

- 15 An electric car travels at a constant speed of 70 km h^{-1} for 80 km on a straight horizontal road and uses energy E from its battery.

The total resistive force acting on the car is proportional to $(\text{speed})^2$. Assume that the electric motor is 100% efficient.

How much energy is used from the battery when the car travels at a constant speed of 60 km h^{-1} for 80 km on the straight horizontal road?

A $0.73E$

B $0.86E$

C $1.2E$

D $1.4E$