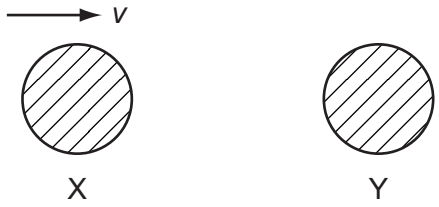
11 The diagram shows two identical spheres X and Y.

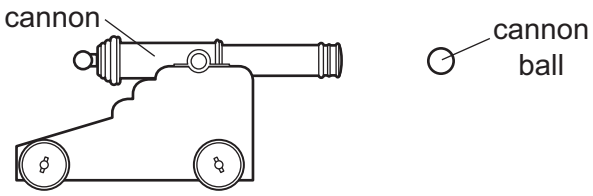


Initially X moves with speed v directly towards Y. Y is stationary. The spheres collide elastically.

What happens?

	X	Y
A	moves with speed $\frac{1}{2}v$ to the right	moves with speed $\frac{1}{2}v$ to the right
B	moves with speed v to the left	remains stationary
C	moves with speed $\frac{1}{2}v$ to the left	moves with speed $\frac{1}{2}v$ to the right
D	stops	moves with speed v to the right

12 The diagram shows a cannon ball fired from a cannon.



The mass of the cannon is 1000 kg and the mass of the cannon ball is 10 kg.

The recoil velocity of the cannon is $5\,m\,s^{-1}$ horizontally.

What is the horizontal velocity of the cannon ball?

A $200\,m\,s^{-1}$ **B** $500\,m\,s^{-1}$ **C** $2000\,m\,s^{-1}$ **D** $5000\,m\,s^{-1}$

13 Which force is caused by a pressure difference?

A friction

B upthrust

C viscous force

D weight