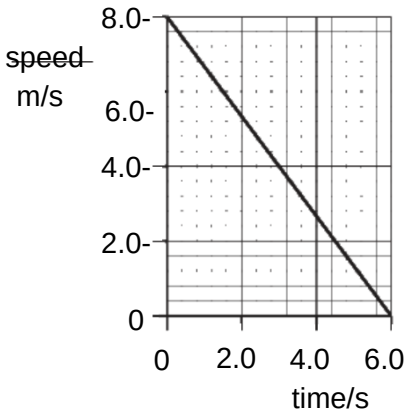
Question 1

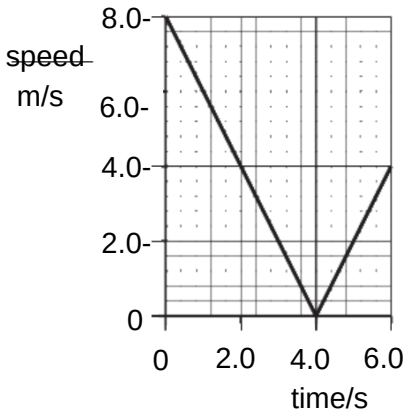
The diagrams show speed–time graphs for four different bodies moving for 6.0 s.

Which body travelled the least distance?

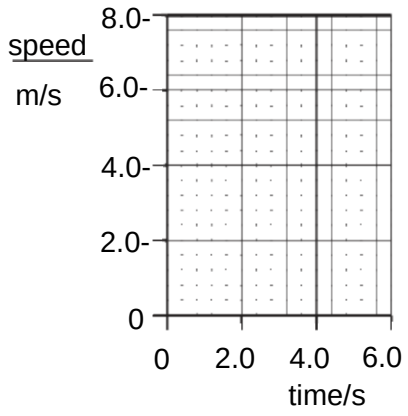
A



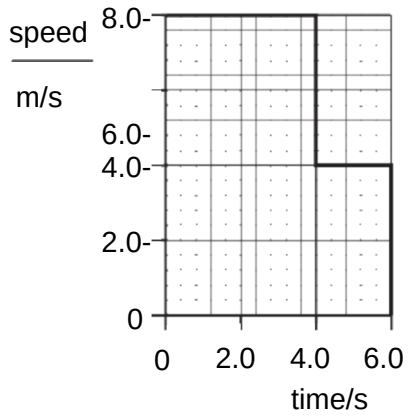
B



C



D



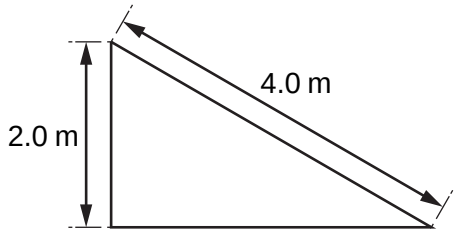
Question 2

A box is initially at rest at the top of a rough slope.

The box slides down the slope.

The weight of the box is 20 N.

The slope is 4.0 m long and 2.0 m high.



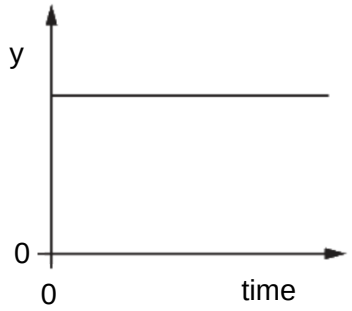
The box does 10 J of work against friction as it slides down the slope.

What is the speed of the box as it reaches the bottom of the slope?

A 5.4 m / s **B** 6.3 m / s **C** 7.1 m / s **D** 9.5 m / s

Question 3

A train is on a straight track. The graph shows how a quantity y varies with time.



Which statements can be true?

1 The train is stationary and y represents the distance from the last station.

2 The train is moving and y represents the distance from the last station.

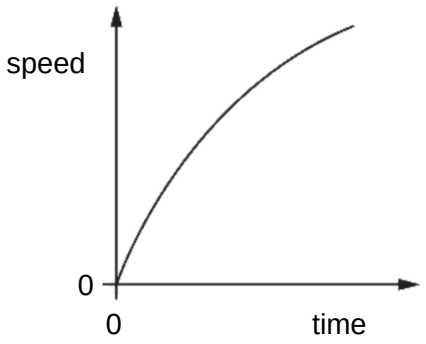
3 The train is stationary and y represents the speed of the train.

4 The train is moving and y represents the speed of the train.

A 1 and 2 B 1 and 4 C 2 and 3 D 3 and 4

Question 4

The diagram shows a speed-time graph for a moving object.



Which description of the object's motion is correct?

A decreasing acceleration

B decreasing speed

C constant acceleration

D constant speed