1 **(a)** Complete Table 1.1 by stating whether each of the quantities is a vector or a scalar.

Table 1.1

quantity	vector or scalar
acceleration	
power	
work	

[2]

(b) The variation with time t of the velocity v of an object is shown in Fig. 1.1.

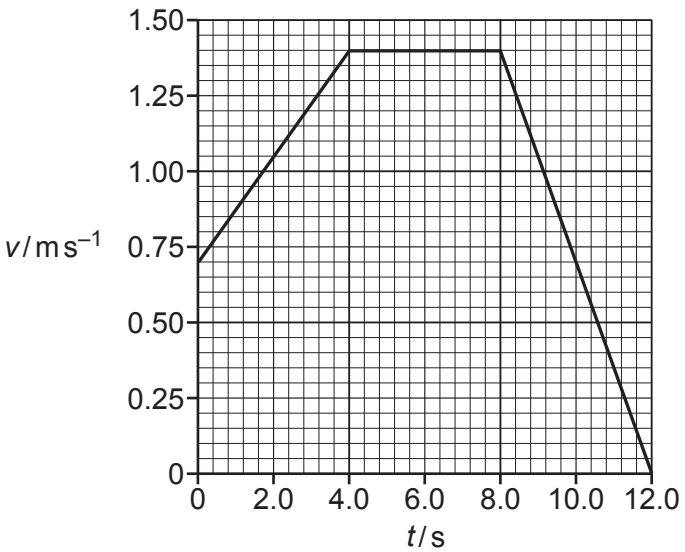

Fig. 1.1

(i) Determine the acceleration of the object from time $t = 0$ to time $t = 4.0\,s$.

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

(ii) Determine the distance moved by the object from time $t = 0$ to time $t = 4.0\,s$.

distance = ... m [2]

(c) (i) Define *force*.

.....

..... [1]

(ii) The motion represented in Fig. 1.1 is caused by a resultant force F acting on the object.

On Fig. 1.2, sketch the variation of F with time t from $t = 0$ to $t = 12.0\,s$.
Numerical values of F are not required.

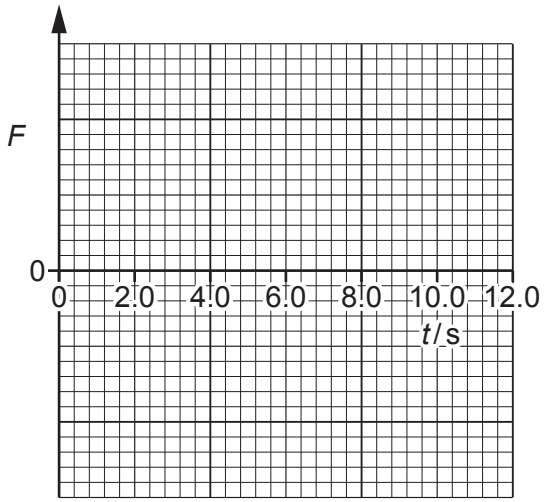

Fig. 1.2

[3]

[Total: 10]