1 **(a)** Complete Table 1.1 by putting a tick (✓) in the appropriate column to indicate whether the listed quantities are scalars or vectors.

Table 1.1

quantity	scalar	vector
acceleration		
density		
temperature		
momentum		

[2]

(b) A toy train moves along a straight section of track. Fig. 1.1 shows the variation with time *t* of the distance *d* moved by the train.

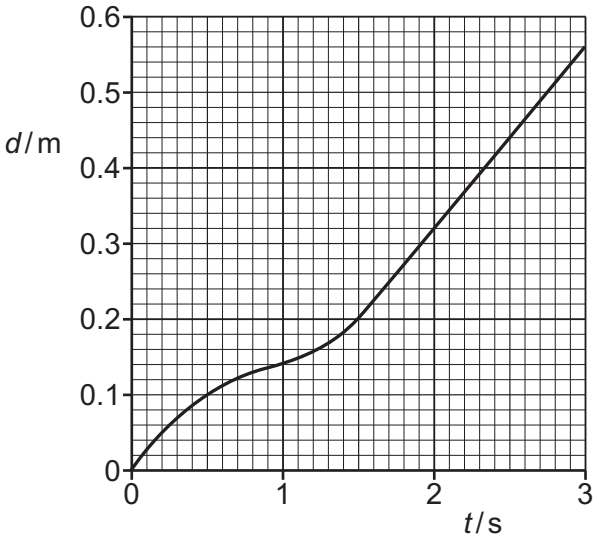

Fig. 1.1

(i) Describe qualitatively the motion of the train between time $t = 0$ and time $t = 1.0\,s$.

.....

..... [1]

(ii) Determine the speed of the train at time $t = 2.0\,s$.

speed = ... $m\,s^{-1}$ [2]

(c) The straight section of track in **(b)** is part of the loop of track shown in Fig. 1.2.

Fig. 1.2

The train completes exactly one lap of the loop.

State and explain the average velocity of the train over the one complete lap.

.....

.....

..... [1]

[Total: 6]