

1 An object is thrown horizontally from the top of a tall building.

(a) Assuming that air resistance is negligible, describe qualitatively the variation, if any, of the component of the velocity in

(i) the horizontal direction,

.....
..... [1]

(ii) the vertical direction.

.....
.....
..... [2]

(b) In practice, air resistance is not negligible.

Describe qualitatively the effect of air resistance on the variation, if any, of the component of the velocity in

(i) the horizontal direction,

.....
..... [1]

(ii) the vertical direction.

.....
.....
..... [2]

(c) The path of the object, assuming no air resistance, is shown in Fig. 1.1.

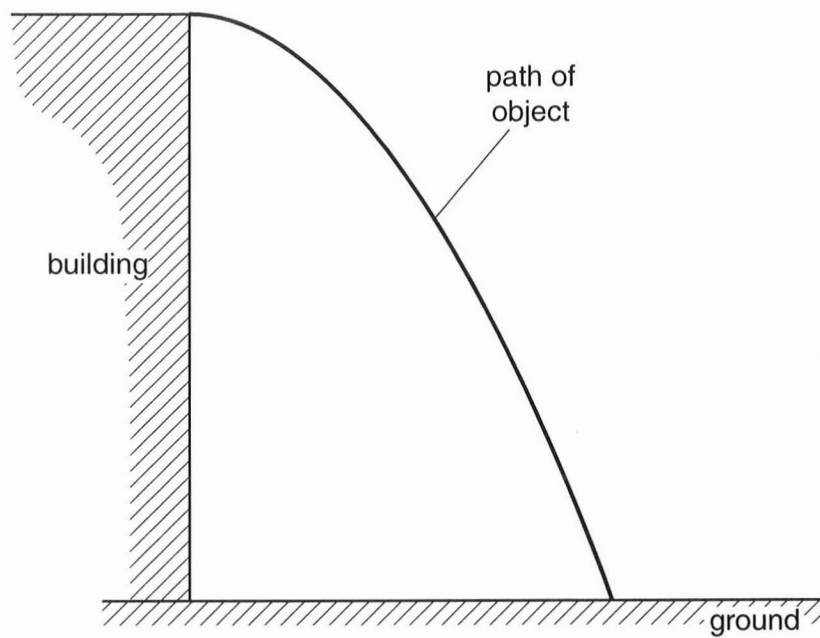


Fig. 1.1

On Fig. 1.1, sketch the path of the object as it falls to the ground, allowing for air resistance. [2]

