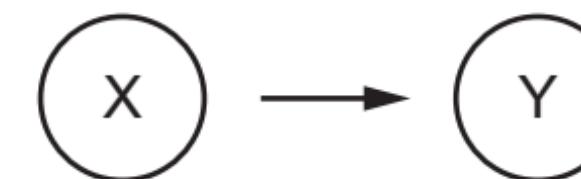


- 16** The diagram shows a particle X, with kinetic energy  $E_k$ , about to collide with a stationary particle Y. Both particles have the same mass.



After colliding, X and Y travel onwards together as a single larger particle.

How much kinetic energy is lost in the collision?

**A** 0

**B**  $\frac{E_k}{4}$

**C**  $\frac{E_k}{2}$

**D**  $\frac{3E_k}{4}$

- 17** A box of weight 20N is released from rest on a ramp that is at an angle of  $20^\circ$  to the horizontal.