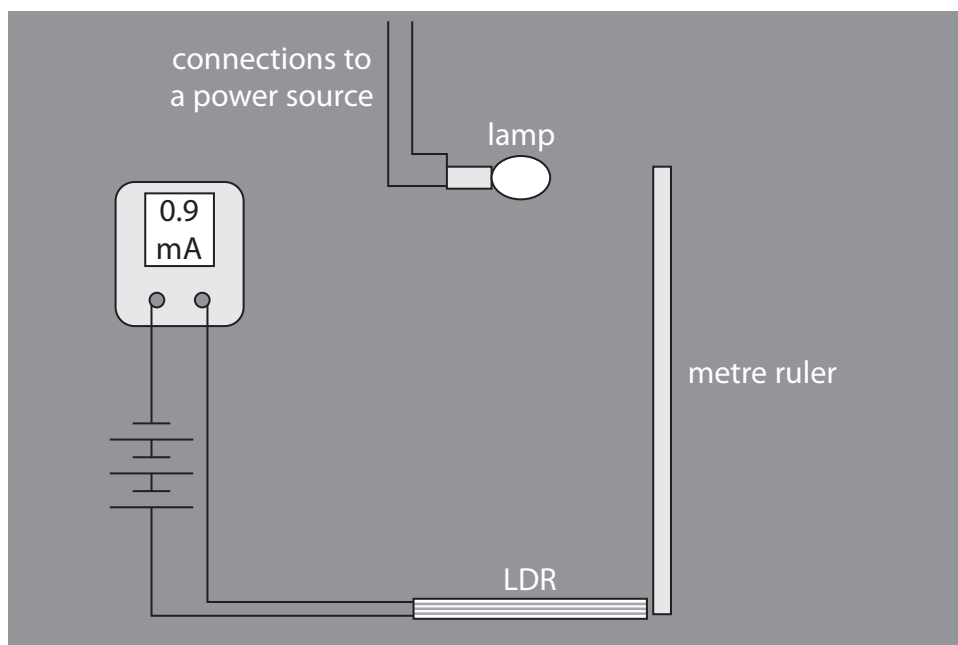


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- 6 A student uses this apparatus to investigate how the current in an LDR (light-dependent resistor) varies with the intensity of light.



Not to scale

The student measures the current for a range of different intensities of light.

- (a) (i) State why the student takes her readings in a dark room.

(1)

- (ii) The table lists three types of variable.

Complete the table by giving an example of each type of variable for this investigation.

(3)

Type of variable	Example
control	
dependent	
independent	



(b) The table shows her results.

Distance from lamp in cm	Current in mA			
	1st reading	2nd reading	3rd reading	Average (mean)
10	100.1	102.8	109.6	104.2
20	26.9	25.1	25.8	25.9
30	10.6	10.7	11.7	11.0
40	6.1	6.2	5.8	6.0
50	3.9	16.0	3.8	7.9
60	2.9	2.7	2.9	2.8
80	1.6	1.5	1.5	1.5

(i) One of her readings of current is anomalous.

Circle the anomalous reading in the table.

(1)

(ii) Calculate the correct average current for the distance that has the anomalous reading.

(1)

correct average current = mA

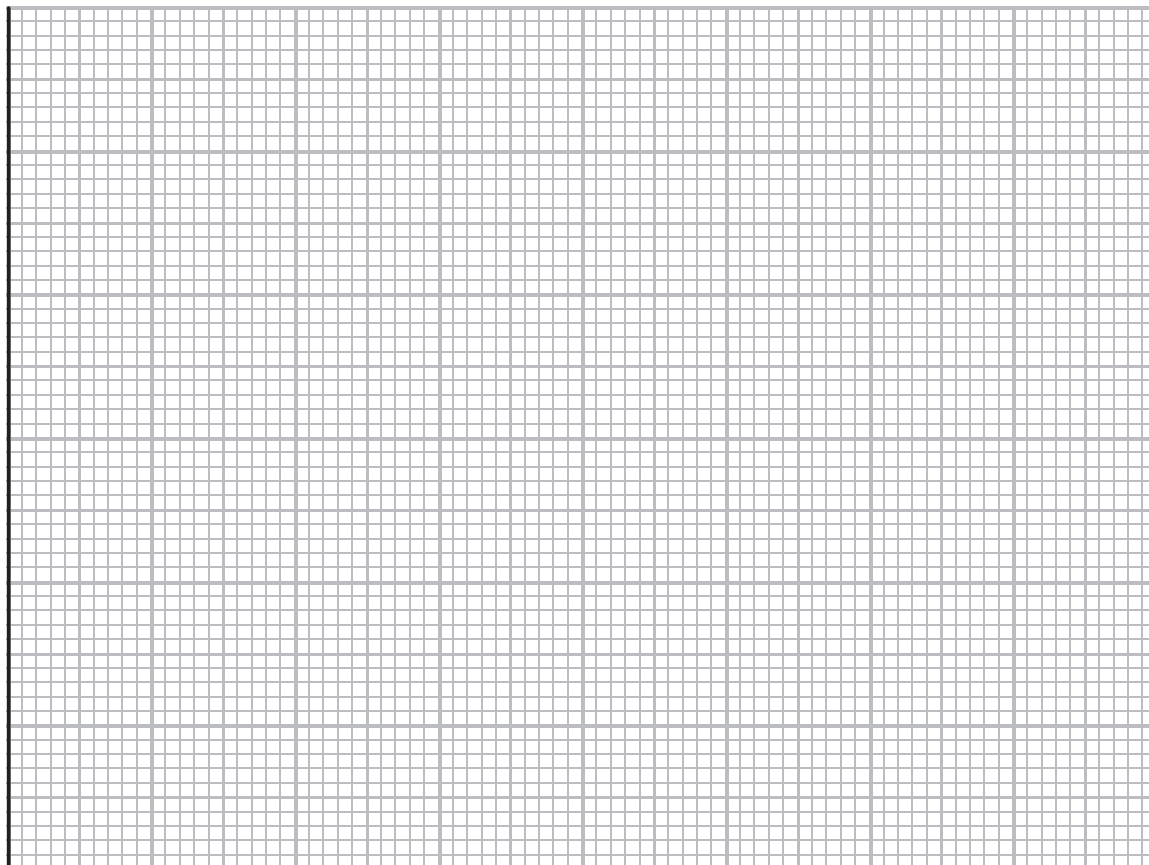


(c) (i) Plot a graph of the results on the grid.

(4)

(ii) Draw the curve of best fit.

(1)



(d) (i) Describe the relationship between distance and current.

(2)

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(ii) State what happens to the resistance of an LDR when the intensity of light increases.

(1)

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- (e) The student repeats her investigation, but this time covers the LDR with a thin sheet of tracing paper.

Explain how the curve of best fit would change.

(2)

(Total for Question 6 = 16 marks)

