CHAPTER 2 Relations
2.6 Distance-Time Graphs
Drawing and interpreting distance-time graphs

Example:

a) Tanya started 2 m from the door of the classroom and walked according to the distance-time graph shown. Distance is measured in metres and time is measured in seconds. Describe her walk in words.

b) How fast was Tanya walking during the first five seconds?

c) What was the total distance that Tanya walked?

Solution:

a) Tanya moved away from the door, reaching a maximum distance of 7 m after 5 s. She then stopped for 5 s. Finally, she walked towards the door, reaching it after another 5 s walk.

b) Tanya walked 5 m in 5 s. Her speed was 1 m/s.
c) Tanya walked 5 m + 7 m, a total of 12 m.

Practice:

1. Ho Chee rode his bicycle for 1.5 h at a speed of 20 km/h. He developed a flat tire, and stopped to fix it, which took 30 min. He then continued his ride at 16 km/h for another 45 min.

a) Sketch a distance-time graph for Ho Chee's bicycle ride.

b) How far did he ride altogether?

c) What was the average speed for his trip, including the time stopped to fix the flat?

Answers:

1. a) The distance-time graph is shown. Distance is measured in kilometres and time is measured in hours.

b) 42 km

c) 15.3 km/h