MATHEMATICS · GRADES 7-9

Distance-Time Graphs

Difficulty level: Intermediate

Mathematics: Grades 7-9

This document was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

Overview of the concept

This is how you read a trip from a picture. A flat line means the bus stopped, a steep line means it went fast, and a line heading back down means it came home. You can see the whole journey at a glance, including the stops, the speeds, and the total time. It is how timetables, fitness trackers, and delivery apps show a journey without a single paragraph of text.

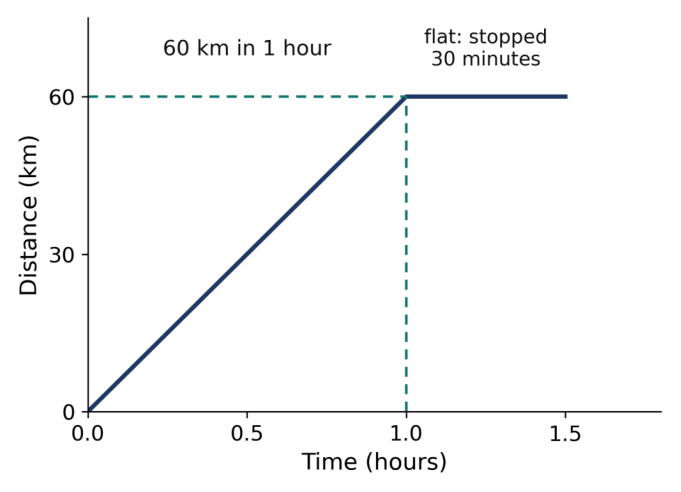


© 2026 Brett Robbins. All Rights Reserved.

Worked examples

EXAMPLE 1

Q A distance-time graph rises 60 km in 1 hour. Find the speed.



SOLUTION

Speed is distance divided by time.

Distance 60 km, time 1 hour: $\frac{60}{1} = 60$

The speed is 60 km per hour.

EXAMPLE 2

Q A distance-time graph is flat for 30 minutes. What does that mean?

SOLUTION

Flat means distance does not change.

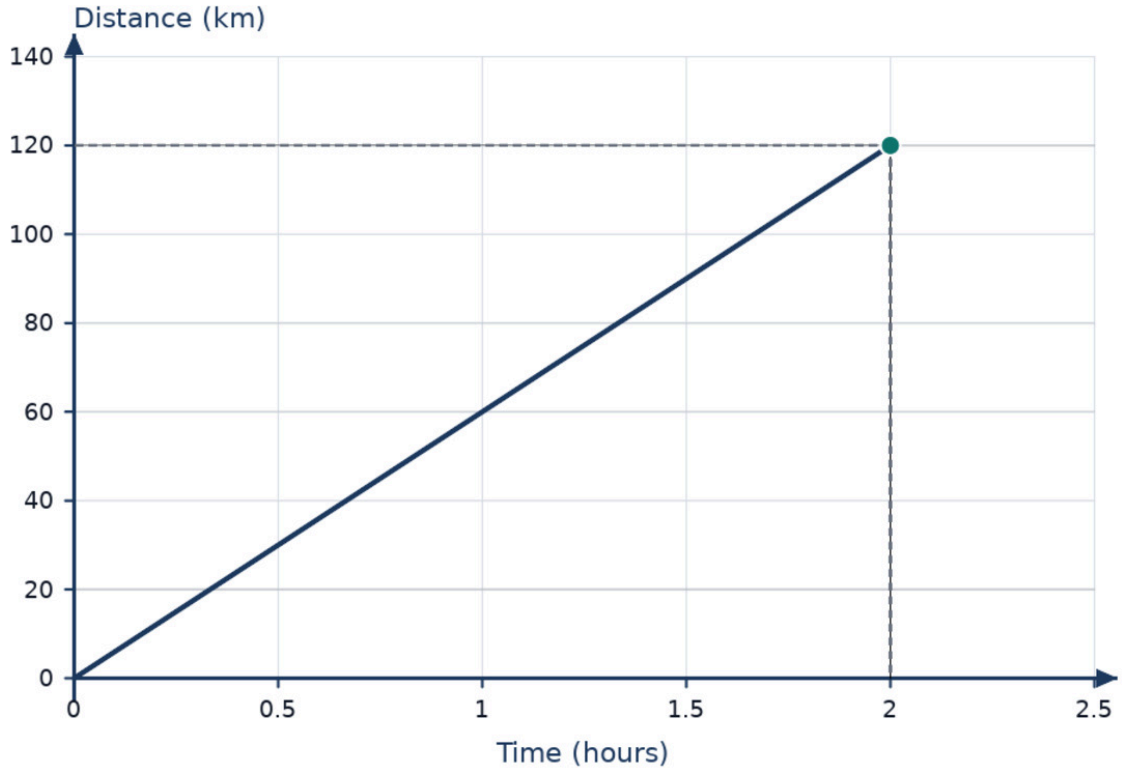
Distance not changing means the object is not moving.

