Question Number	Answer		Mark
14ai	Use of $v_p = \sqrt{\frac{K+\frac{4}{3}G}{\rho}}$	(1)	
	Use of $v_s = \sqrt{\frac{G}{\rho}}$	(1)	
	$v_p = 6400\ \text{m s}^{-1}$	(1)	
	$v_s = 3100\ \text{m s}^{-1}$ (Only one unit error applied across both answers)	(1)	**4**
	Example of calculation $v_p = \sqrt{\frac{K+\frac{4}{3}G}{\rho}} = \sqrt{\frac{(7.55\times10^{10}\text{Pa})+\frac{4}{3}(2.61\times10^{10}\text{Pa})}{(2700\ \text{kg m}^{-3})}} = 6392\ \text{m s}^{-1}$ $v_s = \sqrt{\frac{G}{\rho}} = \sqrt{\frac{(2.61\times10^{10}\text{Pa})}{(2700\ \text{kg m}^{-3})}} = 3109\ \text{m s}^{-1}$		
14aii	(When $G = 0$), $v_s = 0$ (m s^{-1})	(1)	
	S-waves cannot travel through liquids	(1)	**2**
	(MP2 dependent on MP1 being awarded)		
14bi	Same frequency	(1)	
	Constant phase difference/relationship	(1)	**2**
14bii	There is a path difference (for waves travelling from the two sources to A)	(1)	
	This causes a phase difference of π radians / 180° (at A) **Or** waves are in antiphase (at A)	(1)	
	Destructive interference/superposition (at A)	(1)	**3**
	Total for question 14		**11**