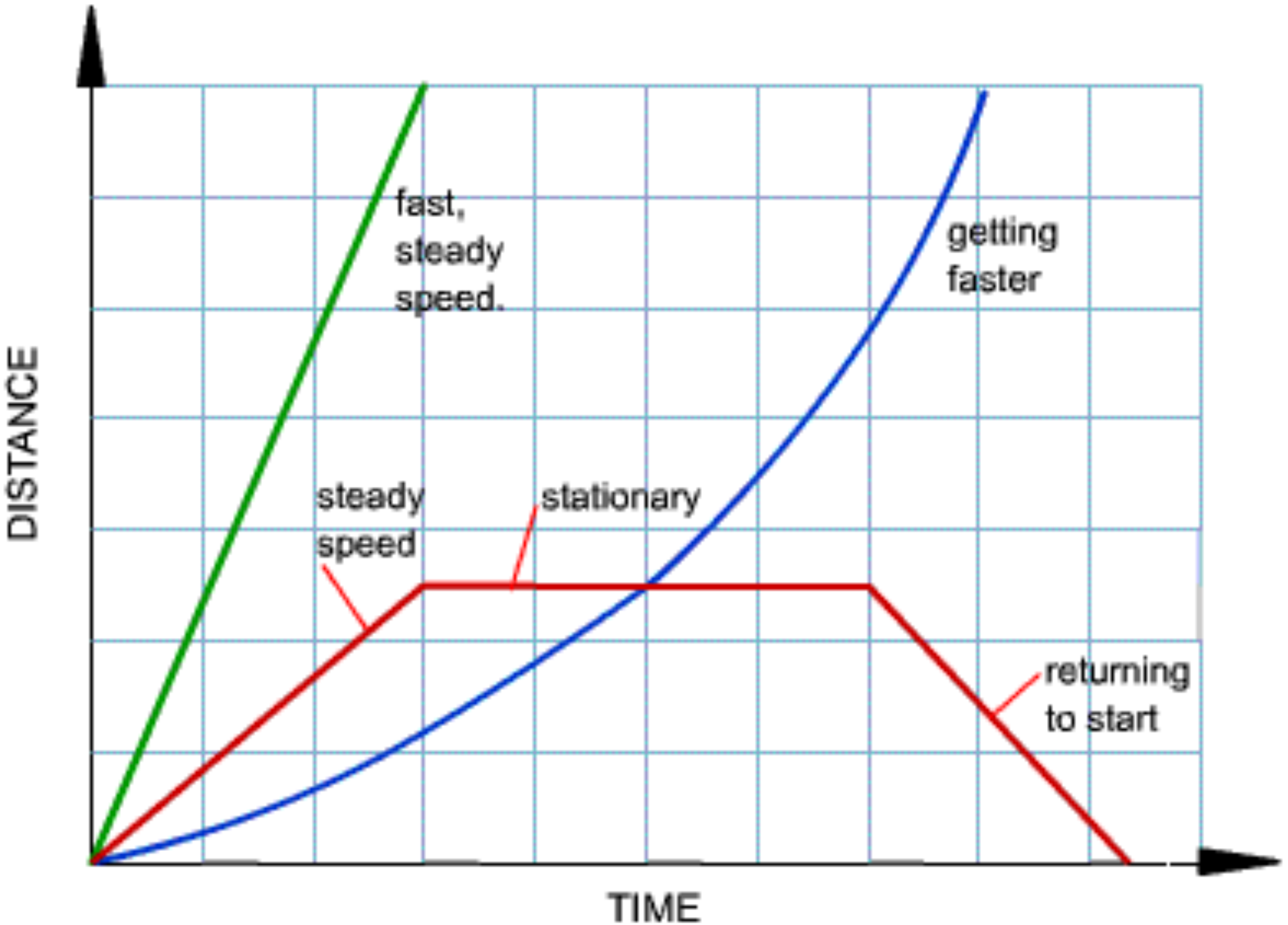
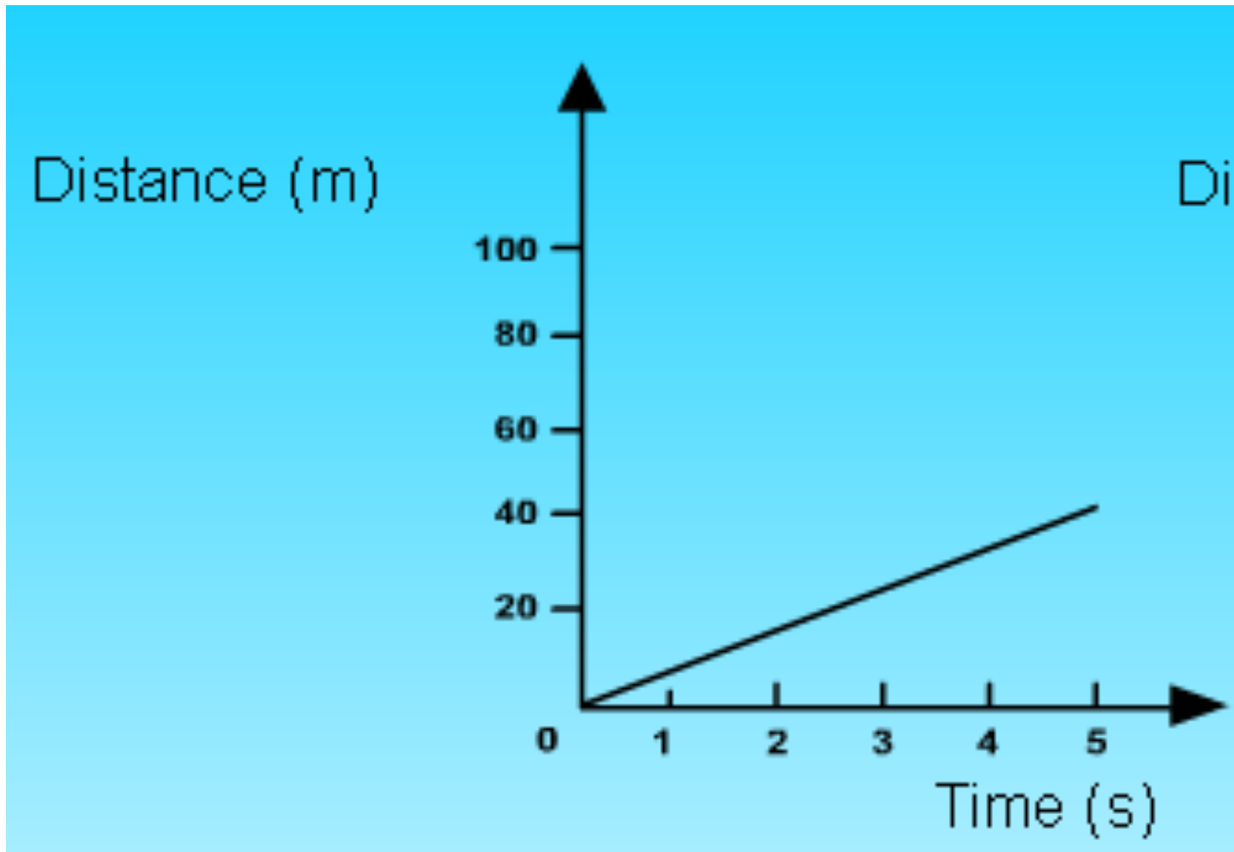
DISTANCE TIME GRAPHS

