1 Which expression has the same SI base units as pressure?

A $\dfrac{\text{force}}{\text{length} \times \text{speed}}$

B $\dfrac{\text{force}}{\text{length} \times \text{time}}$

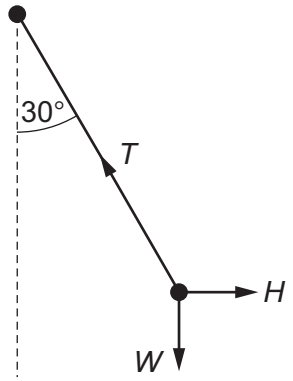
C $\dfrac{\text{mass}}{\text{length} \times (\text{time})^2}$

D $\dfrac{\text{mass} \times (\text{time})^2}{\text{length}}$

2 What is an approximate value for the speed of sound in air?

A $30\,\text{m}\,\text{s}^{-1}$ **B** $300\,\text{m}\,\text{s}^{-1}$ **C** $30\,000\,\text{m}\,\text{s}^{-1}$ **D** $300\,000\,000\,\text{m}\,\text{s}^{-1}$

3 A pendulum bob is held stationary by a horizontal force *H*. The three forces acting on the bob are shown in the diagram.



The tension in the string of the pendulum is *T*. The weight of the pendulum bob is *W*. The string is held at an angle of 30° to the vertical.

Which statement is correct?

A $H = T\cos 30$

B $T = H\sin 30$

C $W = T\sin 30$

D $W = T\cos 30$