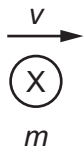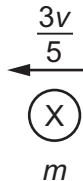10 A perfectly elastic collision occurs between two objects X and Y. The mass of X is m and the mass of Y is $4m$. Object X travels at speed v before the collision and speed $\dfrac{3v}{5}$ in the opposite direction after the collision. Object Y is stationary before the collision.

before   after

What is the kinetic energy of Y after the collision?

A $\dfrac{8}{10}mv^2$ B $\dfrac{34}{50}mv^2$ C $\dfrac{16}{50}mv^2$ D $\dfrac{1}{5}mv^2$