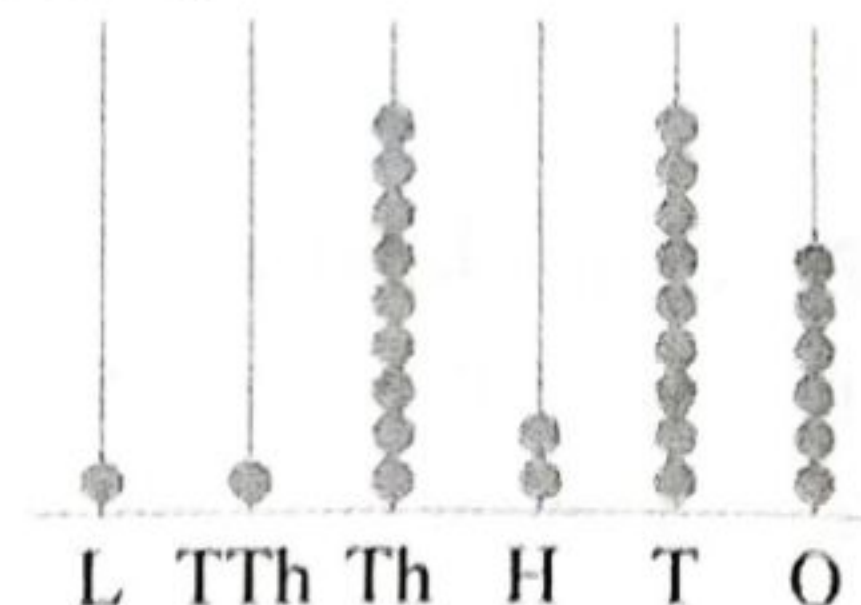## Challenge!

Number is 47,184

Worksheet

1. Jupiter has a bigger diameter.
2. The combined diameter of Mars and Mercury is more than the diameter of the Earth. <u>False</u>
3. Uranus has greater diameter.
4. Descending order – Jupiter, Saturn, Uranus, Neptune, Earth, Mars, Venus, Mercury
5. Saturn – Difference = 9,000 – 90 = 8,910
6. Diameter of Saturn – 1,19,296 km – One lakh nineteen thousand two hundred ninety-six

L TTh Th H T O

Chapter 2: Addition and Subtraction

Warm-up

1. The Atlantic Ocean is deeper than the Southern Ocean by 3646 m – 3270 m = 376 m
2. Difference between Pacific and Arctic Oceans = 3970 m – 1205 m = 2765 m
3. Sum of depth of Southern and Pacific Oceans

   = 3970 m + 3270 m = 7240 m

   Sum of depth of Indian and Atlantic Oceans

   = 3741 m + 3646 m = 7387 m

   7387 m > 7240 m
4. Indian Ocean is more depth than Arctic Ocean

   = 3741 m – 1205 m = 2356 m

Exercise 2A

1. (a)
```
      5 1 0 2
    + 2 6 8 7
    ---------
      7 7 8 9
```
    (b)
```
      ① ①
      5 2 3 4
    + 2 1 7 6
    ---------
      7 4 1 0
```
    (c)
```
      3 2 2 1
    + 5 6 7 3
    ---------
      8 8 9 4
```
    (d)
```
      ① ① ①
      4 7 4 8
    + 2 9 5 3
    ---------
      7 7 0 1
```
    (e)
```
      ② ① ①
      4 7 3 2
      3 3 0 0
    +   9 8 9
    ---------
      9 0 2 1
```
    (f)
```
      ② ① ②
      3 9 0 6
      2 4 4 5
    + 5 8 8 9
    ---------
    1 2 2 4 0
```
    (g)
```
        ① ① ②
        8 0 2 3
        2 1 6 5
        3 7 1 9
      + 4 5 8 6
      ---------
      1 8 4 9 3
```
    (h)
```
        ② ② ②
        1 2 3 7
        9 8 7 6
        5 4 3 2
      + 6 7 8 9
      ---------
      2 3 3 3 4
```