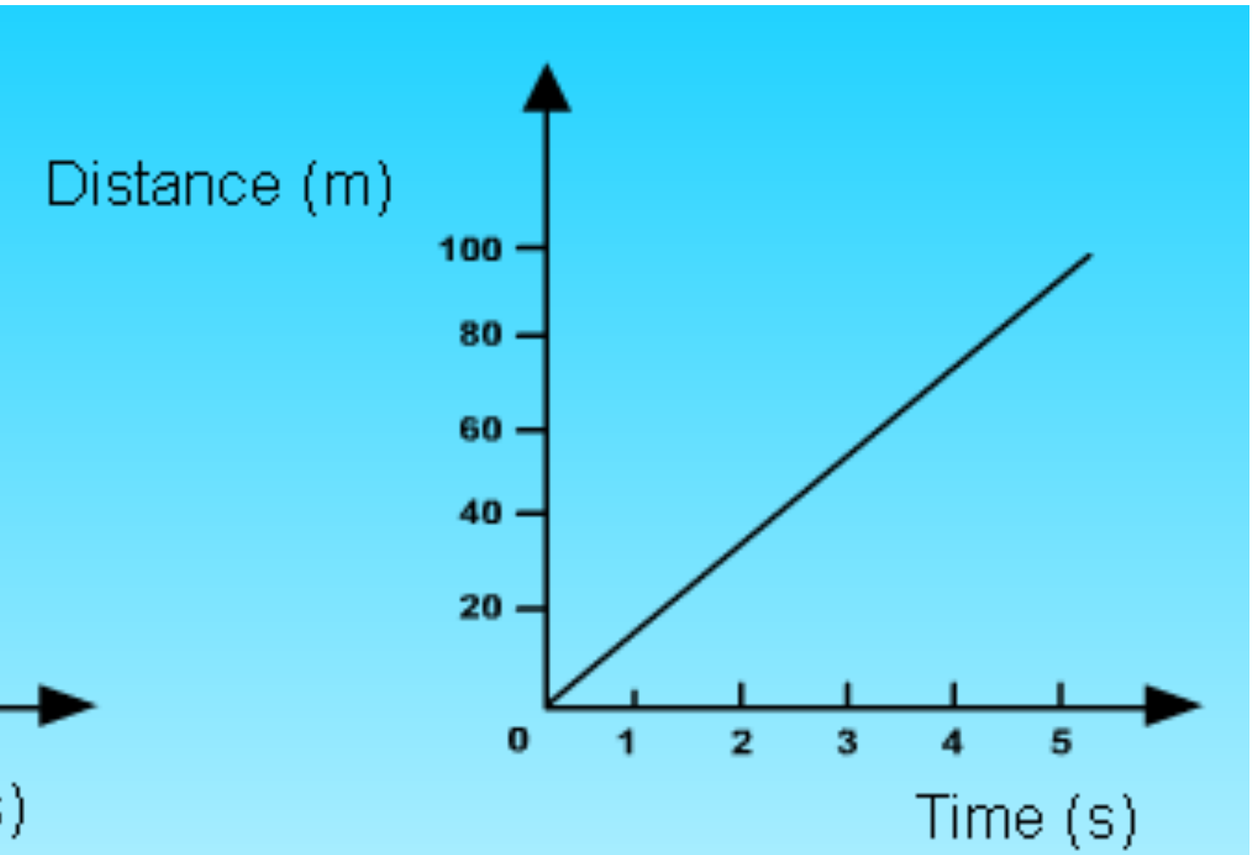


Question 1

Which graph shows the object travelling at a faster speed?



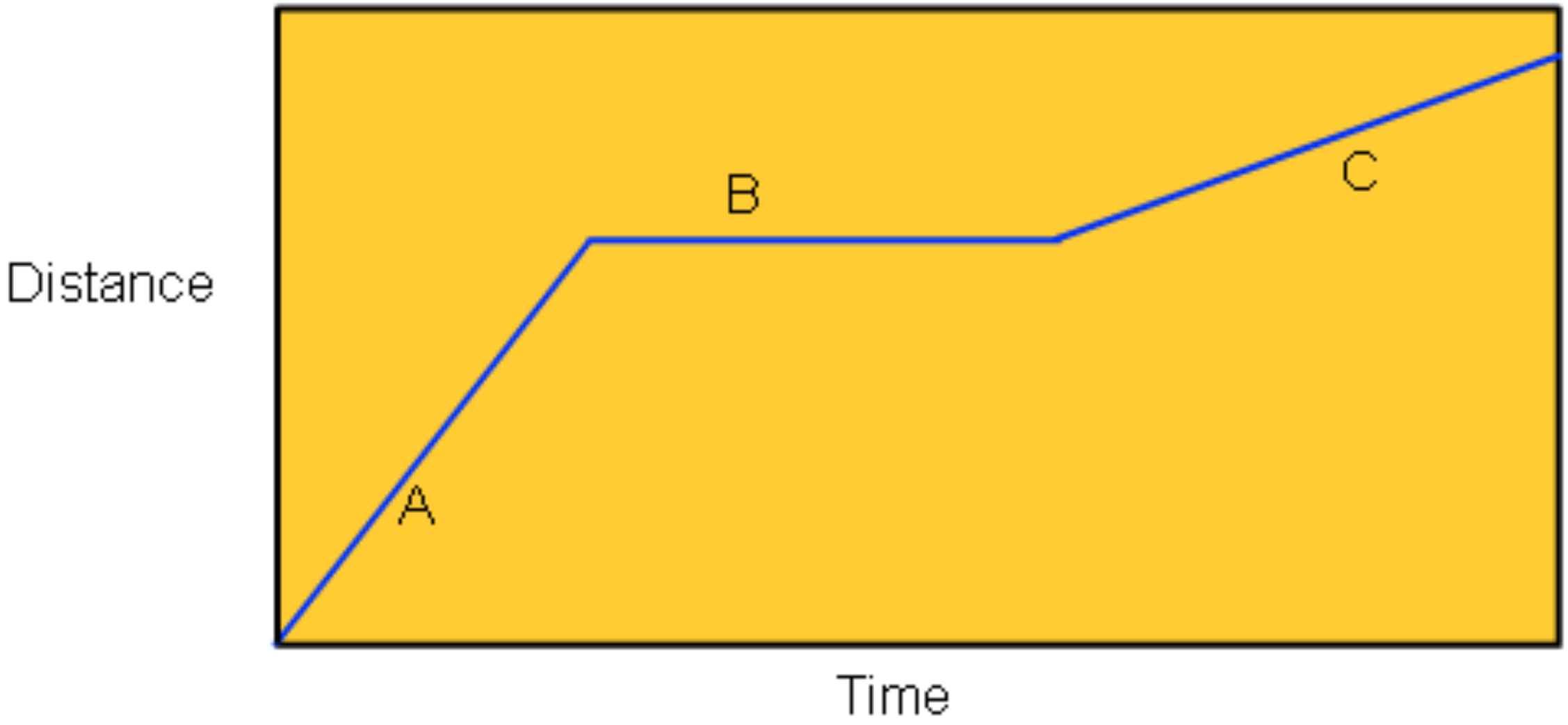
A



B

Question 2

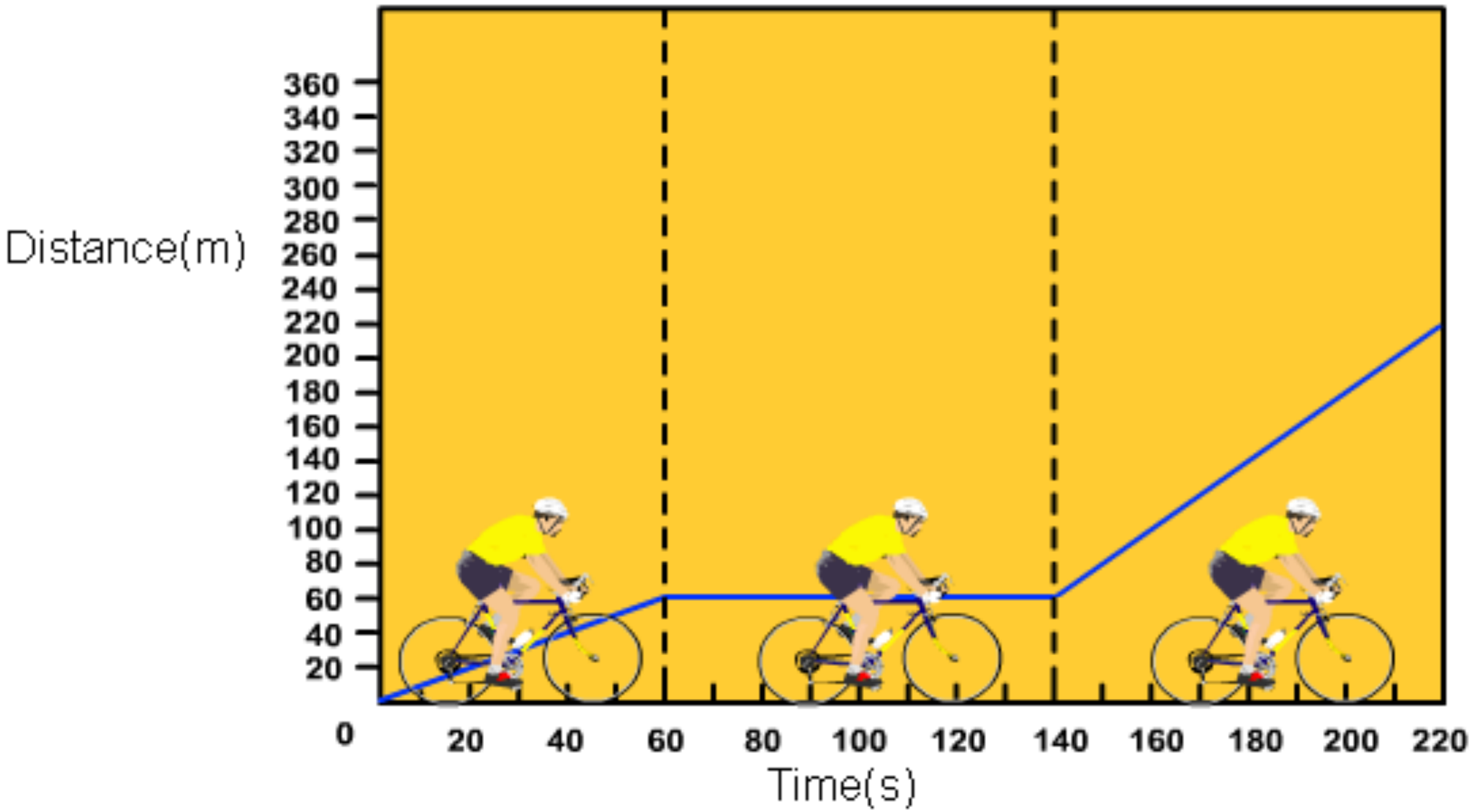
Which part of the graph shows that the object is stationary?