The object stopped for 30 minutes.

© 2026 Brett Robbins. All Rights Reserved.

Practice questions

1 What is the speed?



A 30 km per hour

B 45 km per hour

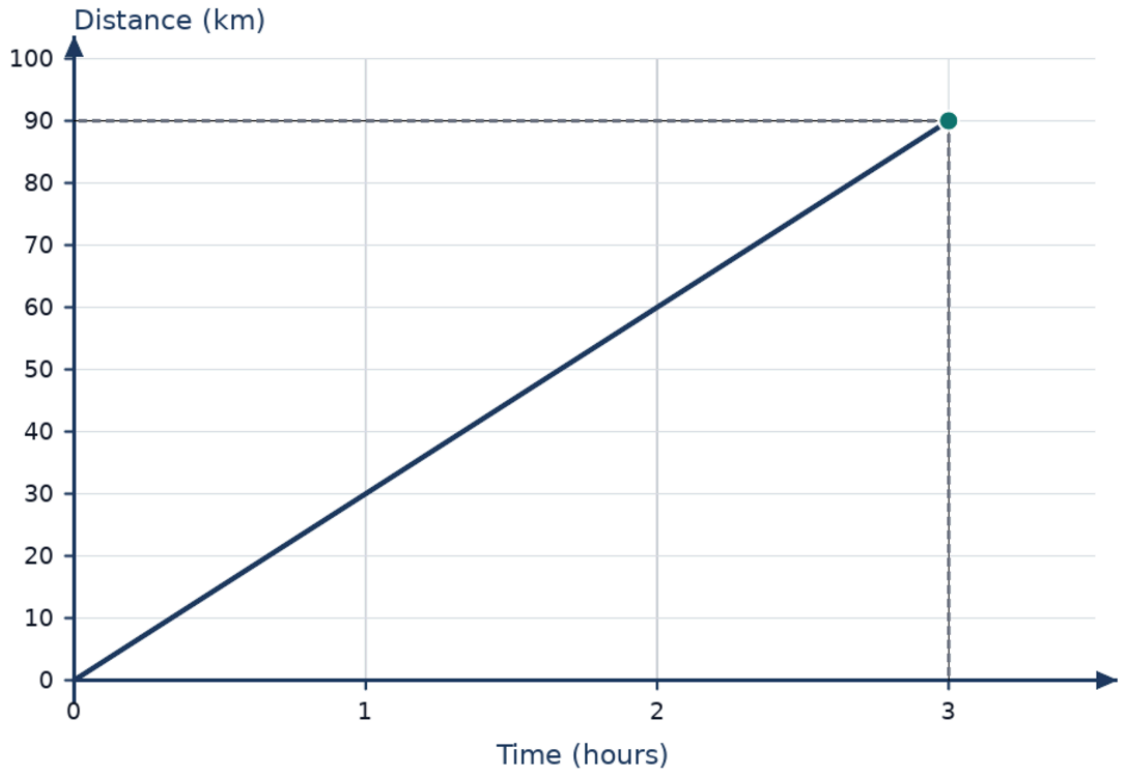
C 60 km per hour

D 120 km per hour

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

2 How long does it take to travel 90 km?

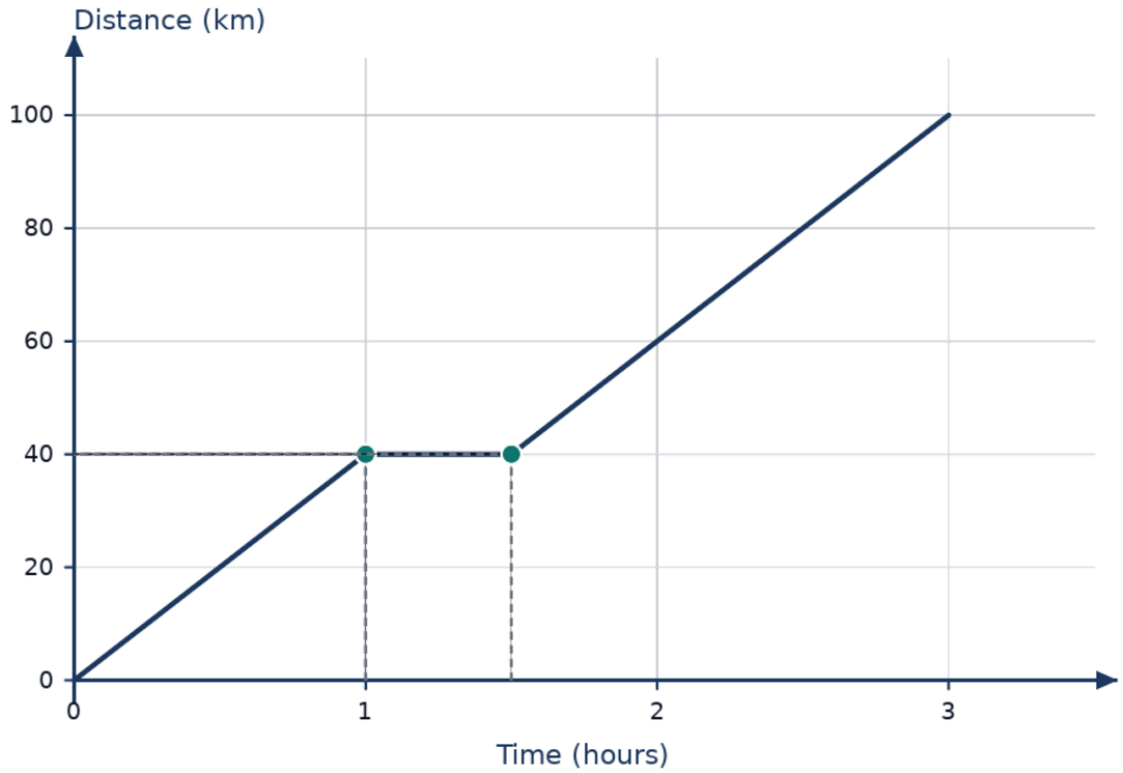


Understand It with Pulse

Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

3 What does the flat section mean?



A The object sped up.

B The object stopped for 30 minutes.

C The object went back to the start.

