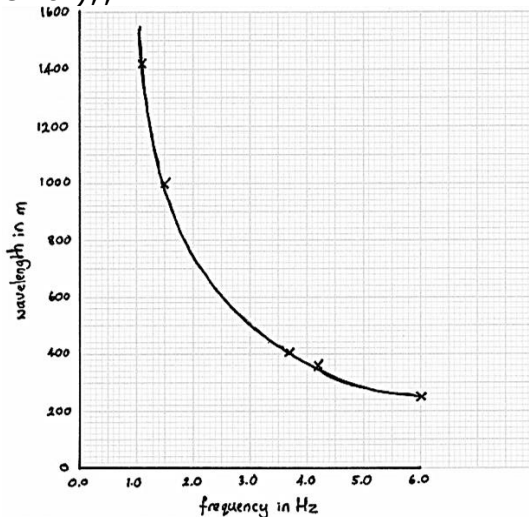


Question number	Answer	Notes	Marks												
6 (a) (i)	<p>suitable linear scale chosen (&gt;50% of grid used); axes labelled with quantities and unit; plotting correct to nearest half square (minus one for each plotting error);;</p> 	<p>ignore orientation</p> <p>i.e. two plotting errors = no marks for plotting</p> <table><tr><td>Frequency in Hz</td><td>6.0</td><td>4.2</td><td>3.7</td><td>1.5</td><td>1.1</td></tr><tr><td>Wavelength in m</td><td>250</td><td>360</td><td>405</td><td>1000</td><td>1420</td></tr></table>	Frequency in Hz	6.0	4.2	3.7	1.5	1.1	Wavelength in m	250	360	405	1000	1420	4
Frequency in Hz	6.0	4.2	3.7	1.5	1.1										
Wavelength in m	250	360	405	1000	1420										
(ii)	acceptable curve of best fit drawn;	i.e. smooth curve within 1 small square of each point ignore parts of curve outside plotted points if extrapolated	1												
(iii)	2.6 (Hz)	allow 2.4-2.8 (Hz) ECF from curve drawn in (a)(ii)	1												
(iv)	as frequency increases, wavelength decreases; non-linear relationship;	allow similar pattern sentence ignore 'negative correlation' 'they are <u>inversely proportional</u> ' gets both marks	2												
(b)	any suitable suggestion; e.g. <ul style="list-style-type: none"><li>• wider range</li><li>• intermediate values</li><li>• take repeats and average</li></ul>	allow regular intervals  allow 'more results'  allow take repeats to identify anomalies	1												

Question number	Answer	Notes	Marks
(c) (i)	(wave) speed = frequency $\times$ wavelength;	allow in standard symbols and rearrangements e.g. $v = f \times \lambda$ allow c for v	1
(ii)	substitution; evaluation;  e.g. (v =) $510 \times 3.0$ (v =) 1500 (m/s)	      allow 1530 (m/s)	2

**Total for question 6 = 12 marks**