

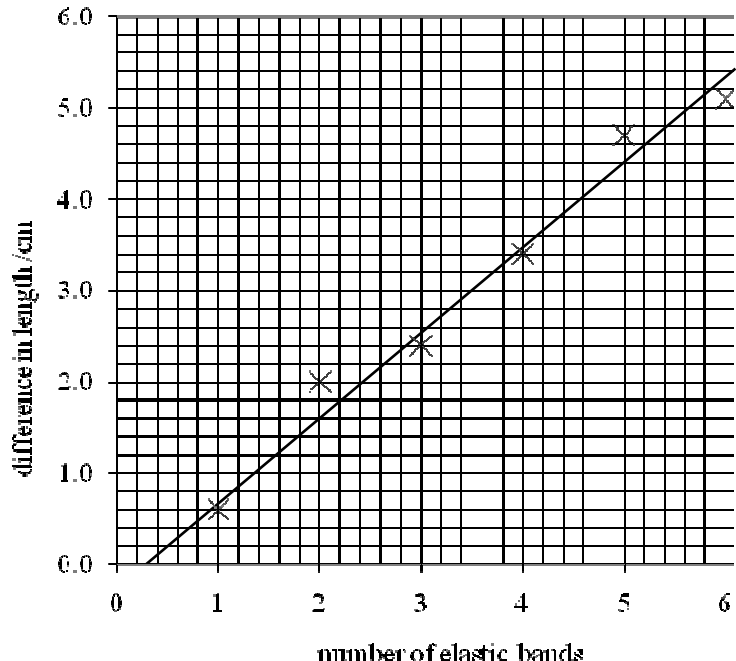


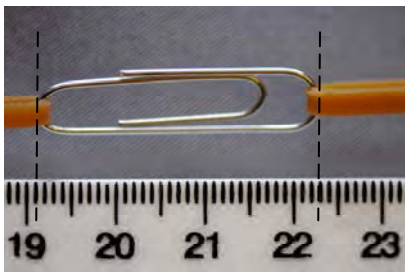
Mark Scheme (Results)

January 2013

International GCSE
Physics (4PH0) Paper 2P

Edexcel Level 1/Level 2 Certificate
Physics (KPH0) Paper 2P

Question number			Answer	Accept	Reject	Marks										
3	(a)	(i)	5.1			1										
		(ii)	<p>Suitable scale chosen (>50% of grid used); Axes labelled with quantities and units; Plotting to nearest half square (minus one for each plotting / error);; Line of best fit acceptable;</p> <p>Sample graph:</p>  <table border="1" data-bbox="1408 766 1615 978"><tbody><tr><td>1</td><td>0.6</td></tr><tr><td>2</td><td>2.0</td></tr><tr><td>3</td><td>2.4</td></tr><tr><td>4</td><td>3.4</td></tr><tr><td>5</td><td>4.7</td></tr><tr><td>6</td><td>(5.1)</td></tr></tbody></table>	1	0.6	2	2.0	3	2.4	4	3.4	5	4.7	6	(5.1)	<p>Ignore 6 bands point Line below points 2,5 and above points 1,3,4</p> <p>Ecf from (a)(i) e.g. an appropriate curve</p> <p>Orientation of axes unimportant</p>
1	0.6															
2	2.0															
3	2.4															
4	3.4															
5	4.7															
6	(5.1)															

Question number			Answer	Accept	Reject	Marks
3	(a)	(iii)	Any two of It is a straight line; Gradient / slope / correlation is <u>positive</u> ; Line does / doesn't pass through origin; Idea of correlated variables, e.g. direct / indirect proportionality [depending on projection to the origin], length increases with number of bands;	Ecf from (a)(i)/(ii) Related statement e.g. curve, line forced through origin or mention of "anomaly"		2
	(b)		3.2 ± 0.1 (cm) ; ; Sample working: 	Allow evidence of two readings from scale for one mark, e.g. subtraction (22.3 - 9.1) or appropriate drawing on the photograph	Direct measurement of photograph with a ruler	2

Question Number			Answer	Accept	Reject	Marks
3	(c)		<p>Responses may refer to measuring the length of either object (the chain or the single paperclip from photographs A and B)</p> <p>Any two of: Either object - parallel with scale; closer to scale; use fiducial mark e.g. a set square; take parallax into account; Minimise effect of friction on stretched chain; Remove paperclip from chain for measurement;</p>	<p>Ignore: repetition, measuring <u>paperclip</u> from zero</p> <p>Allow sensible equipment changes, e.g. more precise scale, using stiffer paperclips / links</p>		2
					Total	12

Question number			Answer	Accept	Reject	Marks
6	(c)		183 (m);			1
	(d)		Any three of: MP1 Electrons move OR there is a current Or negative charge moves; MP2 (Discharge) to earth OR across cloud OR to named object – tree, house, lightning conductor; MP3 Air conducts; MP4 Phenomenon e.g. thunder clap / lightning;	Sparks generate radio waves; Lightning causes (radio) interference; Correct reference to electrostatic attraction / repulsion ;		3
					Total	11

Question number			Answer	Accept	Reject	Marks
8	(a)		Area under the graph (from 0 s to 3 s) ;	6 x 3 or 18 (m); area shaded on graph		1
	(b)	(i)	Momentum = mass x velocity;	$p = m \times v$; accept rearrangements		1
		(ii)	Substitution in correct equation; Calculation; e.g. 6.4 x 6 = 38.4 kg m/s ;	Ns;		3