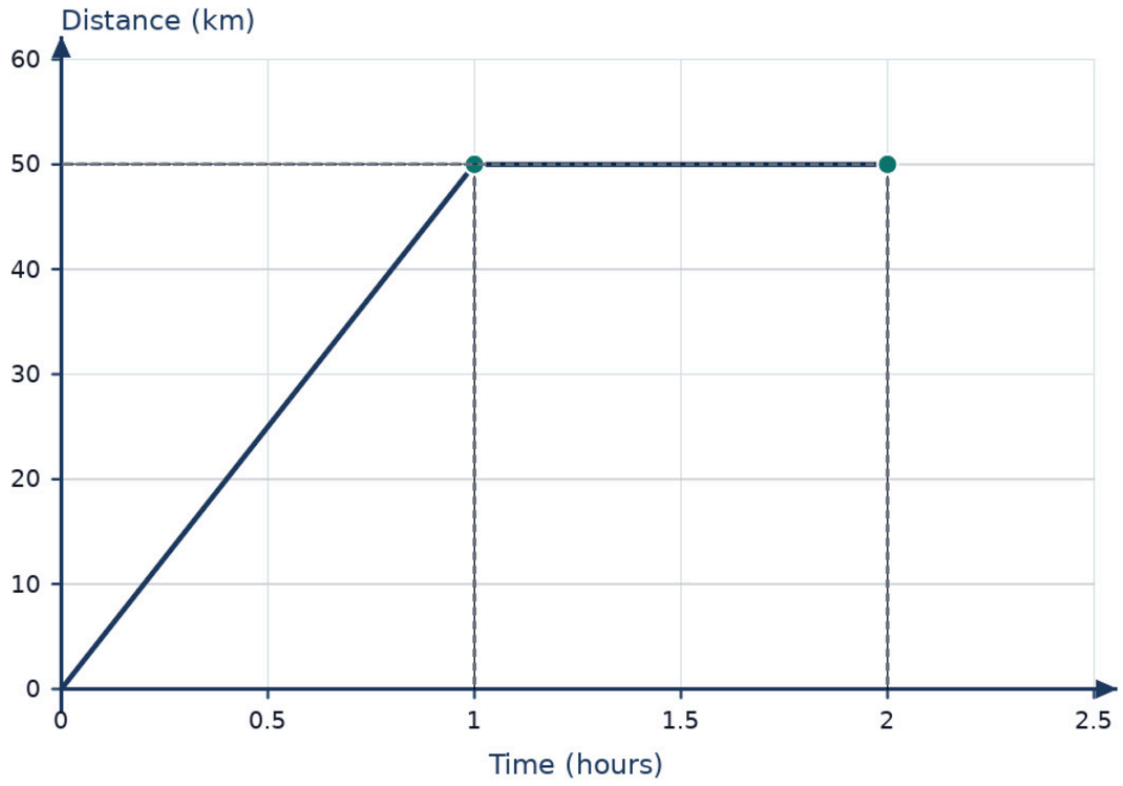
D The object stopped for 1 hour.

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

4

What is the total distance after 2 hours?

