

Question		Answer	Marks	Part marks and guidance	
1	(a)	Ruled line within overlay	3	B2 for 2 or more correct points plotted or a correct line of any length Or B1 for 2 or more correct points calculated (e.g. in a table) Or SC1 for a ruled line gradient 2, any length	For 3 marks line at least $0 < x < 4$ Line, if extended, should be within tramlines If more than one line, mark the best in this part
	(b)	5 3	1 1		Condone $\frac{5}{1}$ but $5x$ scores 0 Condone (0, 3) or 0, 3 or $y = 3$
	(c)	(i) 5	1FT	FT <i>their</i> 5 from (b) ie k or kx but not ratio, %, coordinate, positive, $kx + c$, $y = \dots$ etc	
		(ii) $y = -\frac{1}{5}x + c$ oe	2FT	(any numerical c value including 0) B1FT for $-\frac{1}{5}$ oe seen	FT $y = -\frac{1}{\text{their } 5}x + c$ from (b) or (c)(i) to candidates benefit.
2	(a)	3 values correctly plotted	2	B1 for 1 value correctly plotted	Touching overlay
	(b)	No, plus any reasonable comment	1	'No' alone does not score	Mark best comment Ignore any comments about correlation

3	(a)		6 correct points	2	B1 for 2 correct Or SC1 if all plotted 'correctly' in Wk 1	Tolerance $\frac{1}{2}$ text Overlay available
	(b)		62		B1 for (Wk 1 =) 160 or (Wk 2 =) 130 M1 for <i>their</i> (160 or 130) \times 0.2 or 1.2 oe A1FT for 192 or (160 – 130) + 32 Or if 0 , then SC1 for 1.2×37	Allow FT from multiples of 10 only

4	(a)	(30 (30) 30 (30) 32 34 36 (38) 40	2	B1 for all 30s correct or 32 to 40 correct	
		(ii)	Correct ruled graph from 60 to 140	2	B1 for 4 points from <i>their</i> table plotted or either straight line section correct	Overlay available Allow top of histogram to imply points so long as consistently top left, right or middle
	(b)	(i)	Correct ruled graph from 60 to 140	2	B1 for at least 2 correct (and not more than one incorrect) points plotted or for part of the correct line	Overlay available Covering a range of at least 40 Ignore labels
		(ii)	120 (\pm 2)	1FT	Correct or FT <i>their</i> single point of intersection from (b)(i) (\pm 2)	

5	(a)	Correct ruled line, on grid, for $-1 \leq x \leq 6$ with axes scaled	3	B2 for 2 correct points plotted with axes scaled or correct ruled line any length with axes scaled Or B1 for 2 correct points calculated	eg in a table or on a graph
	(b)	-2	2FT	M1 for (vertical change) / (horizontal change) soi or 2 or -1/2 nfw	FT <i>their</i> line
	(c)	$y = \frac{-1}{\text{their } -2}x + c$	2 FT	B1 for $\frac{-1}{\text{their } -2}$	FT <i>their</i> line Allow 'c' or any numerical c including 0

6	(a)	Correct line	2		
	(b)	Correct region indicated	2	B1 for identifying both lines e.g. by shading	
	(c)	2 and 1	1		

7	(a)	1, __, 0.25, 0.125, __, __	2	B1 for two values correct	Accept ¼, 1/8
	(b)	5 or 6 of <i>their</i> points correctly plotted <u>Curve</u> through <i>their</i> six points	1 FT1	± ½ small square ± ½ small square. Continually decreasing curve. Not too thick or hairy.	
	(c)	1.2 to 1.4	1		

8	(a)	Correct plots and ruled line between $w = 50$ and $w = 260$	3	B2 for all 5 points correct or B1 for any 2 points correct and B1 for a ruled line through at least 4 correct points	accuracy: the centre of their cross, dot or top of their stick should lie within the 'circle' on the overlay
	(b)	9.9 to 10.1	1	or FT <i>their</i> straight line	
	(c)	0.02 oe	2	M1 for an attempt at $\frac{\Delta L}{\Delta W}$ from <i>their</i> graph	equivalents include $\frac{1}{50}$ and 2% and isw any attempt to simplify their answer
	(d)	$L = (\text{their } 0.02)W + (\text{their } 10)$	1		
	(e)	No data for weights that big	1	Spring might snap, equation may be invalid for large values of W or limit to the length, etc	