A **B** **C**

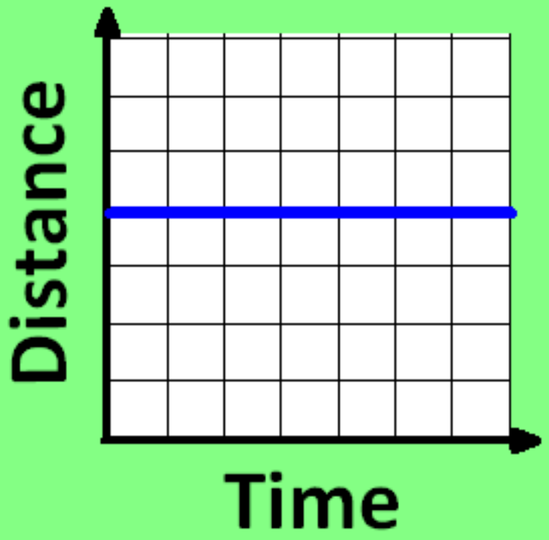
Question 3

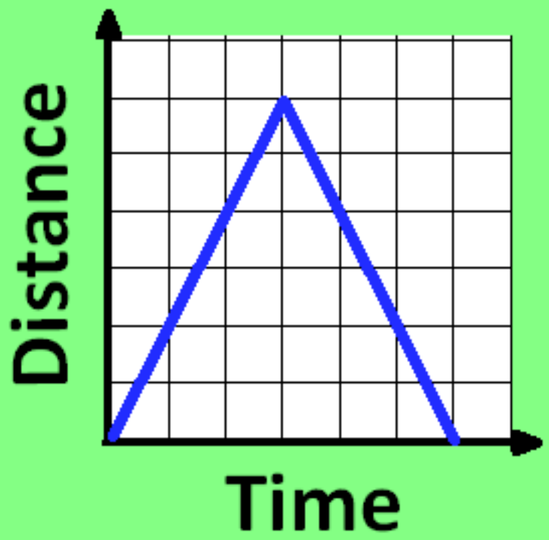
How long was the cyclist stationary for?

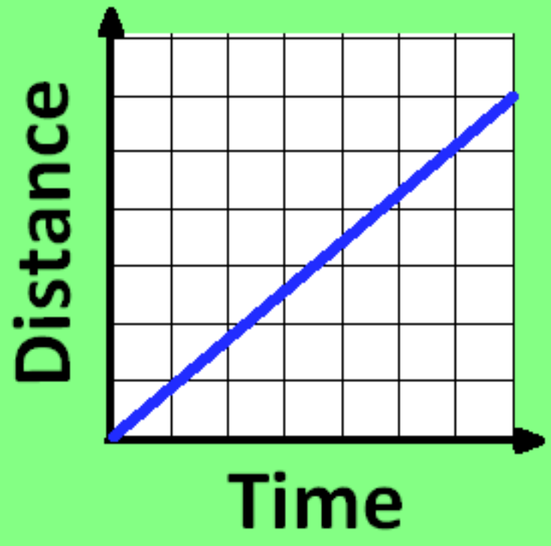


80s **40s** **220s**

QUICK STARTER: Can you match the graph to the situation?







A motorbike travels away from home at a **steady speed**

A car **remains parked** in a car park

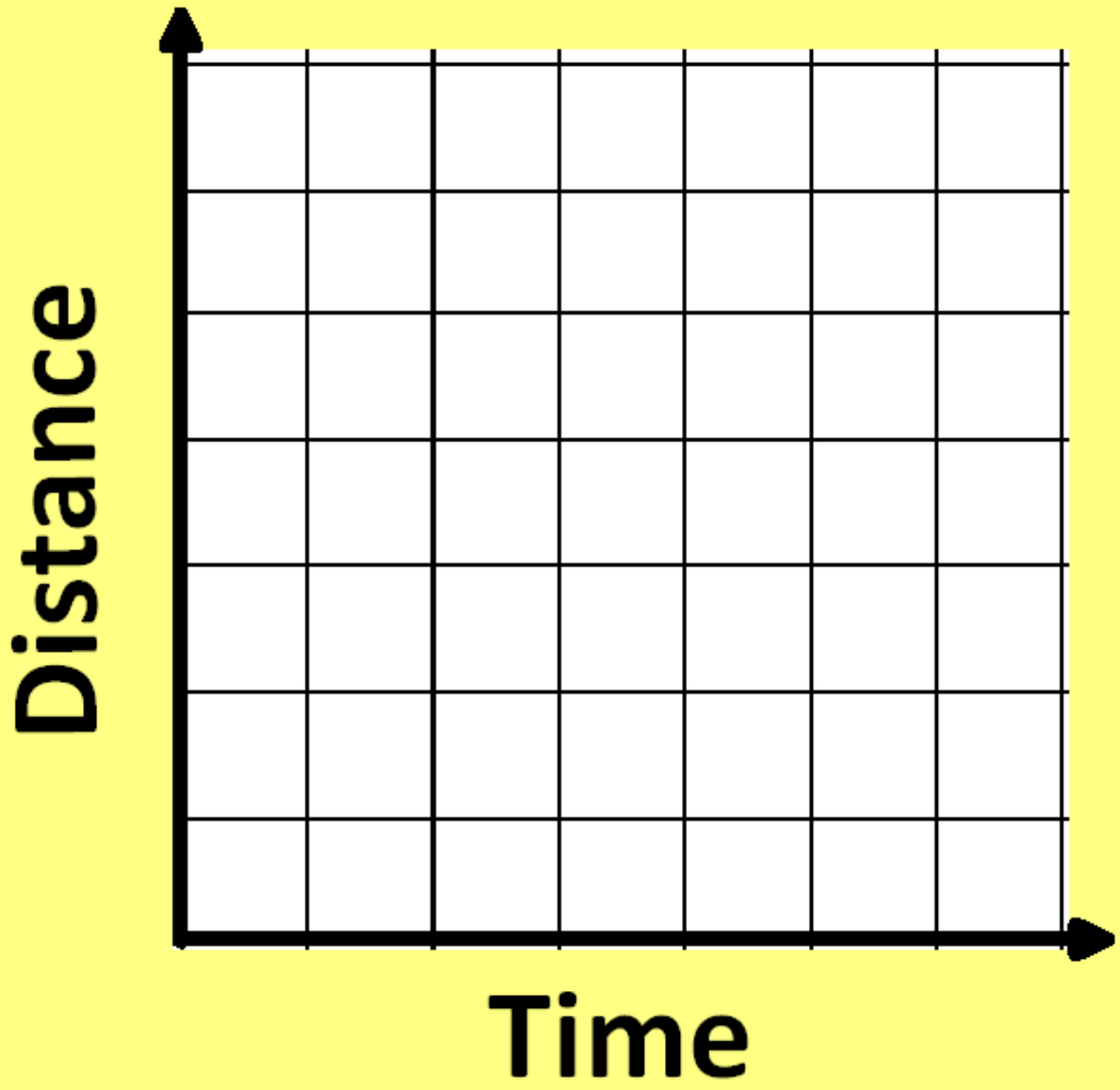
A runner runs at a **steady pace** to the end of a track, turns around then runs at **the same speed back.**

Extension: draw a distance time graph to show:

- A man going out to take his dog for a walk.
- He stops at the paper shop to buy a newspaper.
- Then he returns home.