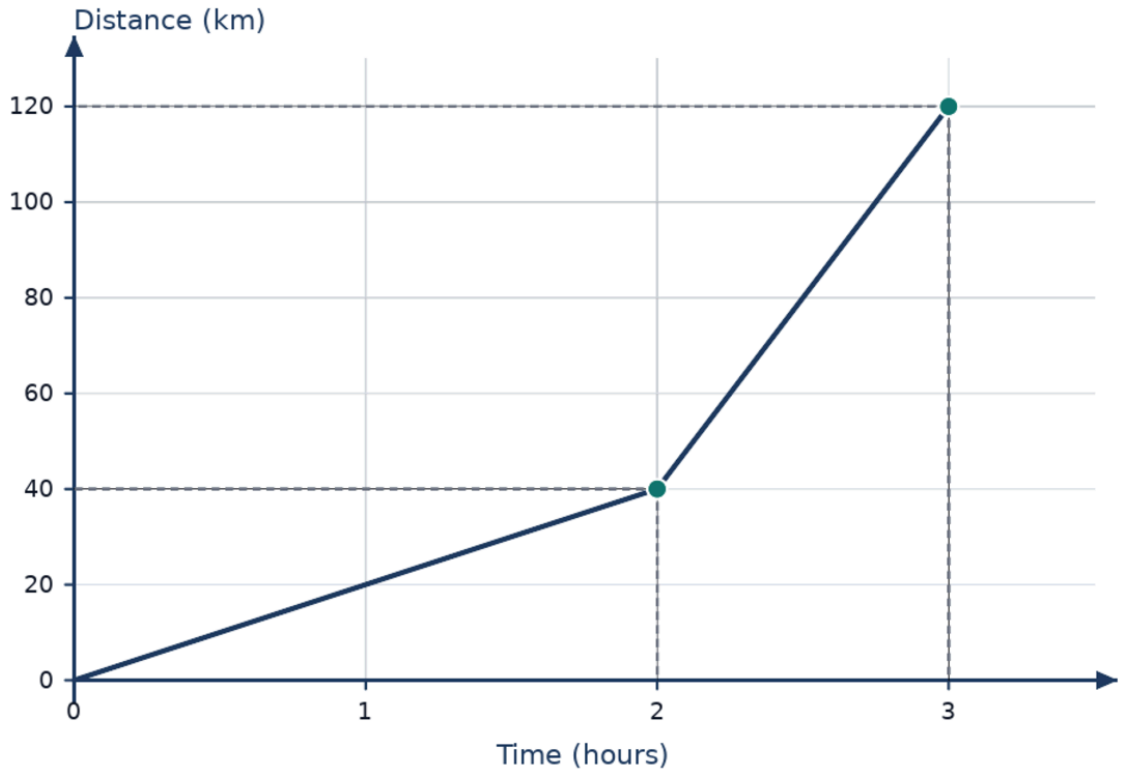


Understand It with Pulse

Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

5 What does the steeper section mean?



A Faster

B Slower

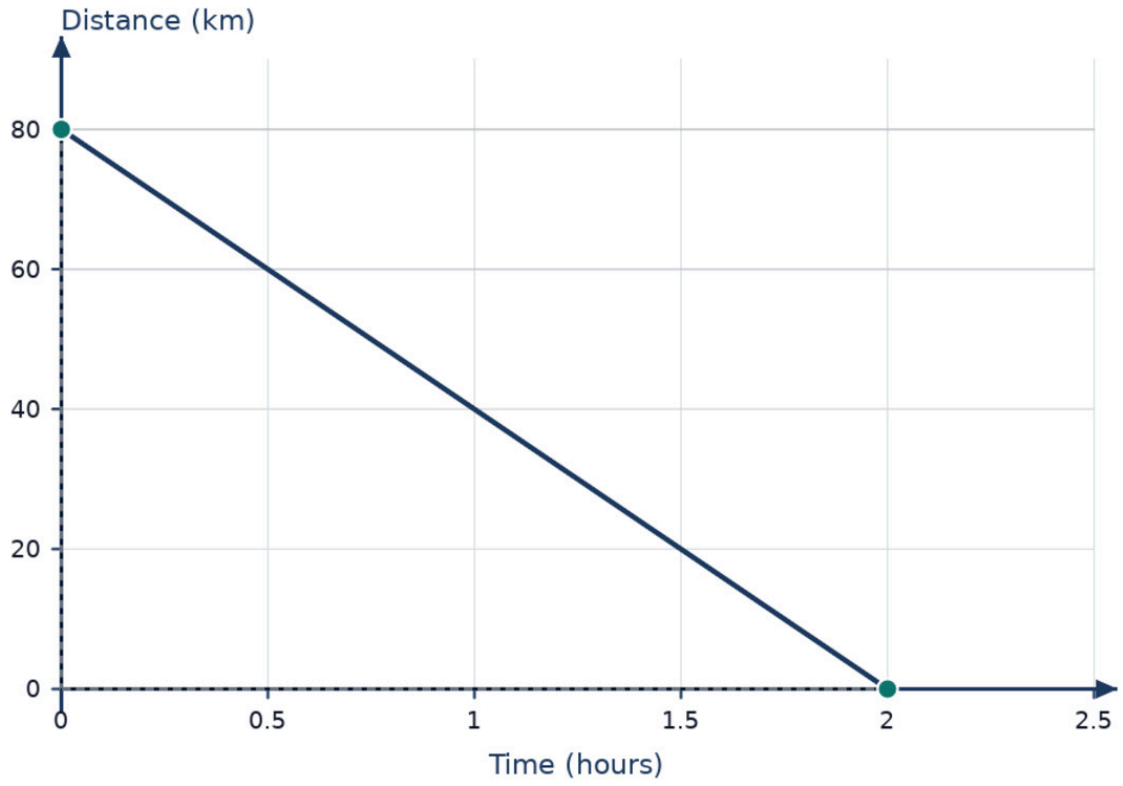
C The object stopped.

D The object went back to the start.

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

6 What does the line sloping down to 0 mean?



A The object stopped.

B Returning to the start

C The object sped up.

