Scientific Notation

1. Write these numbers in Scientific Notation ($a \times 10^n$)   [$1 \le a < 10$, n an integer] :–

   (a) 3 840   (b) 17 300   (c) 17·2   (d) 0·0000097   (e) 0·0081

2. Each of these numbers is written in Scientific Notation.
   Write each one down in "normal form" :–

   (a) $4·7 \times 10^2$ (b) $6·58 \times 10^4$ (c) $9·17 \times 10^{-1}$

   (d) $3·19 \times 10^{-4}$ (e) $6·001 \times 10^3$

3. Write down the value of :–

   (a) 2^6 (b) 3^7 (c) 5^4 (d) 100^4 (e) $(\frac{1}{2})^8$

4. Find the value of a, b, c, d and e.

   (a) $3274 = 3·274 \times 10^a$ (b) $0·04 = 4 \times 10^b$

   (c) $62800 = 6·28 \times 10^c$ (d) $0·000056 = 5·6 \times 10^d$

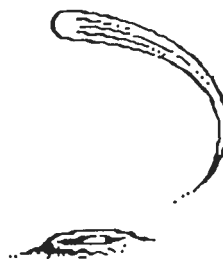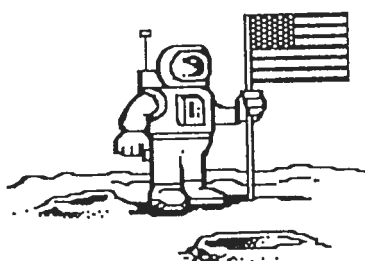   (e) $6000000 = 6 \times 10^e$

5. If numbers in Scientific Notation are written in the form
         $a \times 10^n$ where $1 \le a < 10$ and n is an integer :–

   Write down   (i)   the value of a   (ii)   the value of n
                                                                                    in the following :–

   (a) the Circumference of Uranus is 166·thousand km.

   (b) Mercury is 57 990 000 km from the Sun.

6. Write in Scientific Notation :– $5·3 \times 7 \times 10^4$

7. By how much is $2·7 \times 10^2$ bigger than $2·7 \times 10^{-2}$?

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1. (a) 3.84×10^3 (b) 1.73×10^4 (c) 1.72×10^1.
      (d) 9.7×10^{-6} (e) 8.1×10^{-3}.

2. (a) 470   (b) 65 800   (c) 0·917   (d) 0·000319   (e) 6001.

3. (a) 64   (b) 2187   (c) 625   (d) 100 000 000   (e) $\frac{1}{256}$ (= 0·0039.....).

4. (i) 3   (ii) -2   (iii) 4   (iv) -5   (v) 6.

5. (a) (i) 1·66   (ii) 5.
      (b) (i) 5·799   (ii) 7.

6. 3.71×10^5.

7. 269·973.