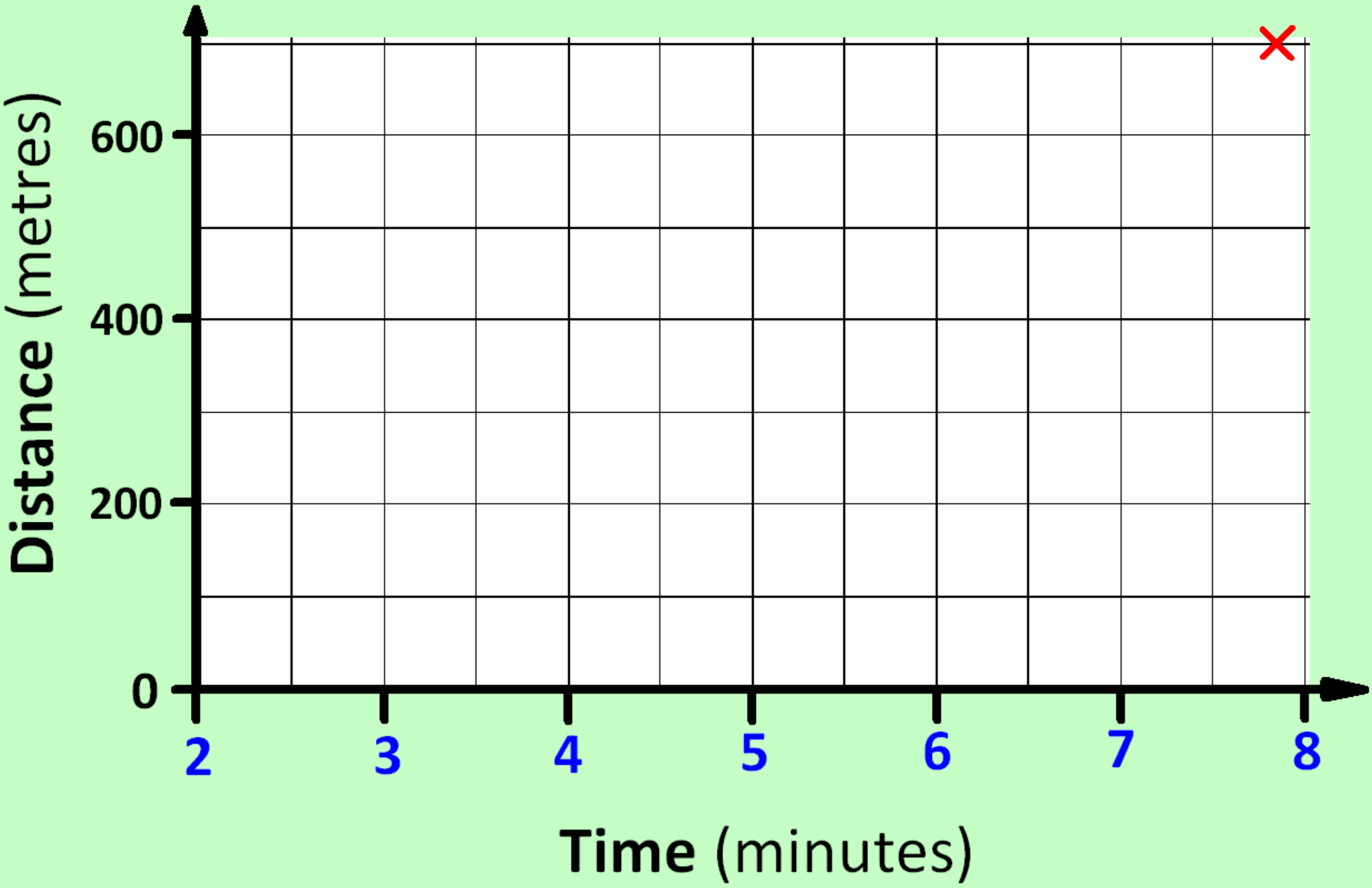
Extension: draw a distance time graph to show:

- A man going out to take his dog for a walk.
- He stops at the paper shop to buy a newspaper.
- Then he returns home.



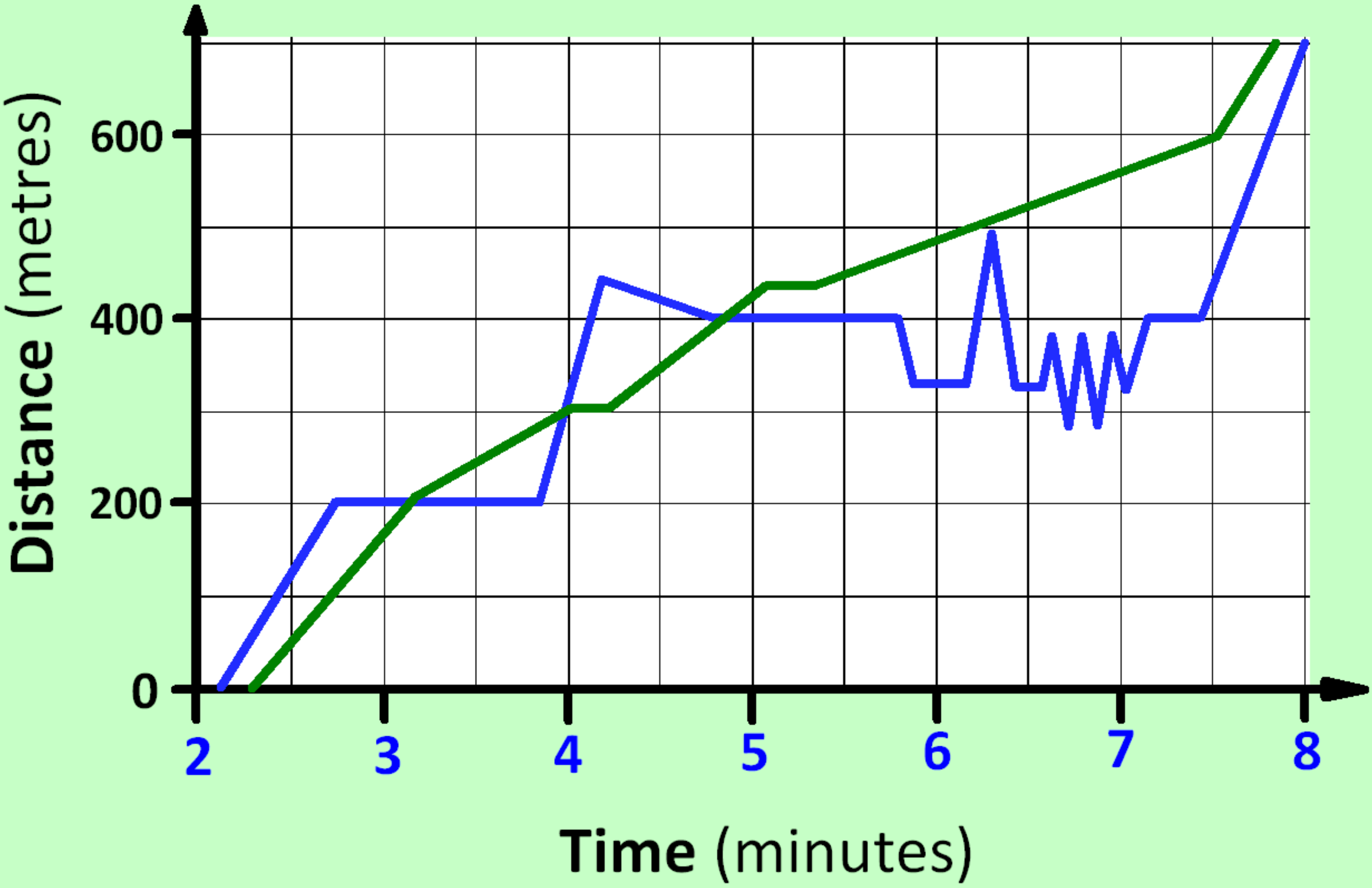
Draw a distance time graph to show what happened in the race....

