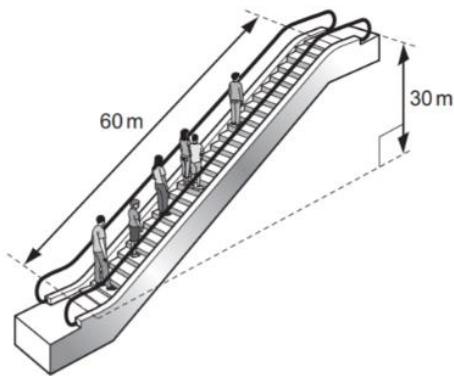


An escalator is 60 m long and lifts passengers through a vertical height of 30 m, as shown.



The escalator is used by passengers of average mass 60 kg and the power to overcome friction is 2.0 kW regardless of load.

How much power is required to drive the escalator when it is carrying 20 passengers and is travelling at 0.75 m s^{-1} ?

A

4.4 kW

B

6.4 kW

C

8.8 kW

D

10.8 kW