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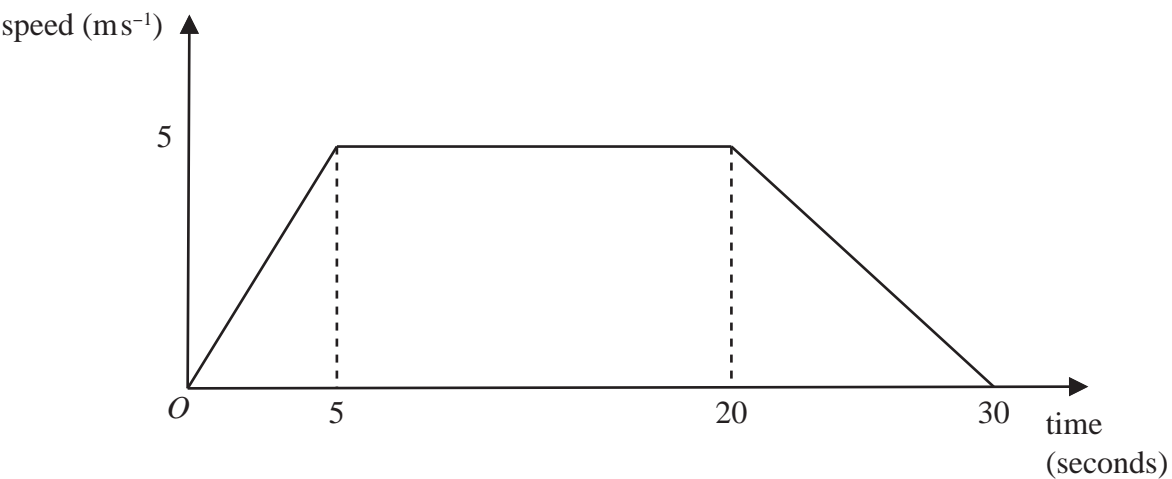


Figure 1

Figure 1 shows the speed-time graph for the journey of a car moving in a long queue of traffic on a straight horizontal road.

At time $t = 0$, the car is at rest at the point A .

The car then accelerates uniformly for 5 seconds until it reaches a speed of 5 ms^{-1}

For the next 15 seconds the car travels at a constant speed of 5 ms^{-1}

The car then decelerates uniformly until it comes to rest at the point B .

The total journey time is 30 seconds.

(a) Find the distance AB . (3)

(b) Sketch a distance-time graph for the journey of the car from A to B . (3)