You will a line for the hare and another line for the tortoise

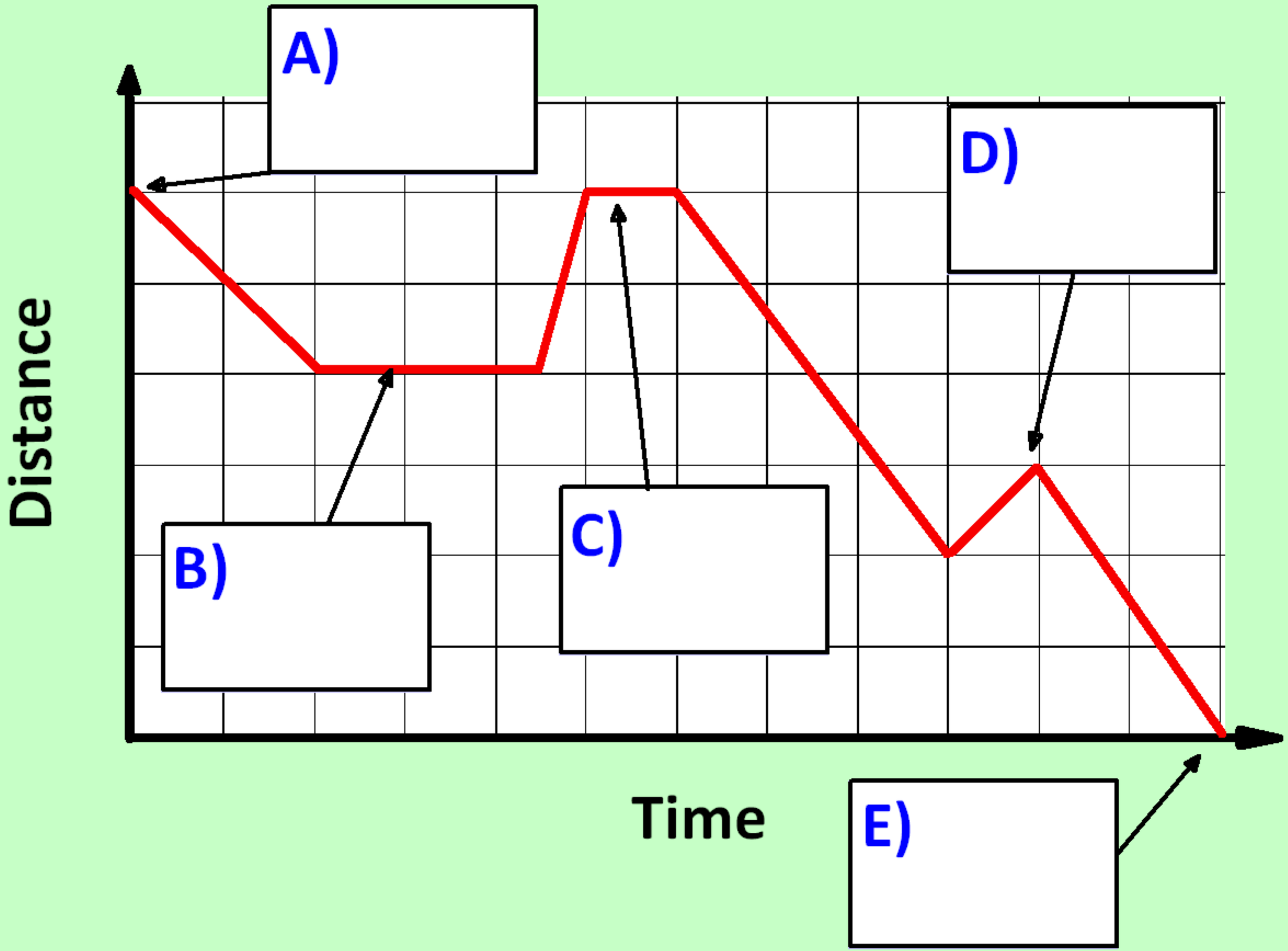


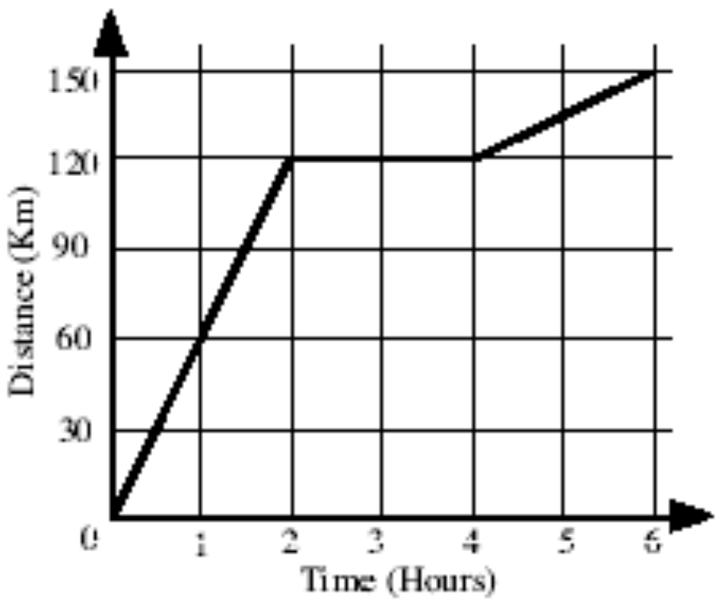
Tortoise

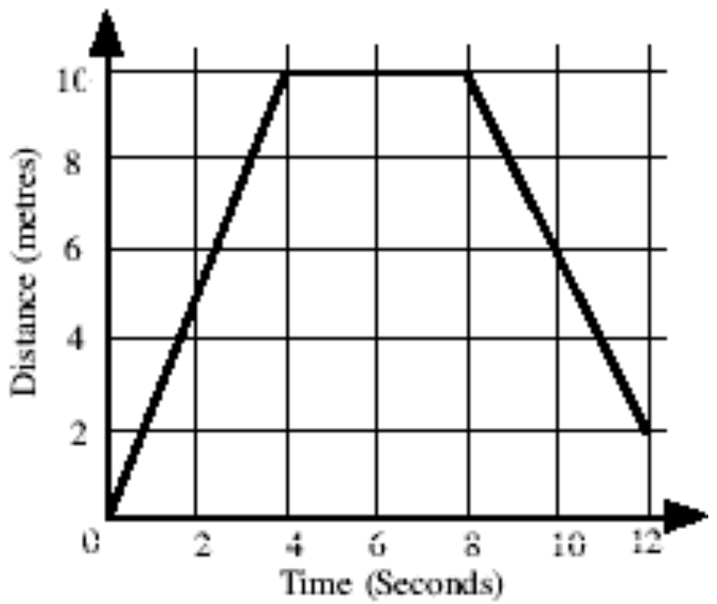
Hare

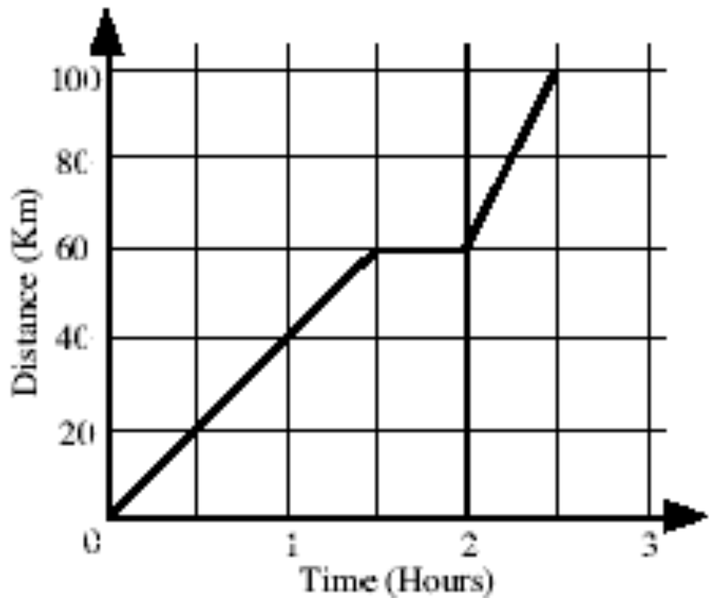


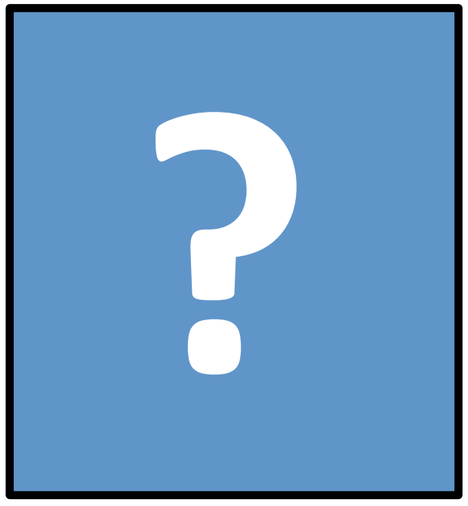
What does this distance time graph show?
Describe what happens at each point:




