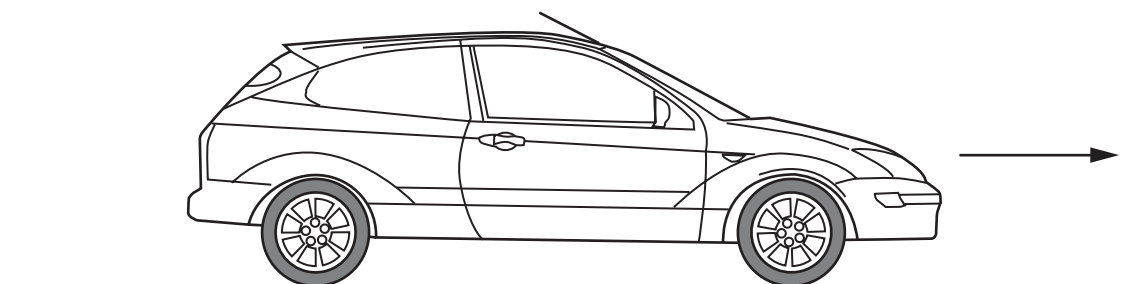


- 11 A car with front-wheel drive accelerates in the direction shown.



Which diagram best shows the direction of the total force exerted by the road on the front wheels?

A



B



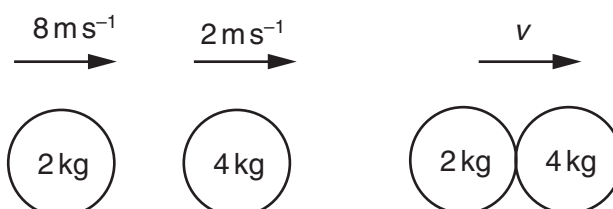
C



D



- 12 A ball of mass  $2\text{ kg}$  travelling at  $8\text{ m s}^{-1}$  strikes a ball of mass  $4\text{ kg}$  travelling at  $2\text{ m s}^{-1}$ . Both balls are moving along the same straight line as shown.



After collision, both balls move at the same velocity  $v$ .

What is the magnitude of the velocity  $v$ ?

- A  $4\text{ m s}^{-1}$       B  $5\text{ m s}^{-1}$       C  $6\text{ m s}^{-1}$       D  $8\text{ m s}^{-1}$