

# EXERCISE

## 2.3

1 ) Add the following using expanded form :-

$$\text{A:- } 9 \ 1 \ 5 + 1 \ 7 \ 8 \ 7$$

$$\text{Sol:- Th} \quad \text{H} \quad \text{T} \quad \text{O}$$

$$\begin{array}{r} 9 \quad 1 \quad 5 \\ 9 \ 0 \ 0 + 1 \ 0 + 5 \\ \hline \end{array} \rightarrow$$

$$\begin{array}{r} 1 \quad 7 \quad 9 \quad 7 \\ 7 \ 0 \ 0 + 8 \ 0 + 7 \\ \hline \end{array} \rightarrow + \underline{1 \ 0 \ 0 \ 0} +$$

$$\begin{array}{r} 1 \ 0 \ 0 \ 0 + 1 \ 6 \\ 0 \ 0 + 9 \ 0 + 1 \ 2 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \ 0 \ 0 \ 0 + 1 \ 0 \ 0 \ 0 \\ + 6 \ 0 \ 0 + \underline{9 \ 0 + 1 \ 0} + 2 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \ 0 \ 0 \ 0 + 6 \ 0 \ 0 + \\ \underline{1 \ 0 \ 0 + 2} \\ \hline \end{array}$$

$$2 \Rightarrow \underline{\underline{2 \ 7 \ 0 \ 2}}$$

B:- 8 0 5 7 + 1 8 7 3

Sol:- Th H T O

$$\begin{array}{r} 8 \quad 0 \quad 5 \quad 7 \\ 0 \quad 0 \quad + \quad 5 \quad 0 \quad + \quad 7 \end{array} \rightarrow \begin{array}{r} 8 \quad 0 \quad 0 \quad 0 \\ + \quad 0 \quad 0 \quad 0 \quad 0 \end{array} + 0$$

$$0 \quad 0 \quad + \quad 5 \quad 0 \quad + \quad 7$$

$$\begin{array}{r} 1 \quad 8 \quad 7 \quad 3 \\ 0 \quad 0 \quad + \quad 7 \quad 0 \quad + \quad 3 \end{array} \rightarrow + \begin{array}{r} 1 \quad 0 \quad 0 \quad 0 \\ + \quad 8 \end{array}$$

$$0 \quad 0 \quad + \quad 7 \quad 0 \quad + \quad 3$$

$$9 \quad 0 \quad 0 \quad 0 \quad + \quad 8 \quad 0$$

$$0 \quad + \quad 1 \quad 2 \quad 0 \quad + \quad 1 \quad 0$$

$$9 \quad 0 \quad 0 \quad 0 \quad + \quad \underline{8 \quad 0}$$

$$\underline{0 \quad + \quad 1 \quad 0 \quad 0 \quad + \quad 2 \quad 0 \quad + \quad 1 \quad 0}$$

$$9 \quad 0 \quad 0 \quad 0 \quad + \quad 9 \quad 0 \quad 0$$

$$+ \quad 3 \quad 0 \quad \Rightarrow \quad \underline{\quad 9 \quad 9 \quad 3 \quad 0 \quad}$$

C:- 1 3 5 7 + 2 7 8 5

Sol:- TH H T O

$$\begin{array}{r} 1 \quad 3 \quad 5 \quad 7 \\ 3 \quad 0 \quad 0 \quad + \quad 5 \quad 0 \quad + \quad 7 \end{array} \rightarrow \begin{array}{r} 1 \quad 0 \quad 0 \quad 0 \\ + \quad 0 \quad 0 \quad 0 \quad 0 \end{array} +$$

$$3 \quad 0 \quad 0 \quad + \quad 5 \quad 0 \quad + \quad 7$$

$$\begin{array}{r} 2 \quad 7 \quad 8 \quad 5 \\ 7 \quad 0 \quad 0 \quad + \quad 8 \quad 0 \quad + \quad 5 \end{array} \rightarrow + \begin{array}{r} 2 \quad 0 \quad 0 \quad 0 \\ + \quad 0 \quad 0 \quad 0 \quad 0 \end{array} +$$

$$\underline{7 \quad 0 \quad 0 \quad + \quad 8 \quad 0 \quad + \quad 5}$$

$$3 \quad 0 \quad 0 \quad 0 \quad + \quad 1 \quad 0$$

$$\underline{0 \quad 0 \quad + \quad 1 \quad 3 \quad 0 \quad + \quad 1 \quad 2}$$

$$\begin{array}{r}
 4000 + 1 \\
 00 + \underline{30 + 10} + 2 \\
 4000 + 100 + 4 \\
 0 + 2 \Rightarrow \underline{\color{red}{4 \ 1 \ 4 \ 2}}
 \end{array}$$