Distance (Km)
150
120
90
60
30
0
1
2
3
4
5
6
Time (Hours)


Distance (metres)
10
8
6
4
2
0
2
4
6
8
10
12
Time (Seconds)


Distance (Km)
100
80
60
40
20
0
1
2
3
Time (Hours)

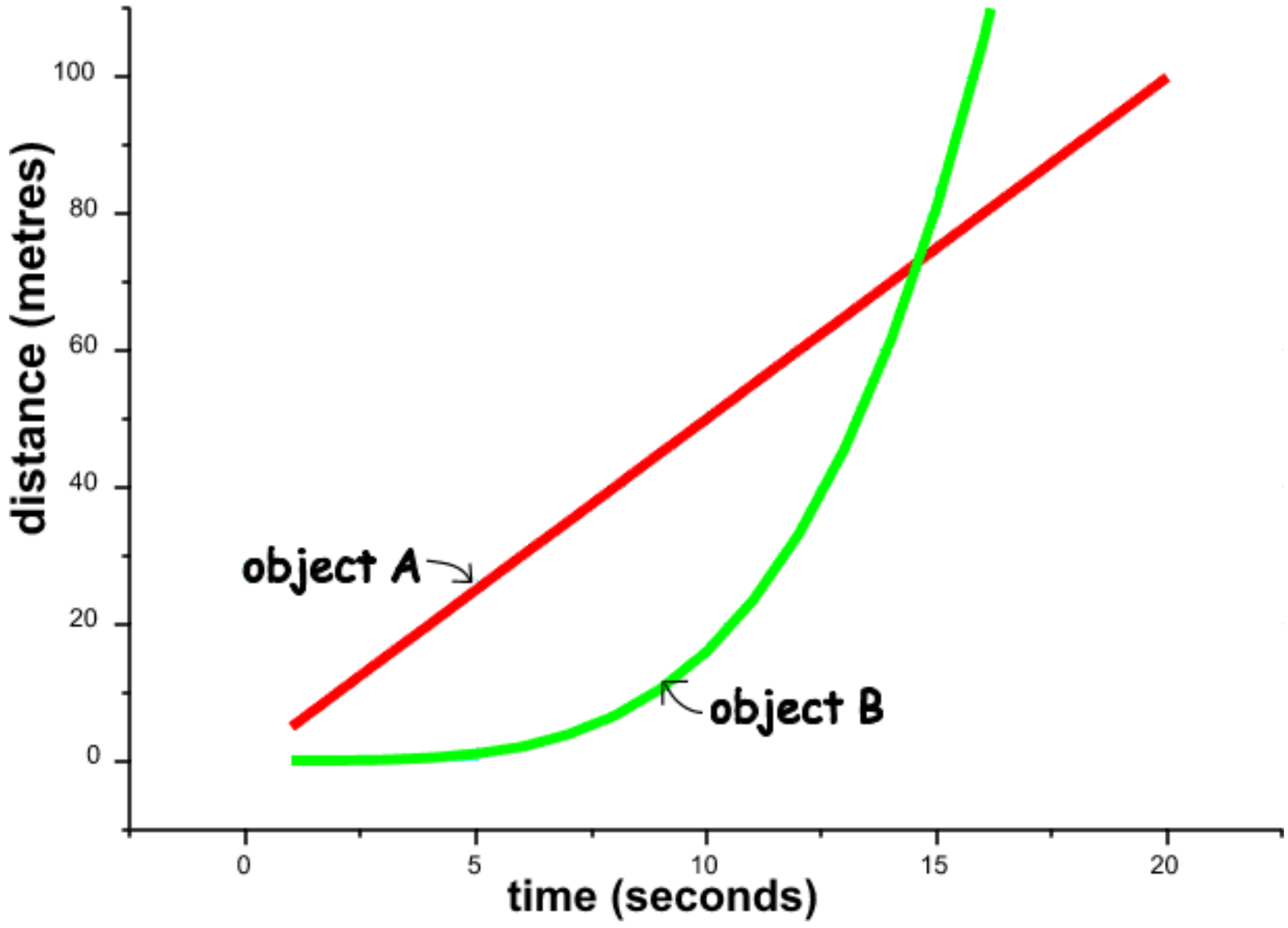

?

?

?

Question 3

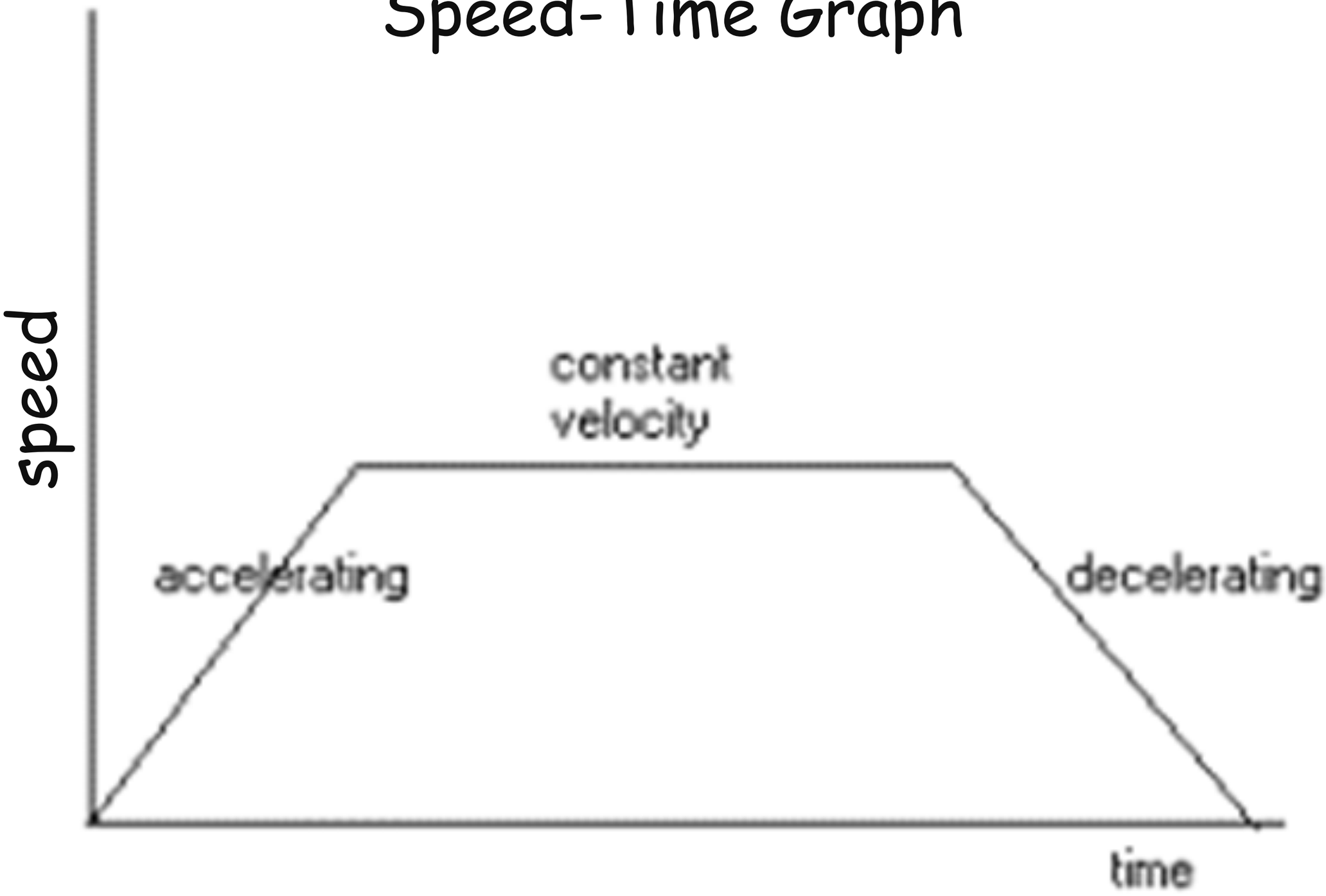
Which line shows an object that is accelerating?



