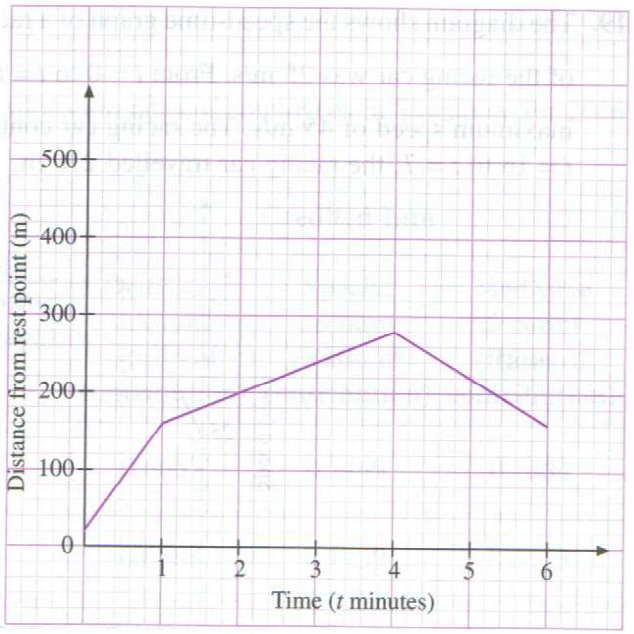
17. The distance-time graph shows the positions of Amanda from a rest point in a park during a 6-minute interval.



(a) **(i)** State the time interval for which Amanda moved at the greatest speed.

(ii) Hence, find the speed in m/s.

(b) Calculate Amanda's average speed, in m/s, during the 6 minutes.

(c) At $t = 1$, Benjamin began running towards the rest point from a position that is 480 m away. His speed was constant at 2 m/s until he reached the rest point.
Draw the distance-time graph of Benjamin's run on the diagram above.

(d) Use your graph to estimate

(i) the distance between Benjamin and the rest point when he met Amanda,

(ii) the duration of Benjamin's run before he met Amanda.

18. Diagram *A* shows the acceleration-time graph of a car during a 15-second interval.

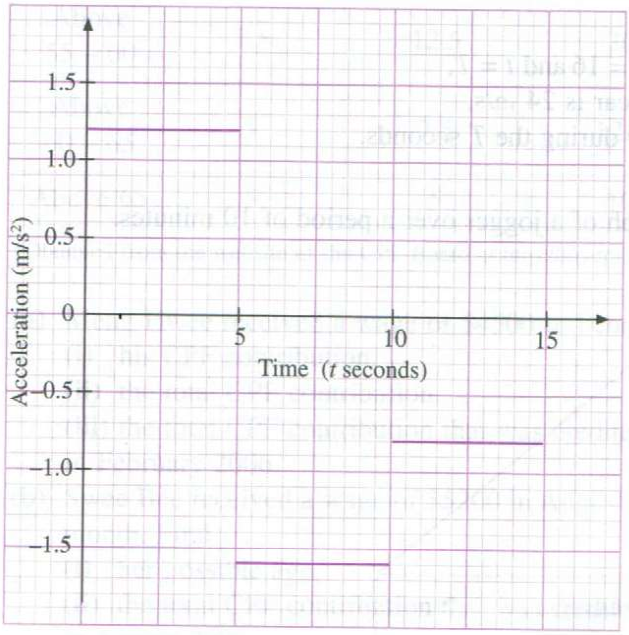


Diagram *A*

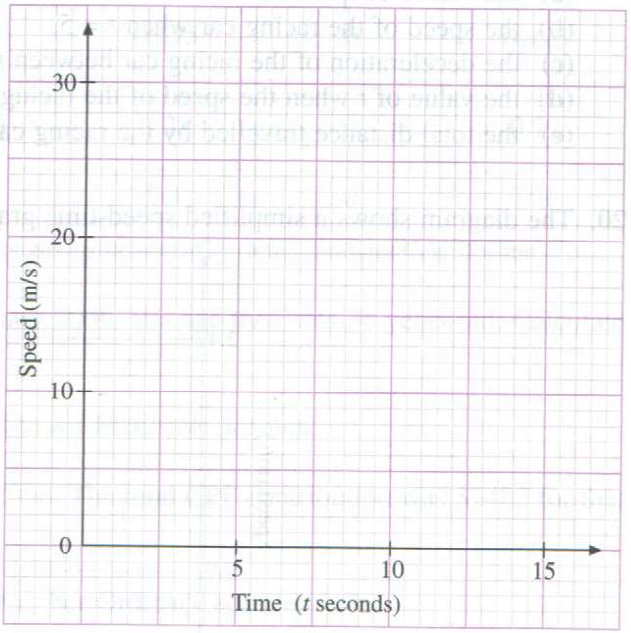


Diagram *B*

(a) Draw in diagram *B*, the speed-time graph of the car during the 15-second interval if its speed, when $t = 0$, is 18 m/s.

(b) Find the average speed of the car during the period

(i) $t = 0$ to $t = 5$,

(ii) $t = 5$ to $t = 10$,

(iii) $t = 10$ to $t = 15$.