D:- 4 3 7 6 + 2 8 1 5

Sol:- TH H T O

$$\begin{array}{r}
 4 \quad 3 \quad 7 \quad 6 \quad \rightarrow \quad 4000 + \\
 300 + 70 + 6 \\
 2 \quad 8 \quad 1 \quad 5 \quad \rightarrow + \underline{2000 +} \\
 \underline{800 + 10 + 5} \\
 \qquad \qquad \qquad 6000 + 11 \\
 00 + 80 + 11
 \end{array}$$

$$\begin{array}{r}
 \underline{6000 + 1000} \\
 + 100 + \underline{80 + 10 + 1} \\
 \qquad \qquad \qquad 7000 + 100 + 9 \\
 0 + 1 \Rightarrow \underline{\color{red}{7 \ 1 \ 9 \ 1}}
 \end{array}$$

**2 ) Solve the following problems. :-**

**A:- Rahul brought a water cooler for Rs. 3 4 7 5 and a television for Rs. 4 1 9 7 . How much he spend in all ?**

**Sol:- Rahul brought water cooler for**

$$= \text{Rs } 3 \quad 4 \quad 7 \quad 5$$

**Rahul brought television for**

$$= + \text{Rs } \underline{4 \quad 1 \quad 9 \quad 7}$$

$$\begin{array}{r} \text{He spend in all} \\ \hline \textcolor{red}{7 \quad 6 \quad 7 \quad 2} \end{array} = \text{Rs.}$$

**B:- There are 3 7 2 1 teek trees and 6 2 5 3 rosewood trees in a forest . How many trees are there in all ?**

**Sol:- Number of teek trees. =**

$$3 \quad 7 \quad 2 \quad 1$$

**Number of rosewood trees =**

$$+ \textcolor{red}{\underline{6 \quad 2 \quad 5 \quad 3}}$$

**Total numbers of trees =**

**9 9 7 4**

**C:- There are 6 3 5 3 people in village A and**

**2 3 4 6 in village B . What is the total population of village A and B ? Find an estimate population and compare it with the actual population .**

**Sol:- people in village A =**

**6 3 5 3**

**People in village B = +**

**2 3 4 6**

**Total no. of people in village =**

**8 6 9 9**

**Actual population = 8 6 9 9**

Here , 9 > 5 and 9 0  
----- 9 9 -> 1 0 0

. ° . , Estimated population of  
village A and B is

$$= \underline{\quad 8 \quad 7 \quad 0 \quad 0}$$

So , 8 6 9 9 < 8 7  
0 0

3 ) Find the estimated  
sum and compare it with  
the actual sum .

A:- 2 4 5 + 2 6 2

5 =  
5

**Sol:-**    2        4        5        0        -----  
 >            2        5        0

4    0 <— 45 —>  
 5    0

2        <  
 5  
 >        2        6        2        0        -----  
 7    0        6    0 <— 6    2 —>

Actual sum  
Estimated sum

$$\begin{array}{r}
 & 2 & 4 & 5 \\
 2 & 5 & 0 \\
 + 2 & 6 & 2 \\
 \hline
 + 2 & 6 & 0 \\
 \hline
 & 5 & 0 & 7 \\
 \hline
 5 & 1 & 0
 \end{array}$$

So ,    5    0    7    <    5  
 1    0

**B:-** 5 3 6 + 6 7 5

6 > 5

**Sol:-** 5 3 6 -----  
  > 5 4 0  
              3 0 <- 3 6 -> 4  
              0

5  
6 7 5  
----- > 6 8 0  
            7 0 <- 7 5 ->  
            8 0

**Actual sum**

**Estimated sum**

5 3 6  
5 4 0  
+ 6 7 5  
-----  
+ 6 8 0

$$\begin{array}{r}
 \underline{1} \ 2 \qquad 1 \qquad 1 \\
 1 \ 2 \qquad 2 \qquad 0 \\
 \hline
 2 \ 2 \ 0
 \end{array}$$

So , 1 2 1 1 < 1

**C:- 1 3 5 7 + 7 5 8 6**

7 >

5

**Sol:-** 1    3    3    5    7    -----  
v 1    3    6    0

**5 0 <— 5 7 —**

A number line diagram showing two sets of numbers. The top set has values 7, 5, 8, 6, and 5. The bottom set has values 7, 5, 9, 0, and 8. A horizontal dashed line connects the 6 and 0 values. To the left of the line, there is a less than symbol ( $<$ ) above the 5 and a greater than symbol ( $>$ ) above the 8. To the right of the line, there is a greater than symbol ( $>$ ) above the 5 and a less than symbol ( $<$ ) above the 7.

## Actual sum

## **Estimated sum**

$$\begin{array}{ccccccc}
 & 1 & 3 & 5 & 7 \\
 1 & 3 & 6 & 0 & \\
 + 7 & 5 & 8 & 6 & \\
 \hline
 + 7 & 5 & 9 & 0 \\
 \hline
 & 8 & 9 & 4 & 3 \\
 \hline
 8 & 9 & 5 & 0 \\
 \hline
 \end{array}$$

So , 8 9 4 3 <

8 9 5 0