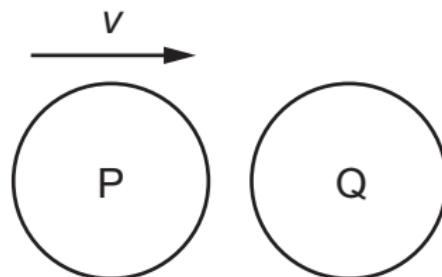


- 10 The diagram shows a particle P, travelling at speed  $v$ , about to collide with a stationary particle Q of the same mass. The collision is perfectly elastic.



Which statement describes the motion of P and of Q immediately after the collision?

- A P and Q both travel in the same direction with speed  $\frac{1}{2}v$ .
- B P comes to rest and Q acquires speed  $v$ .
- C P rebounds with speed  $\frac{1}{2}v$  and Q acquires speed  $\frac{1}{2}v$ .
- D P rebounds with speed  $v$  and Q remains stationary.