

Gateway Science Physics A

J249/01 Physics A P1-P4 and P9 (Foundation Tier)

Question Set 18

18 Two students, **A** and **B**, use different methods to see magnetic field patterns.

(a) (i) Describe how student **A** could use a compass to plot a magnetic field pattern.

You may draw a diagram to help you answer this question.

[3]

(ii) Describe how student **B** could use iron filings to show a magnetic field pattern.

You may draw a diagram to help you answer this question.

[2]

(b) Their teacher prefers the method used by student **A**.

Suggest **one** reason why.

[1]

(c) Sketch the field pattern the students would find around a bar magnet.

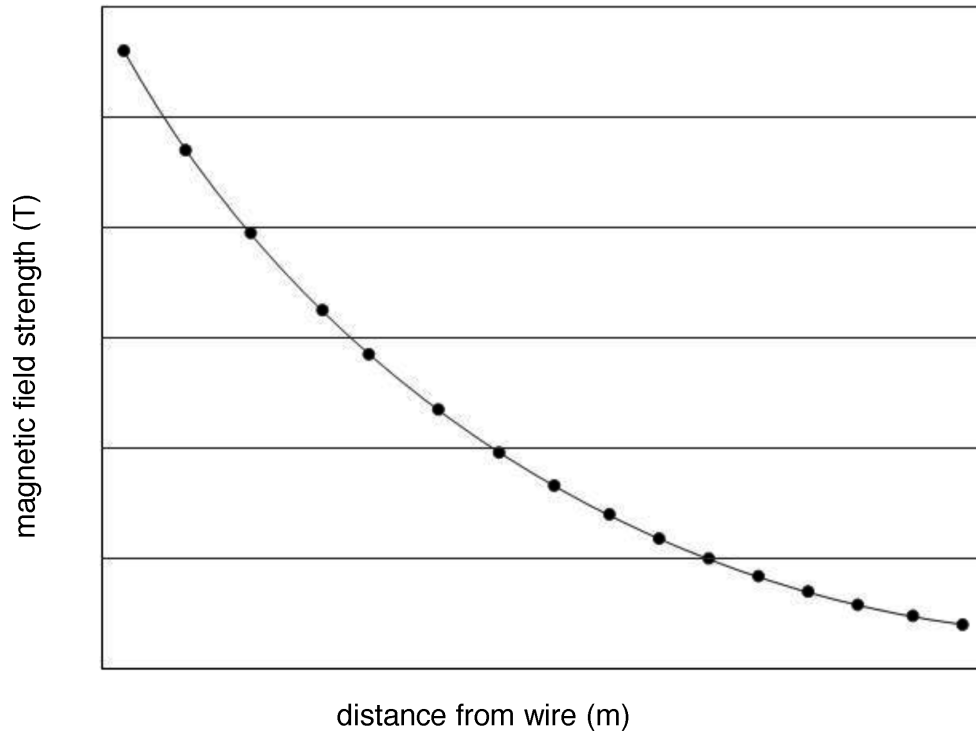
Your sketch should show the direction of the field pattern.



[2]

(d) The two students investigate the magnetic effect of a current-carrying wire.

Look at the graph of their results.



What trend is shown by the graph?

[2]

Total Marks for Question Set 18: 10

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