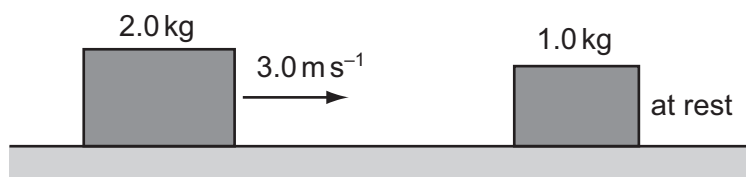


10 Which of the following is a statement of the principle of conservation of momentum?

- A** In an elastic collision momentum is constant.
- B** Momentum is the product of mass and velocity.
- C** The force acting on a body is proportional to its rate of change of momentum.
- D** The momentum of an isolated system is constant.

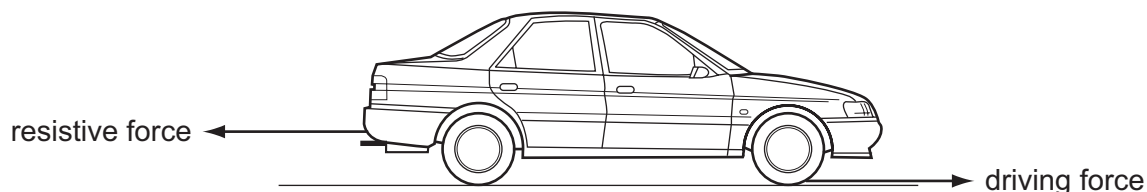
11 A 2.0 kg mass travelling at 3.0 m s^{-1} on a frictionless surface collides head-on with a stationary 1.0 kg mass. The masses stick together on impact.



How much kinetic energy is lost on impact?

- A** zero
- B** 2.0 J
- C** 2.4 J
- D** 3.0 J

12 A car of mass 750 kg has a horizontal driving force of 2.0 kN acting on it. It has a forward horizontal acceleration of 2.0 m s^{-2} .



What is the resistive force acting horizontally?

- A** 0.50 kN
- B** 1.5 kN
- C** 2.0 kN
- D** 3.5 kN

Space for working