

- 9 An object falls 10.0 m from rest before entering some water.

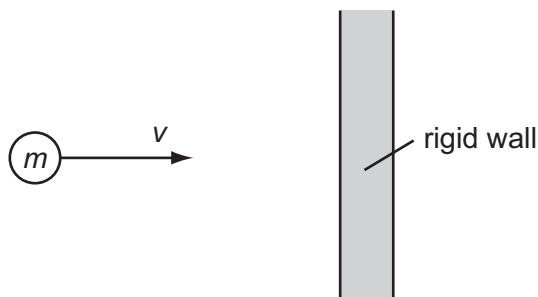
Assuming negligible air resistance, what is the time taken to reach the water and the speed with which the object reaches the water?

	time / ms	speed / m s^{-1}
A	1.02	10.0
B	1.02	14.0
C	1.43	10.0
D	1.43	14.0

- 10 A constant mass undergoes uniform acceleration.

Which of the following is a correct statement about the resultant force acting on the mass?

- A** It increases uniformly with respect to time.
 - B** It is constant but not zero.
 - C** It is proportional to the displacement from a fixed point.
 - D** It is proportional to the velocity.
- 11 A particle of mass m strikes a vertical rigid wall perpendicularly from the left with velocity v .



If the collision is perfectly elastic, the total change in momentum of the particle that occurs as a result of the collision is

- A** $2mv$ to the right.
- B** $2mv$ to the left.
- C** mv to the right.
- D** mv to the left.