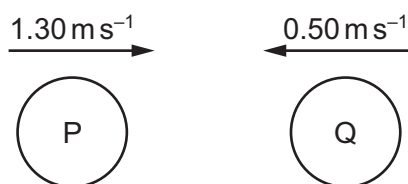


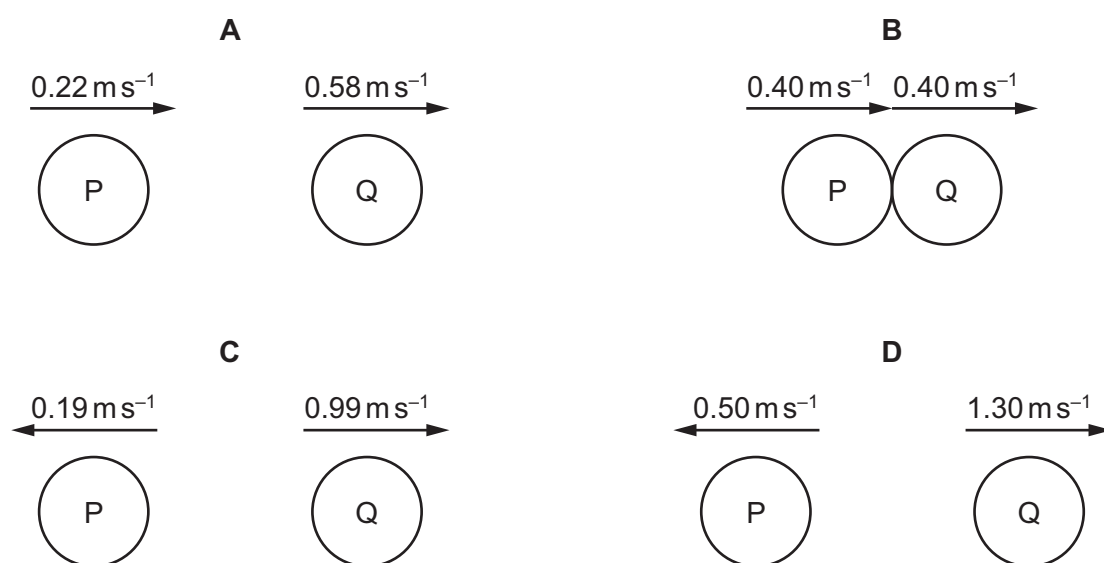
- 8 Two balls P and Q, of equal mass, move along a straight line directly towards each other as shown.



Ball P has velocity 1.30 ms^{-1} to the right. Ball Q has velocity 0.50 ms^{-1} to the left.

P and Q collide with one another. The collision is perfectly elastic and the total momentum is conserved.

Which diagram correctly shows the motion of P and Q after the collision?



- 9 A basketball player hits a ball vertically downwards with a speed of 2.4 ms^{-1} from a height of 0.90 m .

Air resistance is negligible.

What is the speed of the ball as it hits the ground?

- A** 4.2 ms^{-1} **B** 4.8 ms^{-1} **C** 18 ms^{-1} **D** 23 ms^{-1}