

2 How is the deceleration of an object calculated from a speed–time graph?

- A It is the area under the graph.
- B It is the gradient of the graph.
- C It is the difference between two readings on the horizontal ( $x$ ) axis.
- D It is the difference between two readings on the vertical ( $y$ ) axis.

2 A car driver applies the brakes to bring a car to rest with a constant deceleration of  $4.0 \text{ m/s}^2$  in a time of  $8.0 \text{ s}$ .

What is the average speed of the car during this time?

- A  $4.0 \text{ m/s}$
- B  $8.0 \text{ m/s}$
- C  $16 \text{ m/s}$
- D  $32 \text{ m/s}$

7 A stone is dropped from a tall tower and falls a distance of  $50 \text{ m}$  to the ground.

The stone has a mass of  $3.0 \text{ kg}$ .

At which speed does the stone hit the ground?

- A  $17 \text{ m/s}$
- B  $31 \text{ m/s}$
- C  $54 \text{ m/s}$
- D  $150 \text{ m/s}$

2 An object falls towards the surface of the Earth.

The object is falling at its terminal velocity.

Which statement is correct?

- A There is air resistance and the acceleration of the object is negative.
- B There is air resistance and the acceleration of the object is zero.
- C There is no air resistance and the acceleration of the object is negative.
- D There is no air resistance and the acceleration of the object is zero.