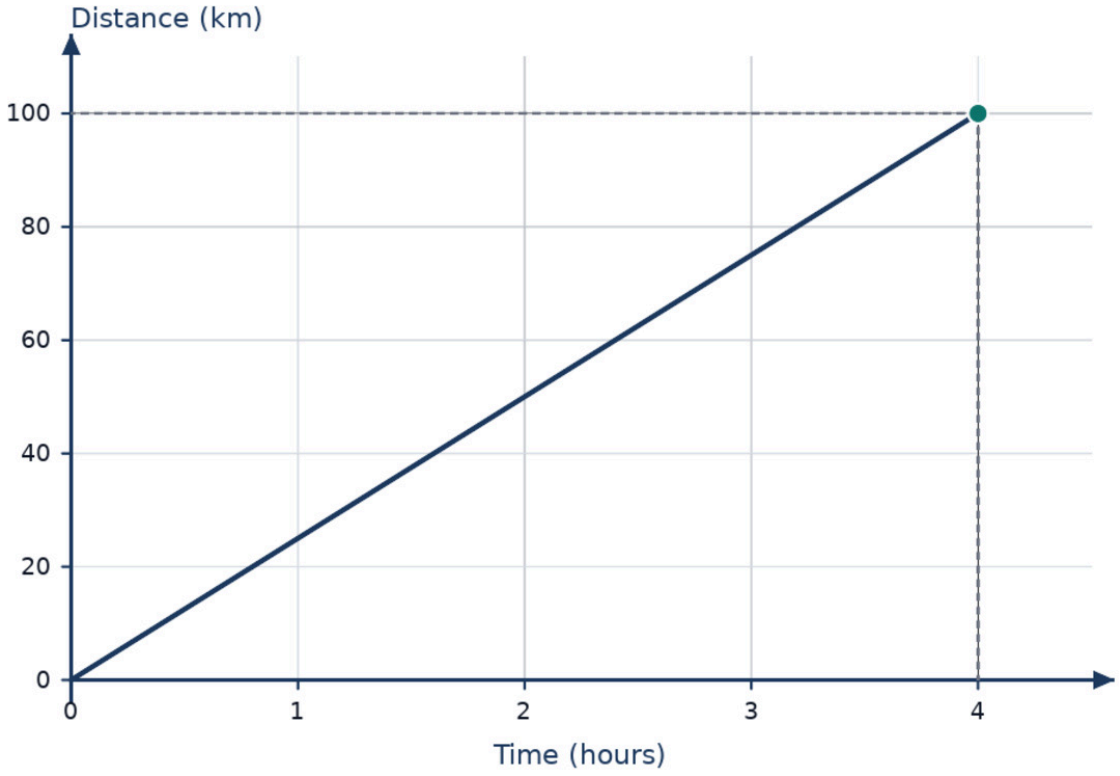
D The object went further away.

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

7

The graph rises in a straight line. What does that tell you about the speed?



A The speed is constant

B The speed is increasing

C The object stopped.

D The object went back to the start.

