1 What is a reasonable estimate of the mass of a raindrop?

A 10^{1} kg **B** 10^{-1} kg **C** 10^{-3} kg **D** 10^{-5} kg

2 Which quantity is a scalar?

A acceleration

B force

C kinetic energy

D momentum

3 A galvanometer of resistance 5 Ω is to be used in a null method.

In order to protect the galvanometer from damage due to an excessive initial current, resistors of resistance 0.5 Ω and 1 kΩ are available.

Which arrangement would provide this protection?

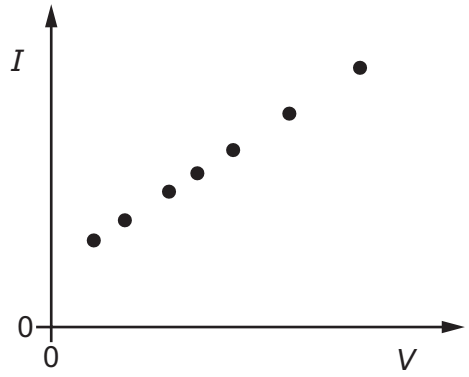
A the 0.5 Ω resistor in series with the galvanometer

B the 0.5 Ω resistor in parallel with the galvanometer and this combination placed in series with the 1 kΩ resistor

C the 1 kΩ resistor in parallel with the galvanometer

D the 1 kΩ resistor in parallel with the galvanometer and this combination placed in series with the 0.5 Ω resistor

4 Readings are made of the current I for different voltages V across a fixed resistor. The results are plotted on a graph to show the variation of I with V.



What is the best description of the errors in the readings?

A both systematic and random

B neither systematic nor random

C random only

D systematic only