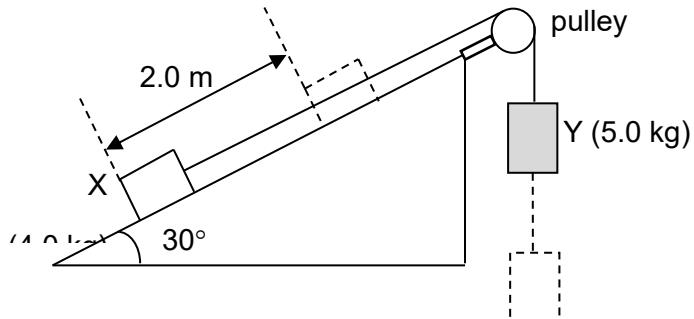


- 8 Two bodies X and Y are connected by a light inextensible cord that is passed over a light free-running pulley as shown.



X lies on a smooth plane inclined at  $30^\circ$  to the horizontal whereas Y is suspended vertically. The mass of X and Y is 4.0 kg and 5.0 kg respectively. When the two bodies are released from rest, X moves up the plane.

What is the total kinetic energy of the system after X has travelled 2.0 m along the inclined plane?

A 20 J

B 59 J

C 137 J

D 177 J

