Topic 12 – Scientific Notation

1. There are $3\!\cdot\!156\times10^{7}$ seconds in a solar year.
   How many seconds are there in 5 solar years ?

2. The Lotto jackpot of $£8\!\cdot\!4\times10^{6}$
   was shared equally among 3 winners.
   How much did each receive ?

3. Last year, Robertsons Jam factory
   made a profit of $£7\times10^{7}$.

   This year they made $£1\!\cdot\!2\times10^{5}$
   more than that.

   How much profit was made this year ?

4. A carbon atom weighs $2\!\cdot\!03\times10^{-23}$ grams.
   What do 1000 carbon atoms weigh ?

5. The formula for the surface area of a sphere is

   $$\text{Area} = 4\pi r^{2}, \text{ where } \pi = 3\!\cdot\!14.$$

   A small electrically charged
   particle is spherical in shape,
   and has radius $r = 2\!\cdot\!3\times10^{-8}$ cm.

   Calculate its surface area, giving your answer
   correct to 3 significant figures.