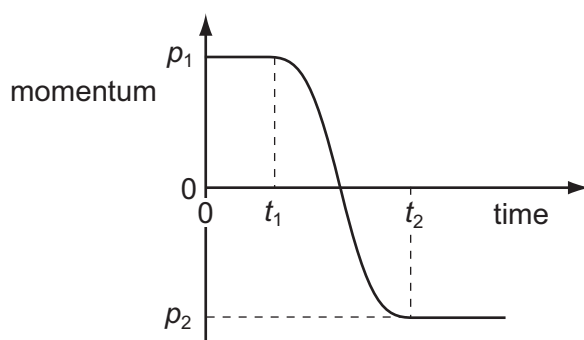


- 10 The graph shows the variation with time of the momentum of a ball as it is kicked in a straight line.

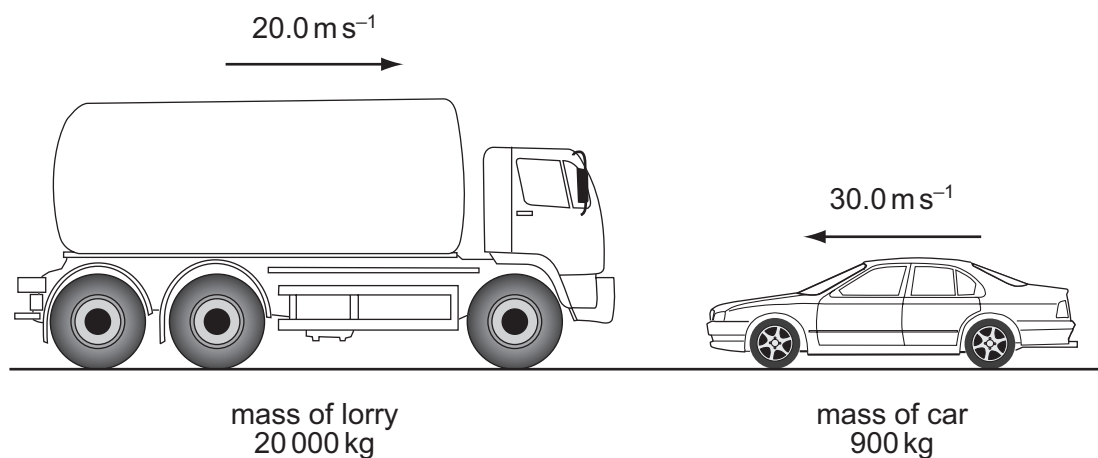


Initially, the momentum is p_1 at time t_1 . At time t_2 the momentum is p_2 .

What is the magnitude of the average force acting on the ball between times t_1 and t_2 ?

- A $\frac{p_1 - p_2}{t_2}$ B $\frac{p_1 - p_2}{t_2 - t_1}$ C $\frac{p_1 + p_2}{t_2}$ D $\frac{p_1 + p_2}{t_2 - t_1}$

- 11 A lorry of mass 20 000 kg is travelling at 20.0 m s^{-1} . A car of mass 900 kg is travelling at 30.0 m s^{-1} towards the lorry.



What is the magnitude of the total momentum?

- A 209 kNs B 373 kNs C 427 kNs D 1045 kNs