

- 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_0 at an angle α to the horizontal.