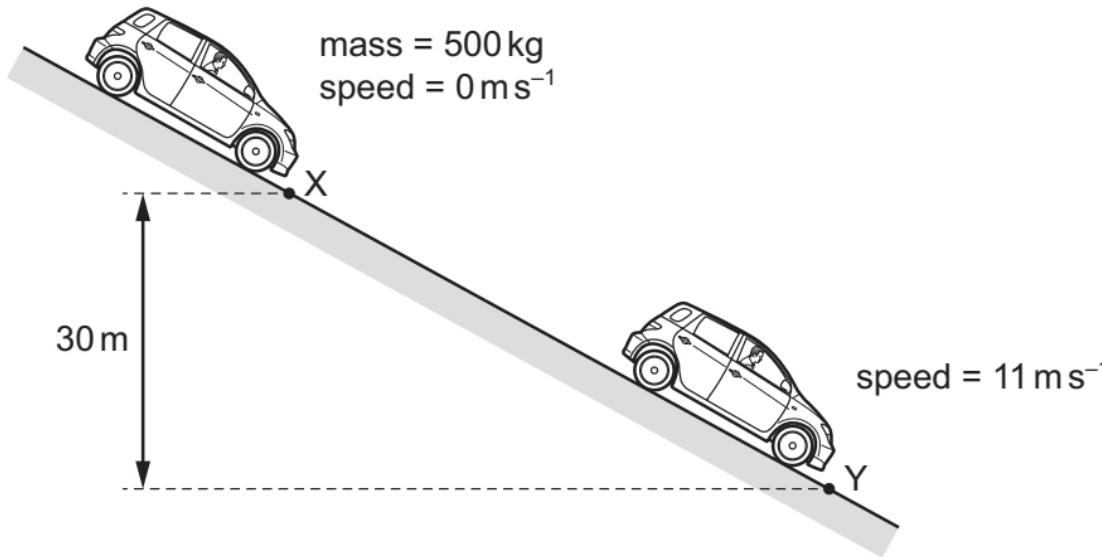


- 18 A car of mass 500 kg is at rest at point X on a slope, as shown.

The car's brakes are released and the car rolls down the slope with its engine switched off. At point Y the car has moved through a vertical height of 30 m and has a speed of  $11 \text{ ms}^{-1}$ .



What is the energy dissipated by frictional forces when the car moves from X to Y?

- A**  $3.0 \times 10^4 \text{ J}$     **B**  $1.2 \times 10^5 \text{ J}$     **C**  $1.5 \times 10^5 \text{ J}$     **D**  $1.8 \times 10^5 \text{ J}$