4 A particle X with kinetic energy E_k collides with a stationary particle Y. Both particles have the same mass.

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

How much kinetic energy is lost in the collision?

A zero **B** $\dfrac{E_k}{4}$ **C** $\dfrac{E_k}{2}$ **D** $\dfrac{3E_k}{4}$