7 The α-particle scattering experiment provided evidence for the existence of a nuclear atom.

For Examiner's Use

(a) State what could be deduced from the fact that

(i) most α-particles were deviated through angles of less than 10°,

.....

.....

..... [2]

(ii) a very small proportion of the α-particles was deviated through angles greater than 90°.

.....

.....

..... [2]

(b) Fig. 7.1 shows the path AB of an α-particle as it approaches and passes by a stationary gold nucleus.

For Examiner's Use

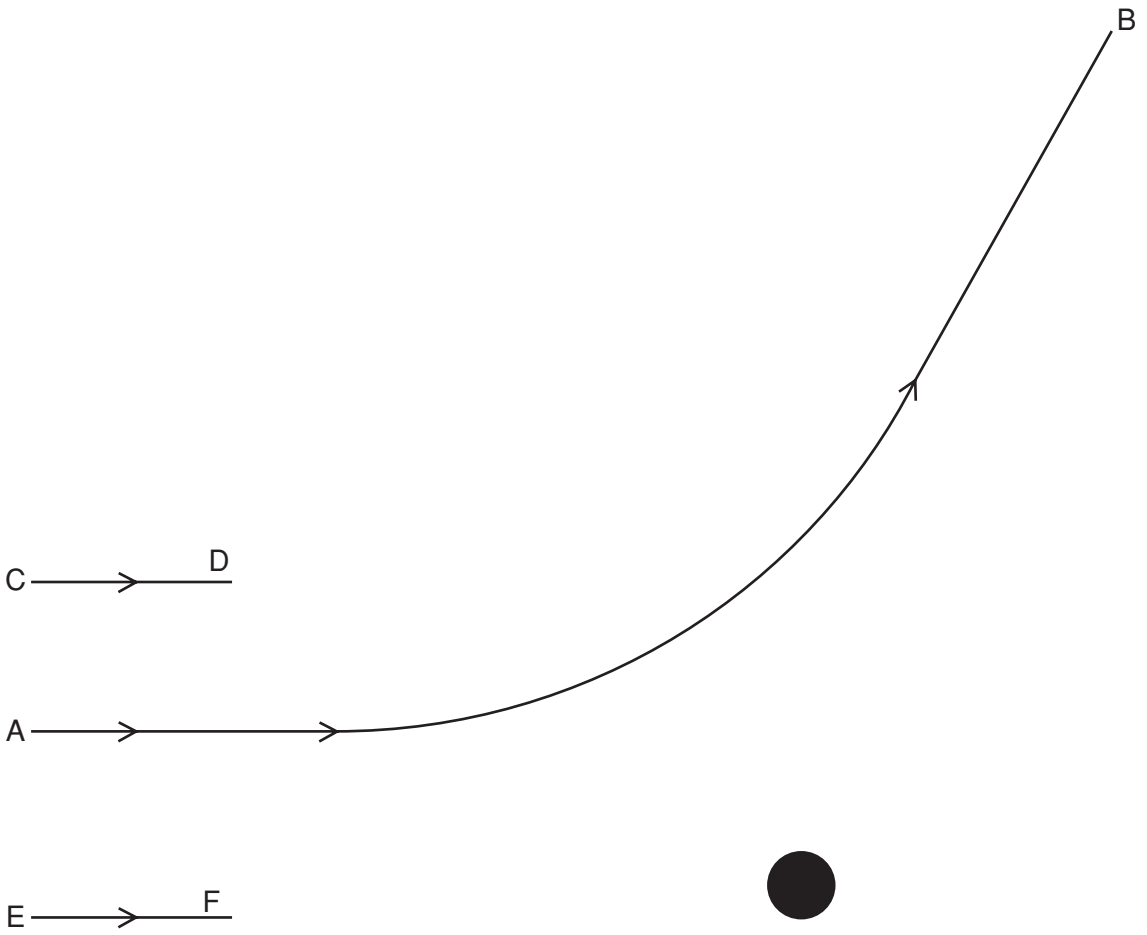

Fig. 7.1

On Fig. 7.1, draw lines (one in each case) to complete the paths of the α-particles passing by the gold nucleus when the initial direction of approach is

(i) along line CD,

(ii) along line EF.

[3]

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