1 The SI unit for potential difference (the volt) is given, in base units, by

A $\text{kg m A}^{-1}\text{ s}^{-3}$.

B $\text{m}^2\text{ A}^{-1}\text{ s}^{-2}$.

C $\text{kg m}^2\text{ s}^{-2}$.

D $\text{kg m}^2\text{ A}^{-1}\text{ s}^{-3}$.

2 The product of pressure and volume has the same SI base units as

A energy.

B force.

C $\frac{\text{force}}{\text{area}}$.

D $\frac{\text{force}}{\text{length}}$.

3 An ion is accelerated by a series of electrodes in a vacuum. A graph of the power supplied to the ion is plotted against time.

What is represented by the area under the graph between two times?

A the change in kinetic energy of the ion

B the average force on the ion

C the change in momentum of the ion

D the change in velocity of the ion

Space for working