

- 2** One property  $Q$  of a material is used to describe the behaviour of sound waves in the material.  $Q$  is defined as the pressure  $P$  of the sound wave divided by the speed  $v$  of the wave and the surface area  $A$  of the material through which the wave travels:

$$Q = \frac{P}{vA}.$$

What are the SI base units of  $Q$ ?

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

- 3** A cannon fires a cannonball with an initial speed  $v$  at an angle  $\theta$  to the horizontal.