(b) The student obtains this data as he first adds weights to the elastic band (loading) and as he then removes weights from the band (unloading).

Force in N	Extension in cm Loading
0	0.0
2	2.3
4	5.3
6	9.8
8	15.3
10	20.0

Force in N	Extension in cm Unloading
0	0.0
1	1.4
3	5.0
7	14.8
9	19.1
10	20.0

He plots the loading data on a graph as shown.

(i) Suggest how the student could improve the quality of his data.

(2)

(ii) Draw a curve of best fit through the loading data.

(1)

(iii) On the same axes, plot the unloading data.

(2)

(iv) Draw a curve of best fit through the unloading data.

(1)

(v) The student concludes that the band is an elastic material and that it obeys Hooke's law.

Discuss whether his conclusion is correct.

You should support your argument with data.

(3)