

14 The forward motion of a motor-boat is opposed by forces F which vary with the boat's speed v in accordance with the relation $F = kv^2$, where k is a constant.

The effective power of the propellers required to maintain the speed v is P .

Which expression relates k , P and v ?

A $k = \frac{P}{v}$

B $k = \frac{P}{v^2}$

C $k = \frac{P}{v^3}$

D $k = \frac{P}{v^4}$

15 The diagram above shows two identical vessels X and Y connected by a short pipe with a tap.