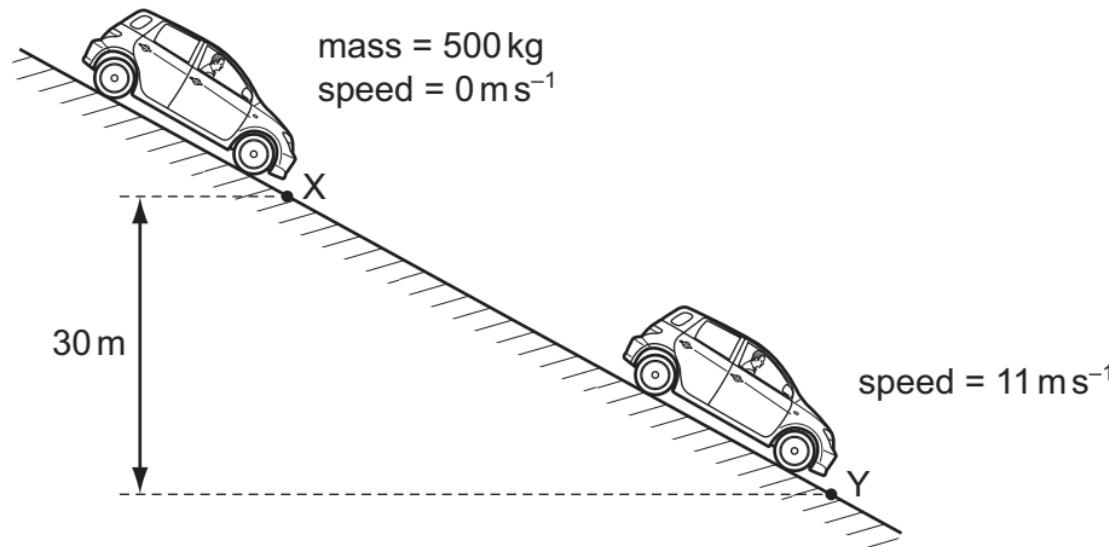


**16** A car of mass 500 kg is at rest at point X on a slope, as shown.

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  $11 \text{ m s}^{-1}$ .



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**  $1.8 \times 10^5 \text{ J}$

**17** In which situation is no work done?