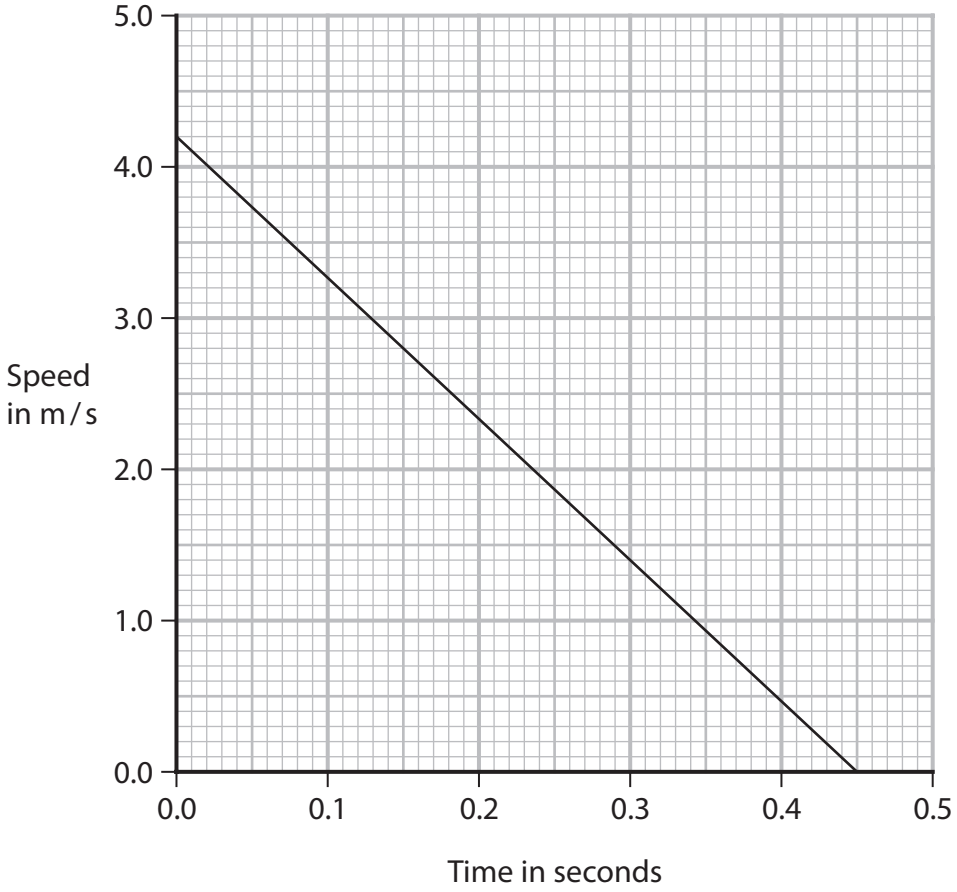
6 (a) A person throws an object vertically upwards.

The speed-time graph shows how the speed of the object varies from the time it is thrown until reaching its maximum height.



(i) Calculate the acceleration of the object.

(3)

acceleration = ... m / s^2

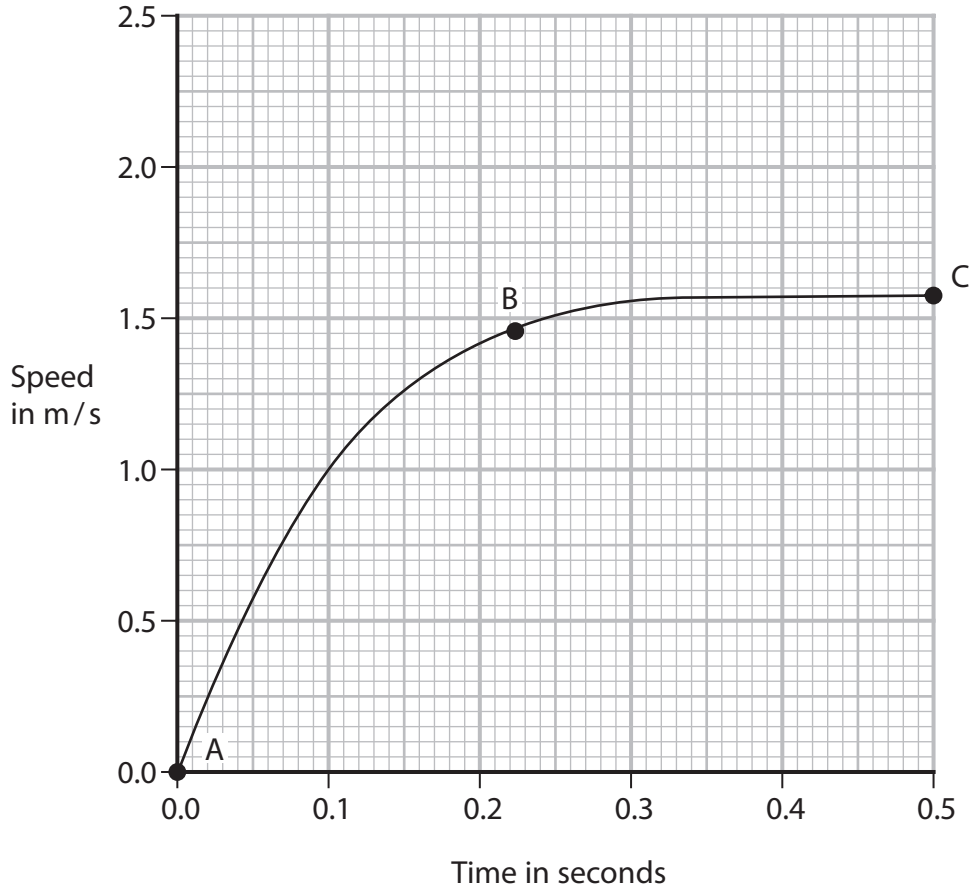
(ii) Calculate the distance the object travels to reach its maximum height.

(3)

distance = ... m

(b) A different object is dropped from rest and begins to fall.

The graph shows how the speed of this object varies with time.



(i) Give the name of the two forces acting on the object as it falls.

(2)

1 .....

2 .....

(ii) Draw arrows on the diagram to show the forces acting on the object at B.

(3)

object

(iii) Explain the shape of the graph from A to C.

You should use ideas about forces to help your answer.

(4)

(Total for Question 6 = 15 marks)