

1.

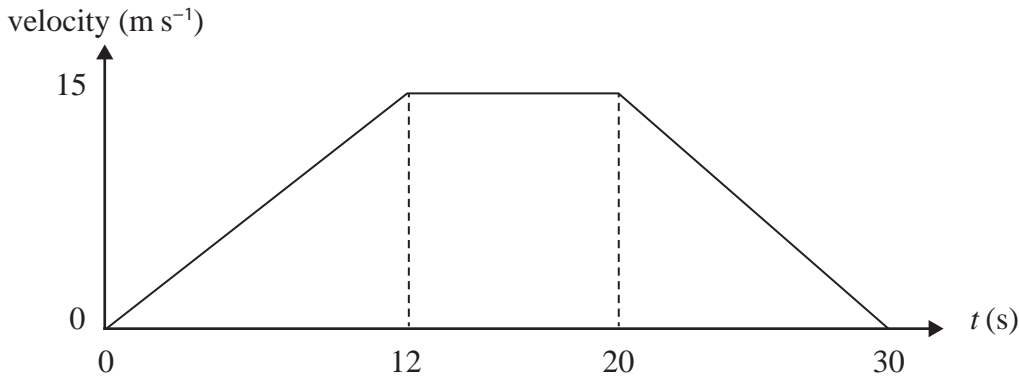


Figure 1

Figure 1 shows a velocity-time graph for the motion of a car.

The car is moving along a straight horizontal road between two points *A* and *B*,

- at time $t = 0$, the car starts from rest at *A*
- the car accelerates at a constant rate for 12 seconds until it reaches a velocity of 15 m s^{-1}
- the car then maintains a constant velocity of 15 m s^{-1} for T seconds
- the car then decelerates at a constant rate
- the car comes to rest at *B*

(a) Write down the value of T . (1)

(b) Find the acceleration of the car between $t = 0$ and $t = 12$ (2)

(c) Find the distance AB . (3)