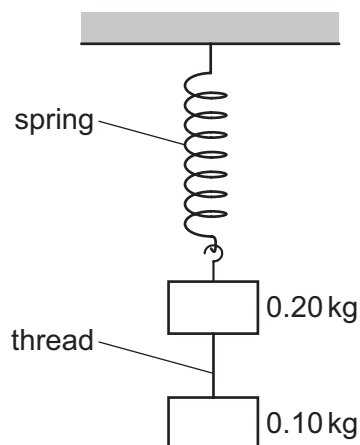


7 What is the definition of linear momentum?

- A force per unit time
- B product of force and time
- C product of velocity and mass
- D velocity per unit mass

8 A mass of 0.20 kg is suspended from the lower end of a light spring. A second mass of 0.10 kg is suspended from the first mass by a thread. The arrangement is allowed to come into static equilibrium and then the thread is cut.



Immediately after the thread is cut, what is the upward acceleration of the 0.20 kg mass?

- A  $4.9 \text{ ms}^{-2}$       B  $6.5 \text{ ms}^{-2}$       C  $9.8 \text{ ms}^{-2}$       D  $15 \text{ ms}^{-2}$

9 A snowflake and a raindrop are in still air. They both fall from rest at the same time and from the same height, far above the ground.

The snowflake and raindrop contain the same mass of water. Assume that there is no evaporation or melting. Also assume that, for a given speed, the drag force acting on the snowflake is greater than the drag force acting on the raindrop.

Which statement about the snowflake and raindrop is correct?

- A The raindrop takes more time than the snowflake to reach terminal velocity.
- B The raindrop takes more time than the snowflake to reach the ground.
- C They reach the same terminal velocity.
- D They take the same amount of time to reach the ground.