

- 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.

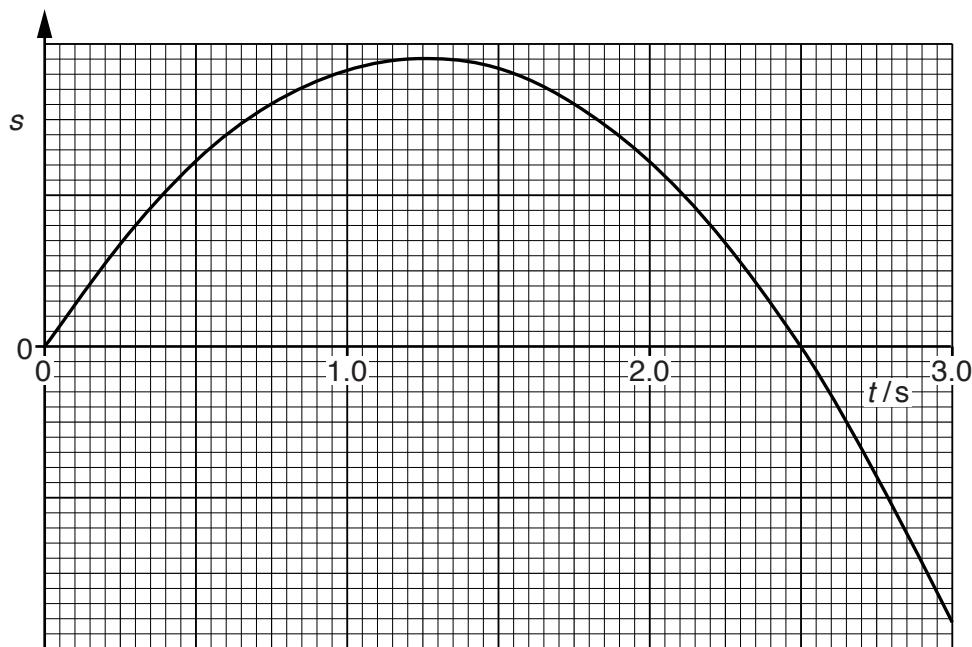


Fig. 2.1

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

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

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

Calculate, for the stone,

- (i) the speed at  $3.0\text{ s}$ ,

$$\text{speed} = \dots \text{ ms}^{-1} \quad [3]$$

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

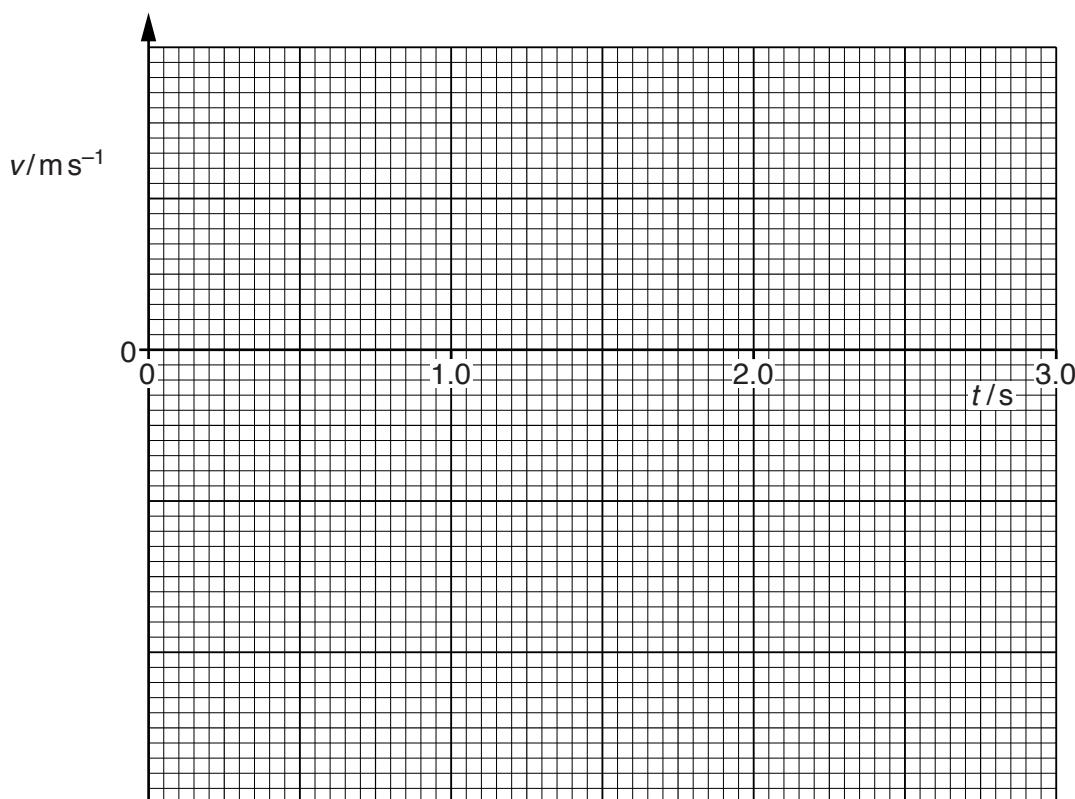
distance = ..... m [3]

- (iii) the displacement from  $t = 0$  to  $t = 3.0\text{ s}$ .

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  $t = 3.0\text{ s}$ .



**Fig. 2.2**

[3]