

- 3** A particle X, with kinetic energy  $E_k$ , is 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** zero

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

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

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