

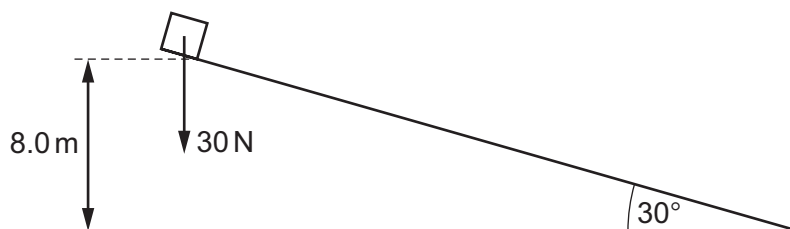
- 16 The diagram shows a particle X, with kinetic energy E_k , about to collide with a stationary particle Y. Both particles have the same mass.



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 30 N is released from rest on a ramp that is at an angle of 30° to the horizontal. The box slides down the ramp so that it falls through a vertical distance of 8.0 m. A constant frictional force of 10 N acts on the box while it is moving.



What is the kinetic energy of the box after falling through this distance?

- A 80 J B 160 J C 240 J D 400 J

Space for working