

- A2.9

  - a) Express the ohm in terms of the volt and base units:  $\Omega = \text{VA}^{-1}$
  - b) Express the joule in terms of the newton and base unit(s).
  - c) Express the pascal in terms of the joule and base unit(s).
  - d) The answer to (c) means that pressure in effect measures an amount of energy per unit \_\_\_\_\_
  - e) Express the  $\text{V m}^{-1}$  in terms of the joule and base unit(s).
  - f) Express the unit of density in newtons and base unit(s).

## A3 Standard Form and Prefixes

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You will be penalized if you give the wrong number of significant figures where the question specifies the required number of significant figures. [NOTE: standard form means that there is always one non-zero digit before the decimal point.]

- A3.1 Write the following as ‘normal’ numbers:

a)  $3 \times 10^4$       b)  $4.89 \times 10^6$

A3.2 Write the following as ‘normal’ numbers:

a)  $3.21 \times 10^{-3}$       b)  $2 \times 10^0$

A3.3 Write the following in standard form to three significant figures:

a) 2 000 000      b) 34 580

A3.4 Write the following in standard form to three significant figures:

a) 23.914      b) 0.000 005 638

A3.5 Write the following as ‘normal’ numbers with the unit (but without the prefix):

a) 3 kJ      b) 20 mA

A3.6 Write the following using the most appropriate prefixes:

a)  $5 \times 10^7$  m      b)  $6 \times 10^{-10}$  s