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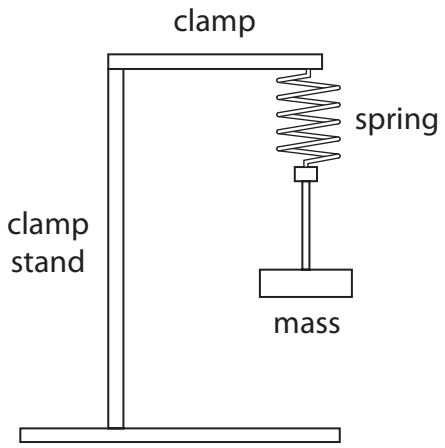
9 A student investigates how the extension of a spring varies when the mass attached to the spring is changed.

(a) The diagram shows most of the equipment the student uses in the investigation.



Describe a method the student could use for the investigation.

Your description should include the measurements taken and how the student could obtain accurate results.

(5)

(b) The student calculates the force each mass applies to the spring.

The table shows the student's results.

Force in N	Extension in cm
0.0	0.0
1.0	2.5
2.0	5.0
3.0	9.8
4.0	10.0
5.0	12.5
6.0	15.5
7.0	19.5

(i) Plot the student's results.

(3)

(ii) Draw a circle around the anomalous point.

(1)

(iii) Draw a line of best fit.

(1)

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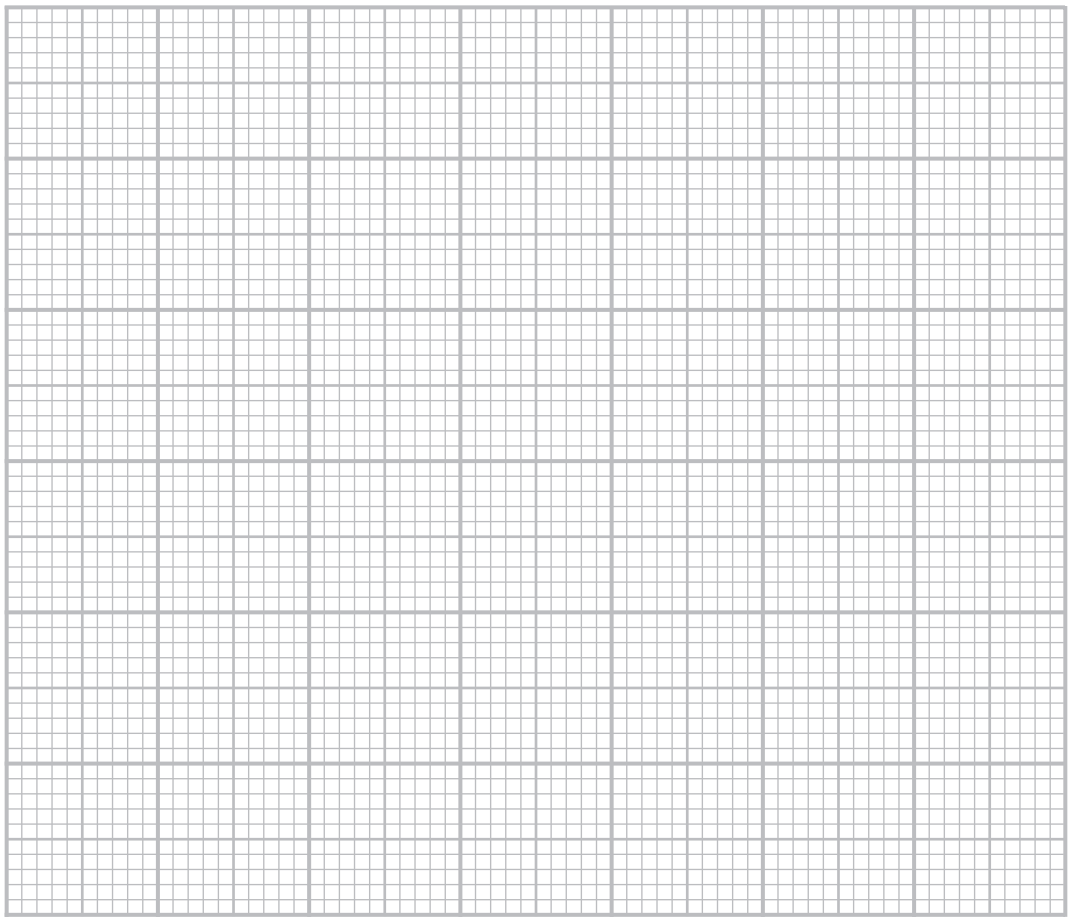

(iv) Explain whether the spring obeys Hooke's Law.

(3)

(Total for Question 9 = 13 marks)