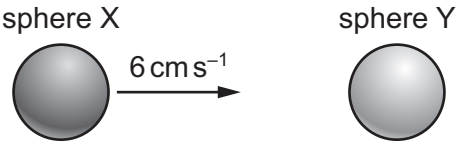
11 Two solid spheres form an isolated system. Sphere X moves with speed $6\,cm\,s^{-1}$ in a straight line directly towards a stationary sphere Y, as shown.



The spheres have a perfectly elastic collision. After the collision, sphere X moves with speed $2\,cm\,s^{-1}$ in the same direction as before the collision.

What is the speed of sphere Y?

A $2\,cm\,s^{-1}$ **B** $4\,cm\,s^{-1}$ **C** $6\,cm\,s^{-1}$ **D** $8\,cm\,s^{-1}$