

Describing movement and average speed

Grade 6 science (Year 7 · Class 6) · Test

Name: _____ Date: _____ Class: _____ Mark: ____ / 20

This test lasts 45 minutes and is worth 20 points. Show your working for every calculation and write units with all your answers. A calculator is allowed. Read each question carefully before you start.

Level: Grade 6 science (Year 7 · Class 6) · **Curriculum:** MS-PS2-2

Time: 45 minutes · 9 questions · Total: 20 marks · Calculator allowed

Question 1 Key words (2 marks)

Define the terms *reference object* and *trajectory*.

Question 2 Ferry crossing (2 marks)

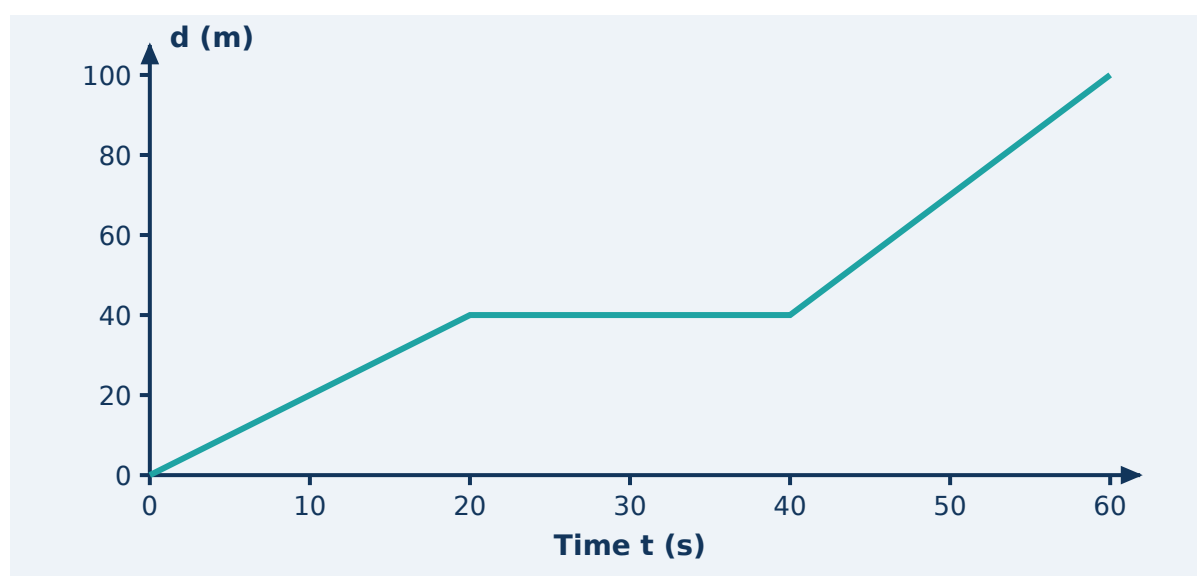
A ferry crosses a bay of width 15 km in 0.75 h. Calculate its average speed in km/h.

Question 3 Unit change (2 marks)

A train travels at 144 km/h. Calculate its speed in m/s.

Question 4 Tram graph (4 marks)

The graph shows the journey of a tram along a straight track.



Distance-time graph for a tram.

- a. State what the tram does between 20 s and 40 s. (1 mark)
- b. Calculate its speed during the first 20 s. (1 mark)
- c. Calculate its speed during the last 20 s. (1 mark)
- d. Calculate its average speed over the whole 60 s. (1 mark)

Question 5 Marathon pace (2 marks)

Kofi runs at a steady 5.5 m/s for 20 minutes. Calculate the distance he covers in metres.

Question 6 Moving or not? (3 marks)

A passenger sits on a plane that flies at 250 m/s relative to the ground. Explain why she can be described as at rest and as moving at the same time.

Question 7 Faster or slower? (2 marks)

Bilal says that a car moving at 30 m/s is slower than a car moving at 90 km/h. Decide whether he is right and show your working.

Question 8 Freight train (2 marks)

A freight train covers 450 km at an average speed of 75 km/h. Calculate the time taken.

Question 9 SI unit (1 mark)

State the SI unit of speed.