2.

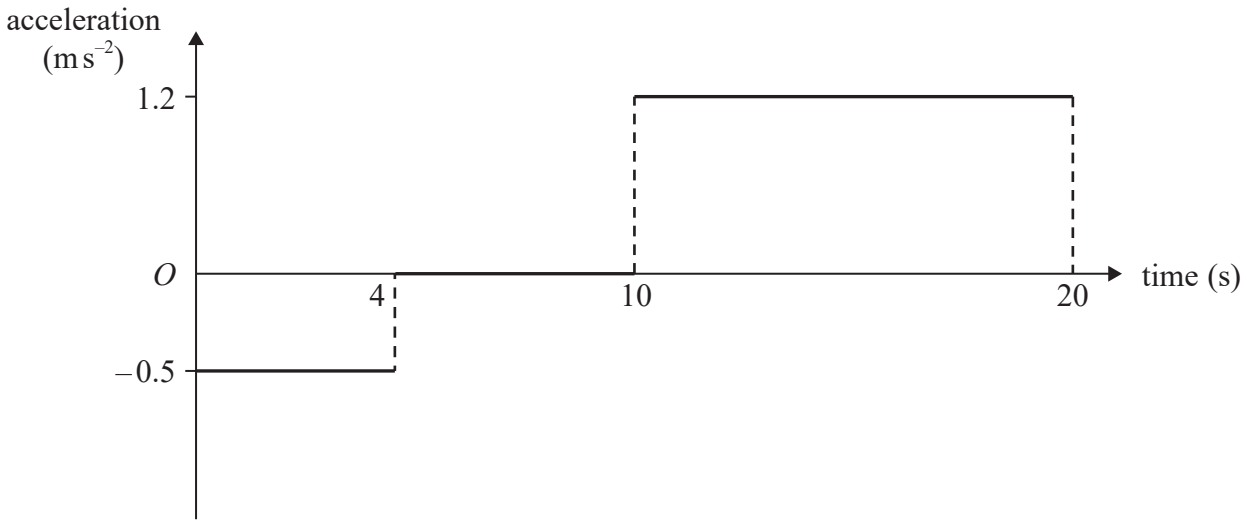


Figure 2

Two fixed points, A and B, are on a straight horizontal road.

The **acceleration-time** graph in Figure 2 represents the motion of a car travelling along the road as it moves from A to B.

At time $t = 0$, the car passes through A with speed $8\,\text{m s}^{-1}$

At time $t = 20\,\text{s}$, the car passes through B with speed $v\,\text{m s}^{-1}$

(a) Show that $v = 18$

(3)

(b) Sketch a speed-time graph for the motion of the car from A to B.

(3)

(c) Find the distance AB.

(4)

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Question 2 continued

(Total for Question 2 is 10 marks)