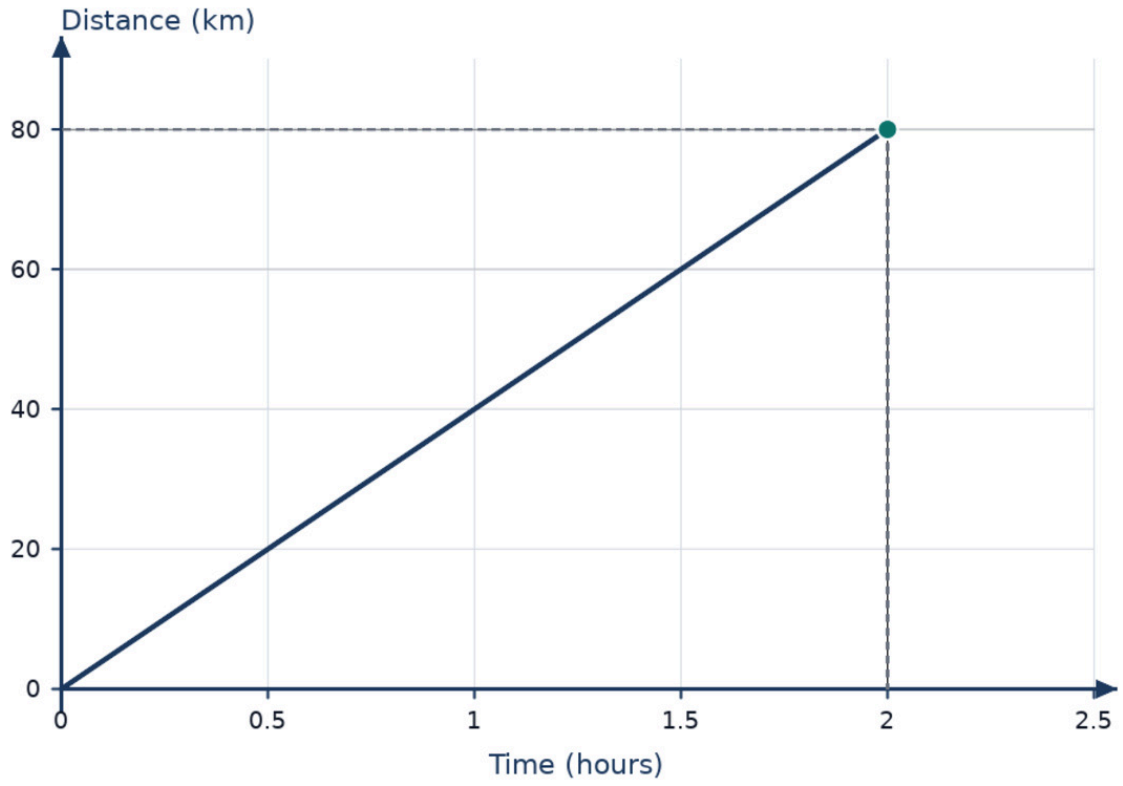
Understand It with Pulse

Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

8

How far does it travel in 2 hours?

