2 A stone is thrown vertically upwards. The variation with time t of the displacement s of the stone is shown in Fig. 2.1.

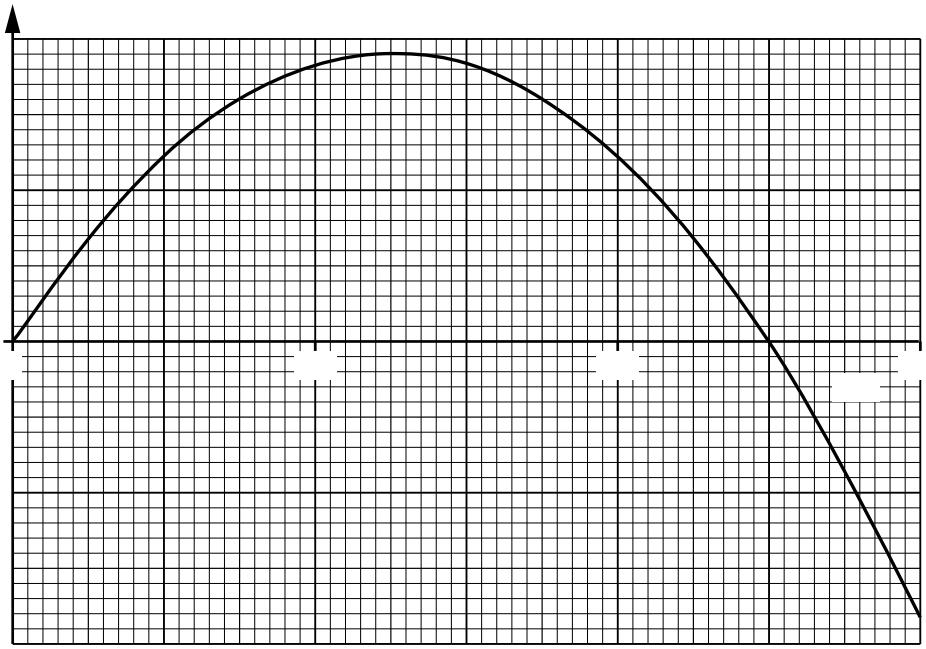

Fig. 2.1

(a) Fig. 2.1 to describe, without calculation, the speed of the stone from $t = 0$ to $t = 3.0\,s$.

.....

.....

..... [2]

(b) Assume air resistance is negligible and therefore the stone has constant acceleration.

Calculate, for the stone,

(i) the speed at 3.0 s,

speed = ... $m\,s^{-1}$ [3]

(ii) the distance travelled from $t = 0$ to $t = 3.0\,s$,

distance = ... m [3]

(iii) the displacement from $t = 0$ to $t = 3.0\,s$.

displacement = ... m

direction .....
[2]

(c) On Fig. 2.2, draw the variation with time t of the velocity v of the stone from $t = 0$ to $t = 3.0\,s$.

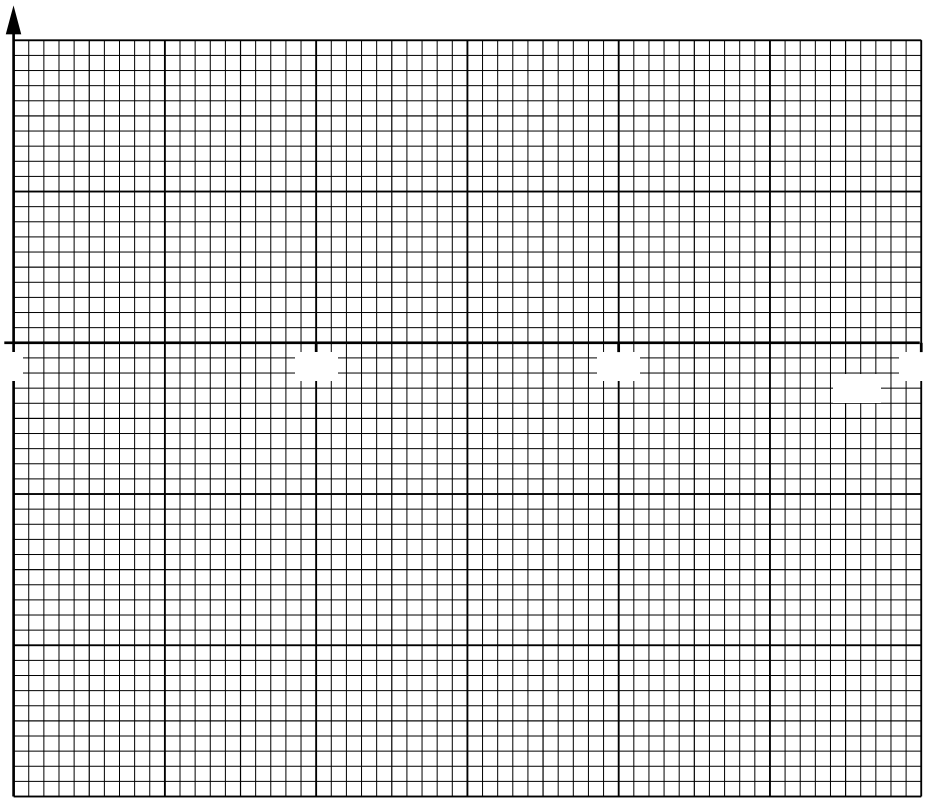

Fig. 2.2

[3]