Standard Form Worksheet

[C] indicates a calculator can be used

1. Write these ordinary numbers in Standard Index Form

a. 30000   b. 420000   c. 545000   d. 26750.7   e. 105000000

f. 0.0078   g. 0.00000672   h. 780.5   i. 0.0603   j. 0.00000901

2. Write these numbers that are in Index Form as an ordinary number

a. 3×10^4 b. 6.5×10^7 c. 12.6×10^6 d. 0.6×10^2 e. 6.251×10^8

f. 4×10^{-5} g. 7.21×10^{-4} h. 0.03×10^{-3} i. 9.887×10^{-6} j. 12.999×10^{-6}

3. Work out the following giving your answer in Standard Index Form **[C]**

a. $3.4 \times 10^5 \times 2.5 \times 10^7$ b. $8.4 \times 10^3 \times 2.1 \times 10^4$ c. $5.8 \times 10^{-3} \times 0.25 \times 10^7$

d. $0.034 \times 10^4 \times 7.1 \times 10^9$ e. $13.4 \times 10^5 \times 3.1 \times 10^7 \times 3$

4. Work out the following giving your answer in Standard Index Form

a. $\dfrac{8 \times 10^7}{2 \times 10^3}$ b. $\dfrac{6.2 \times 10^7}{3.1 \times 10^{-2}}$ c. $\dfrac{26 \times 10^{-6}}{2 \times 10^{-3}}$ d. $\dfrac{10 \times 10^{10}}{0.01 \times 10^{-4}}$

5. If $p = 3.41 \times 10^6$ and $q = 12.1 \times 10^{-2}$. Find in standard Index Form **[C]**

a. $p \times q$ b. $p \div q$ c. $2p \times 6q$ d. $p^2 \div q$

6. Find in Standard Index Form **[C]**

a. $3.4 \times 10^5 + 2.1 \times 10^6$ b. $2 \times 10^4 - 2.1 \times 10^3$ c. $0.02 \times 10^{-3} + 4.6 \times 10^{-4}$

7. If the area of lake Placid is $4.3 \times 10^5 \, m^2$ and the area of lake Dunmere is $1.2 \times 10^4 \, m^2$, find   **[C]**

  a. their combined area in m^2
  b. the size of lake Dunmere as an ordinary number
  c. the number of times bigger that lake Placid is compared to Lake Dunmere

8. Sizzleworth has a population of 3.02×10^7 people and Ballybrook has a population of 2.11×10^5 people. Find   **[C]**

  a. The population of Ballybrook as a percentage of the population of Sizzleworth
  b. If each person in Ballybrook drives an average of 12500 miles per year, the total distance driven by the population of Ballybrook in Standard Index Form

9. A rectangular field has the following dimensions   **[C]**

4.3 x10^3 m

5.2 x10^2 m
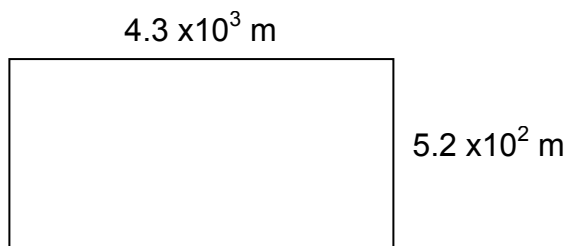
  a. Find the perimeter in Standard Index Form
  b. Find the Area in Standard Index Form
  c. Find the length of the diagonal in Standard Index Form

10. A molecule can be modelled as a circle of radius 7×10^{-6} m.   **[C]**

   a. Find the circumference in Standard Index Form
   b. Find the Area in Standard Index Form