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