

FORCES AND ELASTICITY 1 MS

QUESTION 1

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	B or bungee cords C or springs or playground ride will go back to original shape/size		3
b)i)	newton	each additional answer loses 1 mark minimum mark zero	
b)ii)	0 – 5 (N) or 5	accept 1-5 (N) do not accept 4	1
b)iii)	16 (cm)		1
b)iv)	2.5 (N)	accept answer between 2.4 and 2.6 inclusive	1
Total marks			7

QUESTION 2

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	B C	either order	1
a)ii)	elastic potential (energy)	accept strain for elastic	
b)i	measured / recorded the length of the spring (and not extension) extension does not equal zero when force = 0	mark both parts together accept measured A-C (and not B-C) accept did not work out/measure the extension accept line should pass through the origin	1 1
b)ii)	point marked at 5.5 (N) up to that point force and	accept anywhere between 5.0 and 5.6	1

	extension are (directly) proportional	inclusive accept at the end of the straight part (of the graph line) accept past that point force and extension are no longer (directly) proportional accept the line starts to curve	1
c)	1.8	allow 1 mark for correct substitution, ie 25×0.072 provided no subsequent step shown an answer 1800 gains 1 mark an incorrect conversion from mm to m with a subsequent correct calculation gains 1 mark	2
Total marks			8

QUESTION 3

QUESTION	ANSWER	EXTRA INFORMATION	MARKS
a)	3 (.0)	allow 1 mark for correct substitution i.e. 25×0.12 provided no subsequent step	2
b)i)	elastic potential kinetic	correct order only	1 1
b)ii)	increases to 80(mm) (or more)	accept any number greater than 75	1 1

		an answer 'it (more than) doubles' gains both marks	
Total marks			6