1 A sphere is projected horizontally. The sphere is photographed at intervals of 0.10 s. The images of the sphere are shown against a grid in Fig. 1.1. Air resistance is negligible.

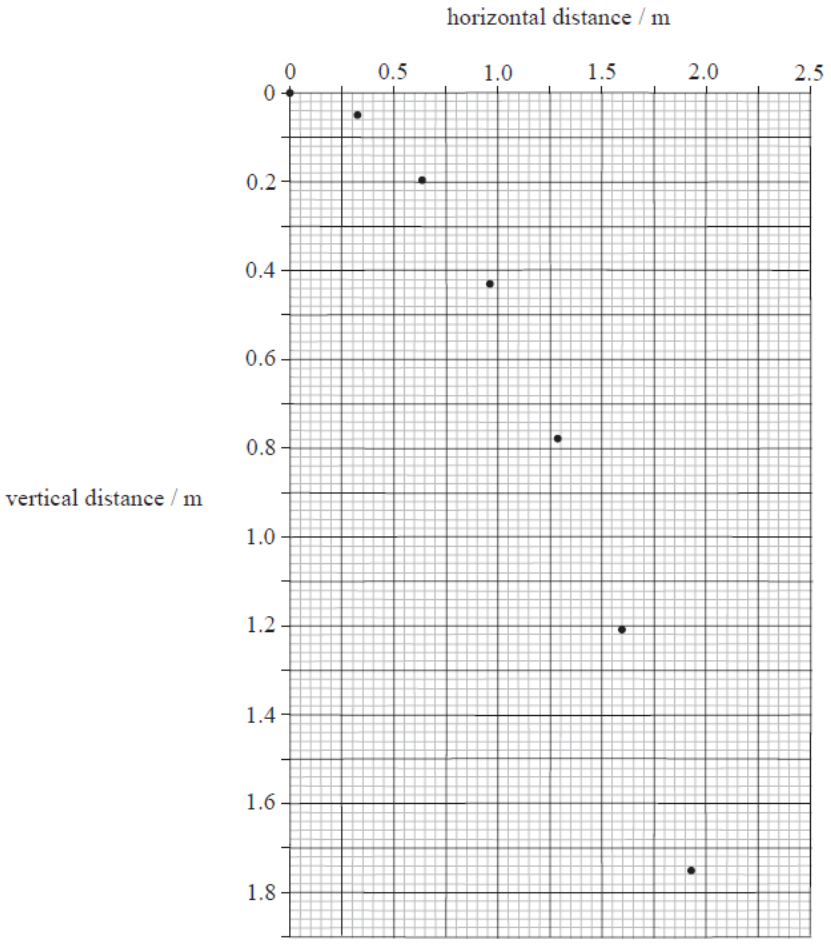

Fig. 1.1

(a) Use data from Fig.1.1 to determine the acceleration of free fall.

acceleration = ... m s^{-2} [2]

(b) Explain how your choice of the data point from Fig 1.1 helps to improve the reliability of your calculation in **(a)**.

.....

.....

..... [2]

(c) Determine the speed of the sphere 1.2 s after release.

speed = ... $m\ s^{-1}$ [4]

(d) On the grid, draw the path of the sphere assuming air resistance is not negligible. [2]

[Total: 10]