

1 (a) (i) Define *velocity*.

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

(ii) Distinguish between *speed* and *velocity*.

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

(b) A car of mass 1500 kg moves along a straight, horizontal road. The variation with time t of the velocity v for the car is shown in Fig. 1.1.

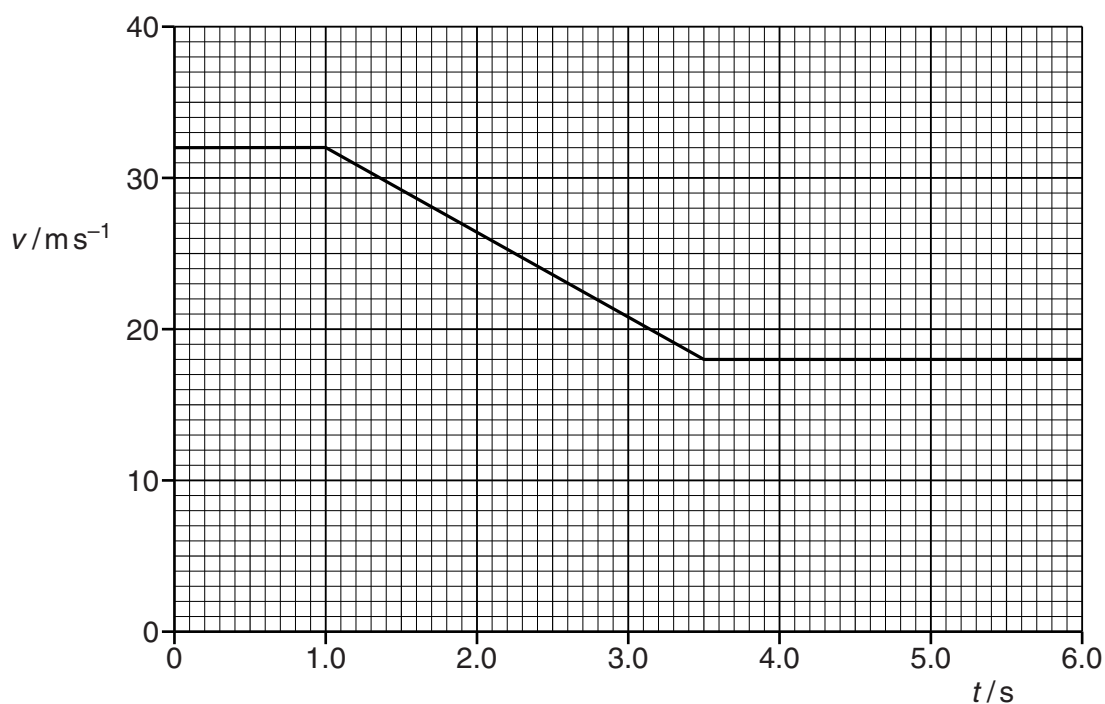


Fig. 1.1

The brakes of the car are applied from $t = 1.0$ s to $t = 3.5$ s.
the time when the brakes are applied,

(i) calculate the distance moved by the car,

distance = m [3]

(ii) calculate the magnitude of the resultant force on the car.

resultant force = N [3]

(c) The direction of motion of the car in (b) at time $t = 2.0$ s is shown in Fig. 1.2.

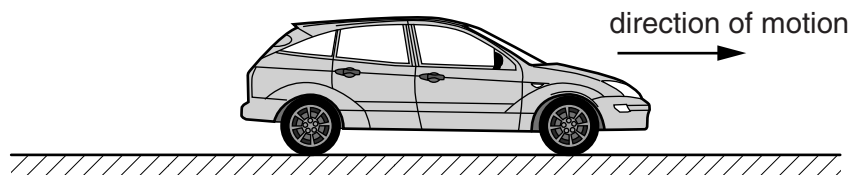


Fig. 1.2

On Fig. 1.2, show with arrows the directions of the acceleration (label this arrow A) and the resultant force (label this arrow F). [1]