A

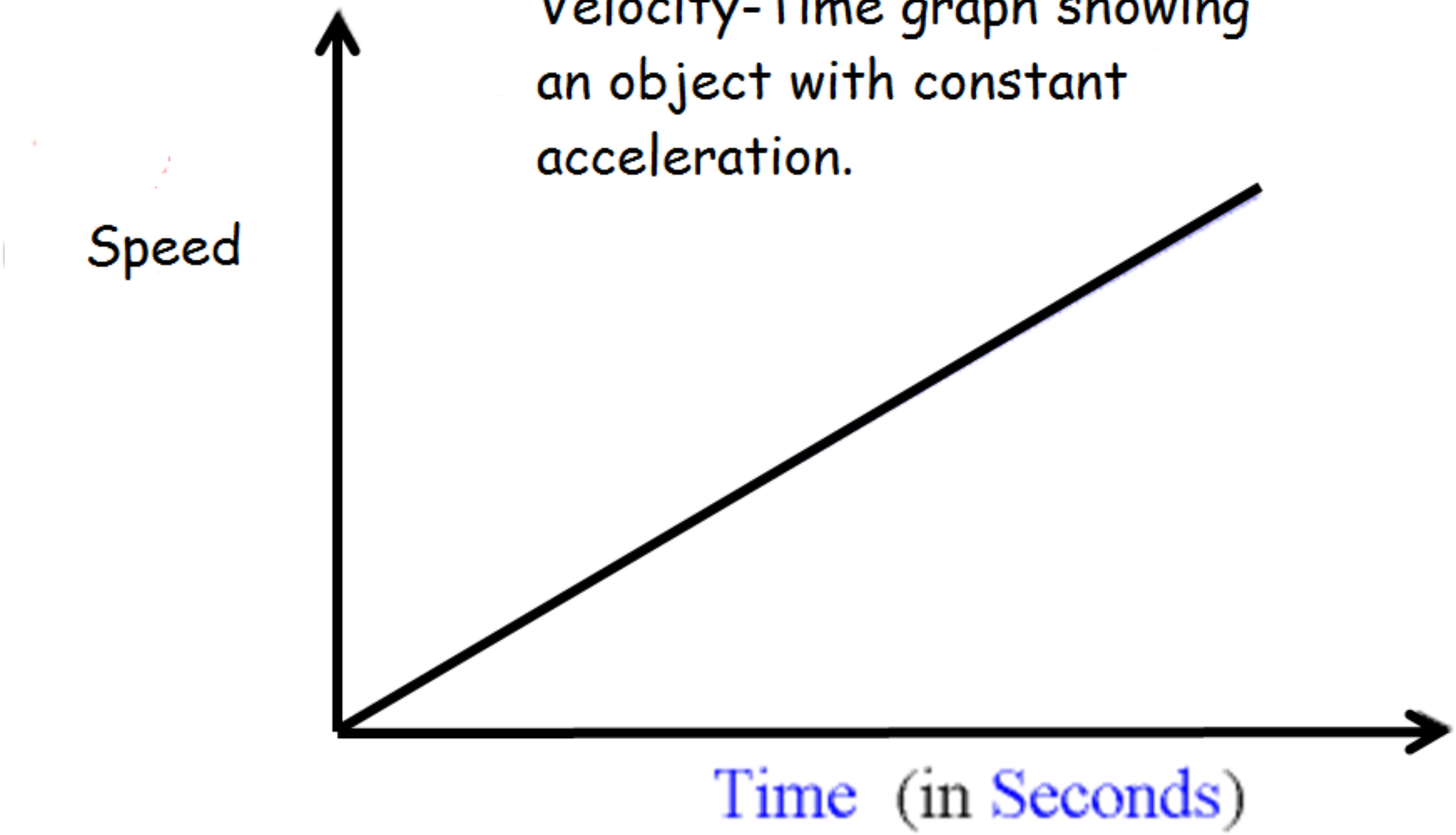
B

Speed-Time Graph

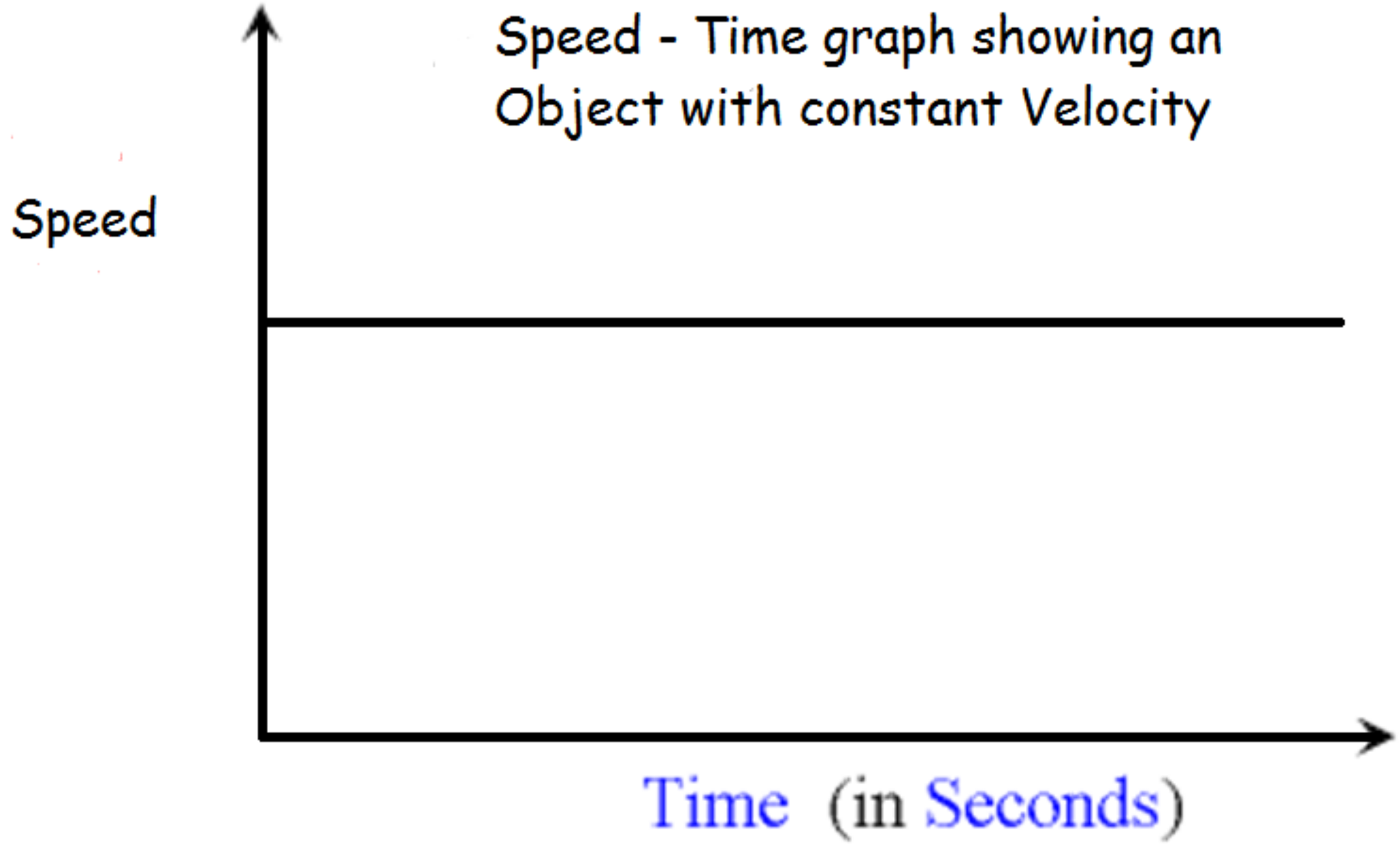


The distance travelled is area under graph.
The acceleration and deceleration can be found by finding the gradient of the lines.

