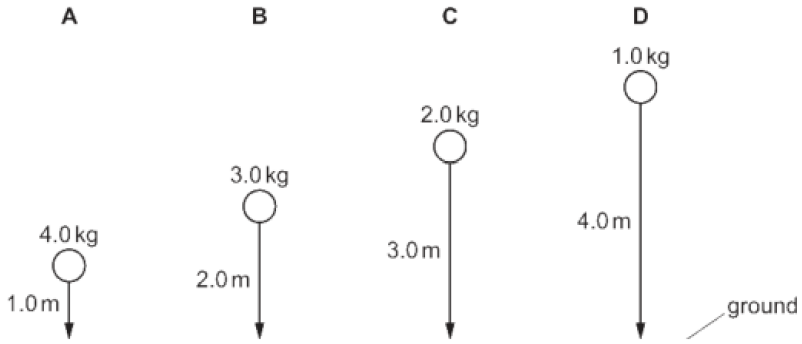
Question 1

Four balls with different masses are dropped from the heights shown.

Air resistance may be ignored.

Which ball has the smallest average speed?



Question 2

A cyclist rides 300 m up a slope in 50 s.

She then rides down the slope in 25 s.

What is her average speed for the whole journey?

A 4.0 m / s **B** 8.0 m / s **C** 9.0 m / s **D** 16 m / s

Question 3

A car is driven from one town to another town along a road that is not straight.

The driver of the car divides the total distance travelled by the total time taken.

Which quantity does the driver calculate?

A the acceleration of the car

B the average speed of the car

C the kinetic energy of the car

D the velocity of the car

Question 4

A rocket travels with an average speed of 6 km/ s for 2 minutes.

What is the distance travelled by the rocket?

A 12 km **B** 50 km **C** 720 km **D** 12 000km

Question 5

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

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

A 4.0 m/ s **B** 8.0 m/ s **C** 16 m/ s **D** 32 m/ s

Question 6

A student measures the average speed of a cyclist in a race.

Which quantities must she measure?

A the total time taken to complete the race and the time taken for the cyclist to reach her highest speed

B the total time taken to complete the race and the total distance travelled by the cyclist at her highest speed

C the total time taken to complete the race and the total distance travelled by the cyclist

D the time taken to reach her highest speed and the total distance travelled by the cyclist

Question 7

An athlete runs at a speed of 8 m / s for 10 s, and then at a speed of 6 m/ s for 12 s.

Which calculation gives the average speed of the athlete in m/ s?

A $\frac{8+6}{2}$

B $\frac{(8\times10)+(6\times12)}{22}$

C $\frac{(8\div10)+(6\div12)}{22}$

D $\frac{(10\div8)+(12\div6)}{22}$