s}}{2\pi}\right)^2 = 0.994 \text{ m}$	(2)
13(b)(ii)	g varies depending upon location Or the metre would depend upon an accurate measurement of time Or the metre would depend upon the definition of the second (1)	(1)
	Total for Question 13	4