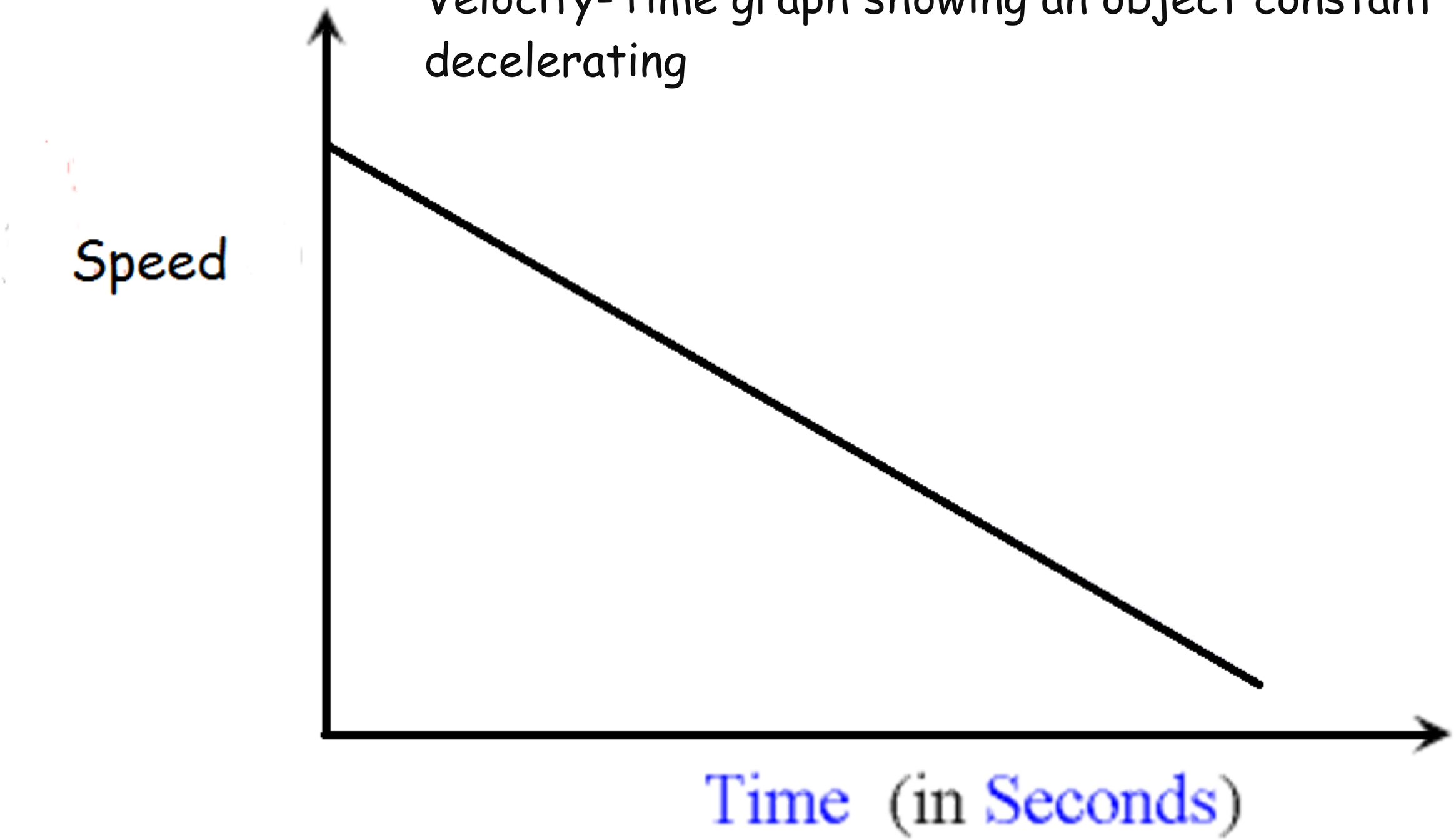
Velocity-Time graph showing an object with constant acceleration.



Speed - Time graph showing an Object with constant Velocity

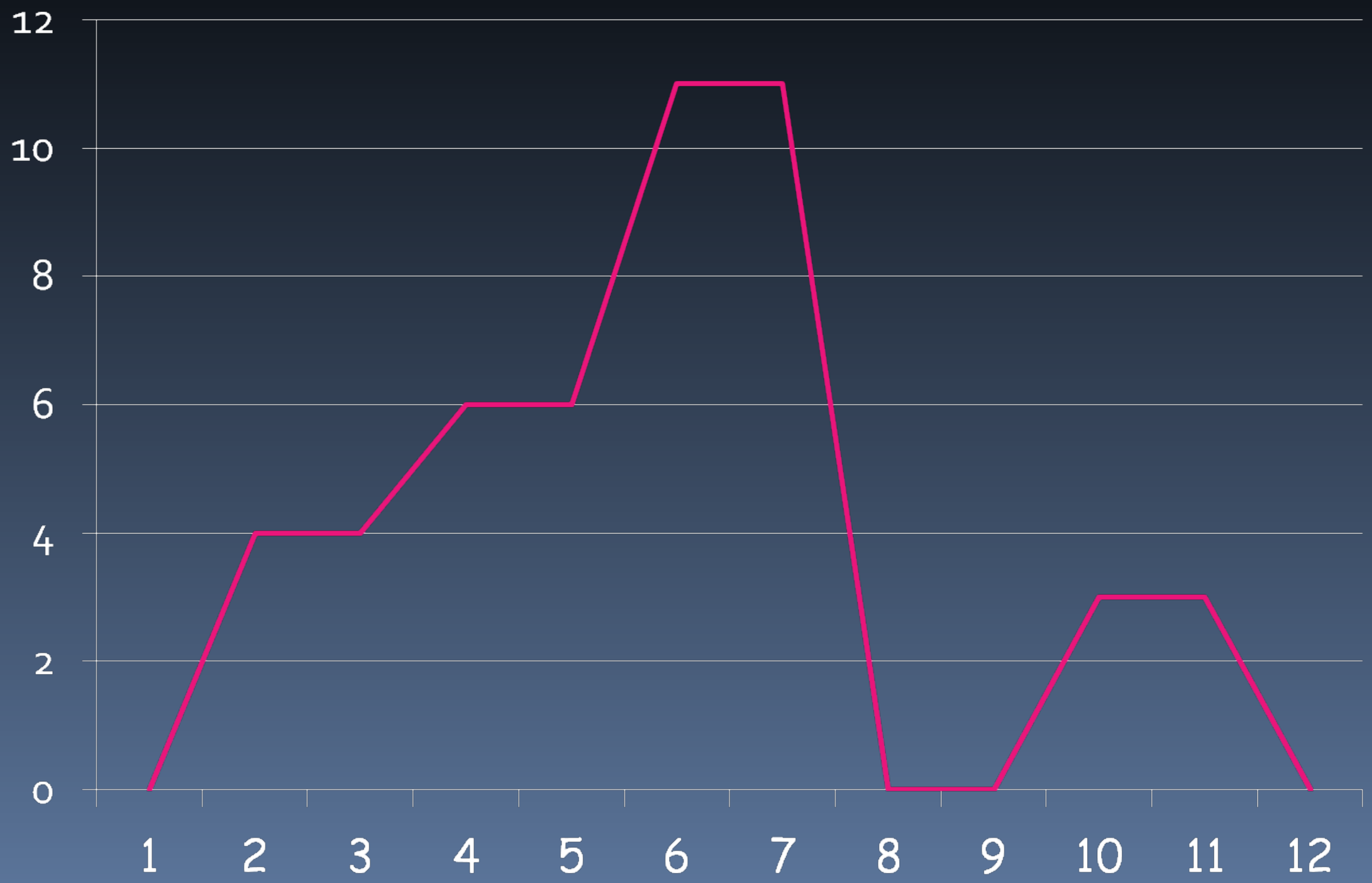


Velocity-Time graph showing an object constant decelerating



The Coyote is chasing its meal (the Road Runner). Unfortunately the Coyote has difficulty adjusting to the Road Runner's speed but we have a good idea what it is.

Time (hrs)	Speed (km/h)
0	0
1	4.0
2	4.0
3	6.0
4	6.0
5	11.0
6	11.0
7	0.0
8	0.0
9	3.0
10	3.0
11	0.0


12
10
8
6
4
2
0
1
2
3
4
5
6
7
8
9
10
11
12

1) How long was the Coyote travelling at 4.0km/h
2) Between what times did the Coyote stop to take a break?
3) What was the maximum speed did the Coyote achieve
4) From which time(s) did the Coyote decelerate to rest permanently?