

- 16** A stone of mass  $m$  falls from rest at the top of a cliff of height  $h$  into the sea below. Just before hitting the sea the stone has speed  $v$ .

What is the average force of air resistance acting on the stone during its fall?

- A**  $mg$       **B**  $\frac{m(v^2 - 2gh)}{h}$       **C**  $m\left(g - \frac{v^2}{2h}\right)$       **D**  $m\left(gh - \frac{v^2}{2}\right)$

- 17** A railway engine accelerates a train of total mass 1200 tonnes (1 tonne = 1000 kg) from rest to a