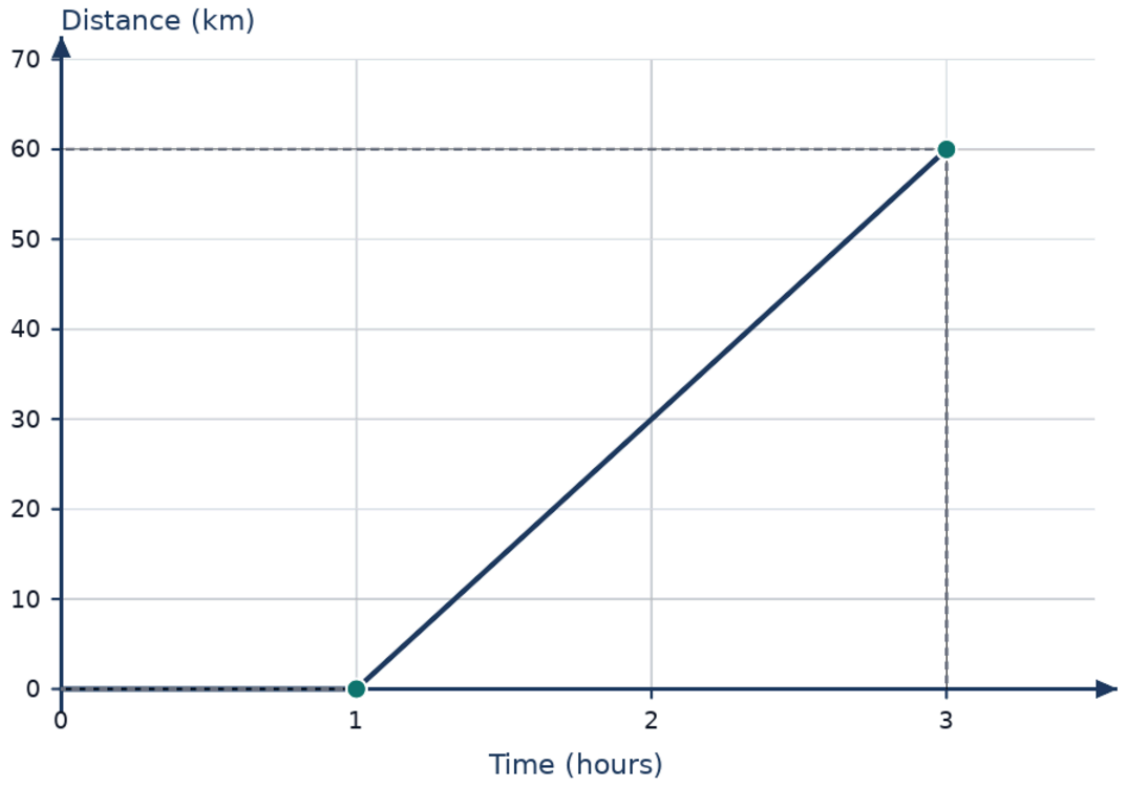


Understand It with Pulse

Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

9 What happened in the first hour?



A The object moved away quickly.

B Nothing moved, the object stayed at the start.

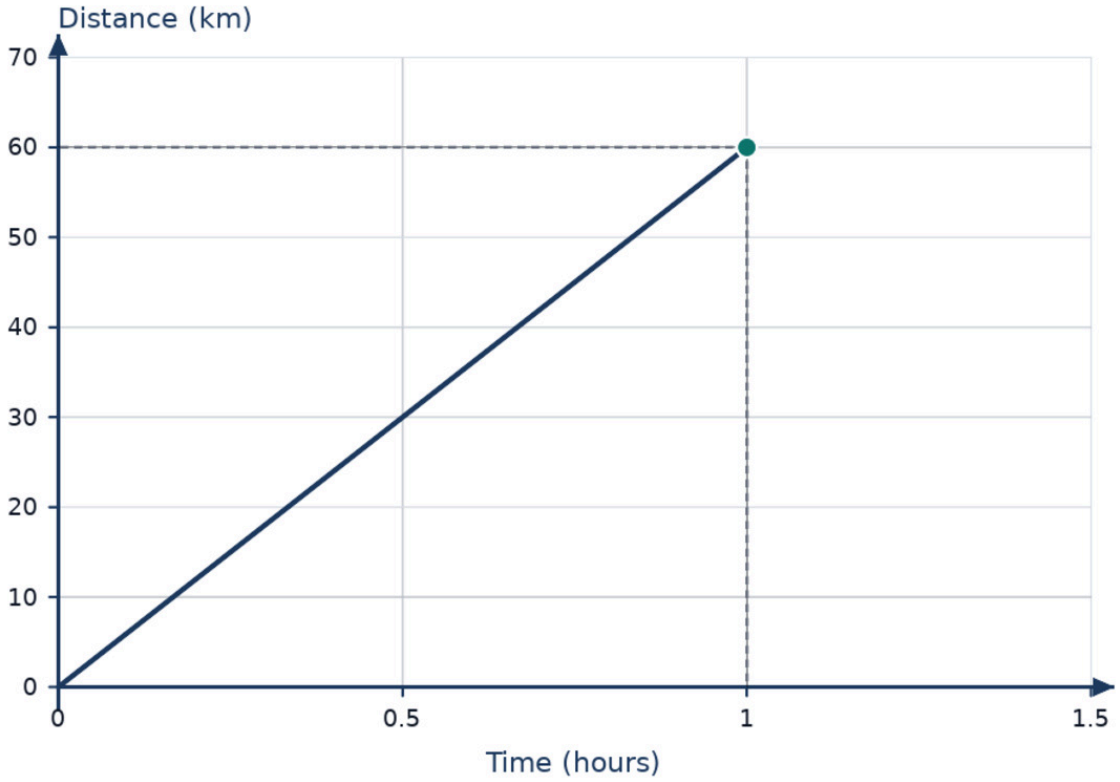
C The object went back to the start.

D The object sped up.

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

10 **The object travels 60 km in 1 hour. How far will it travel in 3 hours at the same speed?**



A 60 km

B 120 km

C 180 km

D 240 km

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

ANSWER KEY

1. 60 km per hour

2. 3 hours

3. The object stopped for 30 minutes.

4. 50 km

5. Faster

6. Returning to the start

7. The speed is constant

8. 80 km

9. Nothing moved, the object stayed at the start.

10. 180 km

© 2026 Brett Robbins. All Rights Reserved.