

GCSE Physics B (Twenty First Century Science)
J259/01 Breadth in Physics (Foundation Tier)

Question Set 37

1

Mia investigates Hooke's law using the equipment shown in **Fig. 1.1**.

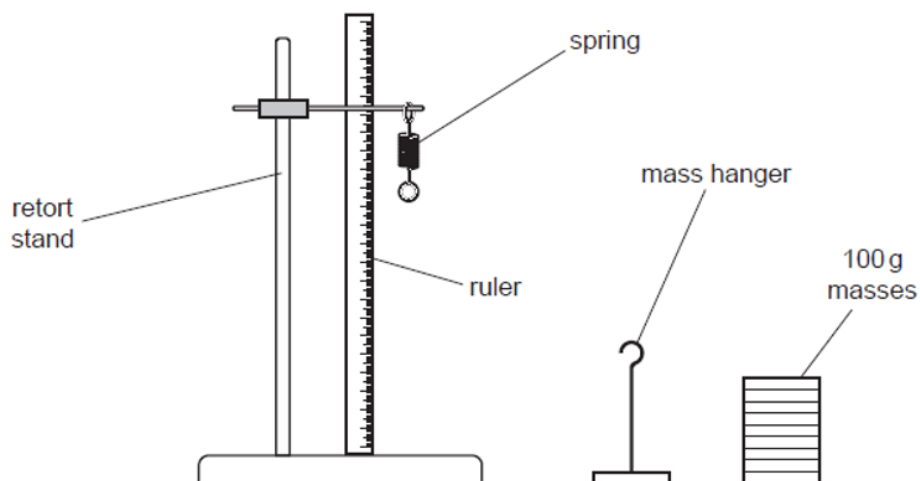


Fig. 1.1

- (a) Describe how to use the equipment in **Fig. 1.1** to investigate how the **extension** of the spring depends on the **force** applied to the spring. **[3]**
- (b) When Mia applies a force of 8.0 N, the spring has an extension of 0.20 m.
Calculate the spring constant of the spring.

Spring constant = N/m **[3]**

- (c) A group of students in Mia's class measures the spring constant of another spring.

Table 1.1 shows each student's results.

| Student | Spring constant (N/m) |
|---------------|-----------------------|
| Alex | 28 |
| James | 24 |
| Layla | 30 |
| Mia | 29 |
| <u>Sundip</u> | 25 |

Table 1.1

(i) Using **Table 1.1**, find the median value of the spring constant.

Median =N/m **[1]**

(ii) Using **Table 1.1**, calculate the mean value of the spring constant.

Mean =N/m **[1]**

Total Marks for Question Set 37: 8

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