1 The drag force F acting on a moving sphere obeys an equation of the form $F = kA$ [illegible] A represents the sphere's frontal area and v represents its speed.

What are the base units of the constant k?

A $\text{kg m}^5\text{ s}^{-4}$ **B** $\text{kg m}^{-2}\text{ s}^{-1}$ **C** kg m^{-3} **D** $\text{kg m}^{-4}\text{ s}^2$

2 The table contains some quantities, together with their symbols and units.

quantity	symbol	unit
gravitational field strength	g	N kg^{-1}
density of liquid	ρ	kg m^{-3}
vertical height	h	m
volume of part of liquid	V	m^3

Which expression has the units of energy?

A $g\rho hV$ **B** $\frac{\rho hV}{g}$ **C** $\frac{\rho g}{hV}$ **D** $\rho g^2 h$

Space for working