2. (c) {6,759 + 8,513 + 7,786 = 23,058}

Class Work (Page 32)

1.
TTh	Th	H	T	O
6	5	1	2	9
+ 2	1	5	3	0
8	6	6	5	9

2.
L	TTh	Th	H	T	O
3	8	6	9	2	4
+ 6	1	1	0	5	3
9	9	7	9	7	7

Exercise 2B

1.
```
    4 2 6 7 1
  + 3 4 2 0 7
    7 6 8 7 8
```

2.
```
  ①①①
    5 3 6 2 9
  + 1 9 4 8 0
    7 3 1 0 9
```

3.
```
  ①   ①①①
    5 7 0 8 1 7
  + 3 5 8 4 9 8
    9 2 9 3 1 5
```

4.
```
  ①   ①①①
    6 9 4 4 4 5
  + 1 8 4 5 8 7
    8 7 9 0 3 2
```

5.
```
  ①②①②②
    3 2 3 1 4 1
    1 0 2 9 8 7
    2 5 6 2 3 9
  +   1 8 0 6 5
    7 0 0 4 3 2
```

6.
```
    ①③②①
    1 2 3 8 7 5
    5 2 0 7 5 0
      2 8 6 7 7
  + 2 1 3 7 2 6
    8 8 7 0 2 8
```

7.
```
    ②②①①
    3 1 0 9 2 3
      2 4 8 6 1
    5 1 8 0 7 8
  +   3 9 2 1 0
    8 9 3 0 7 2
```

8.
```
    ②①②②②
      5 0 9 3 6
    1 6 2 6 7 5
    2 9 0 8 6 9
  + 4 0 7 3 8 9
    9 1 1 8 6 9
```

Exercise 2C

1. In an exam, students passed = 56,321
   Number of failures = 16,758
   Total number of students = 73,079

```
      ①
    5 6 3 2 1
  + 1 6 7 5 8
    7 3 0 7 9
```

2. Mr Pandey earned last month = ₹68,290
   He earned this month = ₹89,750
   Total earning in 2 months = ₹1,58,040

```
      ①①①
  ₹   6 8 2 9 0
 +₹   8 9 7 5 0
  ₹ 1 5 8 0 4 0
```

3. Manav's income in the year 2020 was = ₹4,15,780
   In 2021, his income exceeded = ₹79,200
   His income in 2021 was = ₹4,94,980
   Total earning in 2 years = ₹9,10,760

```
        ①
  ₹ 4 1 5 7 8 0
 +₹   7 9 2 0 0
  ₹ 4 9 4 9 8 0
```

```
    ①①①①
  ₹ 4 1 5 7 8 0
 +₹ 4 9 4 9 8 0
  ₹ 9 1 0 7 6 0
```

4. In an election, valid votes = 28,929
   Invalid votes = 4,031
   Persons who did not vote = 1,850
   Total voters registered in all = 34,810

```
    ①①①①
    2 8 9 2 9
      4 0 3 1
  +   1 8 5 0
    3 4 8 1 0
```

5. (b) (Anurag walks = 65,793 + 12,654 = 78,447 steps)

6. (d) (In June – 12,675 + 6,800 = 19,475
   Total people visited in May and June = 19,475 + 12,675 = 32,150 people)

Exercise 2D

1. $35 + 67 = \underline{67} + \underline{35}$
2. $378 + 894 = \underline{894} + \underline{378}$
3. $889 + 0 = \underline{889}$
4. $0 + \underline{6592} = 6592 + \underline{0}$
5. $7634 + 3210 = \underline{3210} + 7634$
6. $(7689 + 9452) + 7146 = 7689 + (\underline{9452} + 7146)$
7. $8619 + (7364 + 1097) = (8619 + 7364) + \underline{1097}$

Class Work (Page 37)

1.
Th	H	T	O
⑤	⑭	⑪	⑮
6̸	5̸	2̸	5̸
− 3	8	7	6
2	6	4	9

2.
Th	H	T	O
⑥	⑬	⑭	⑫
7̸	4̸	5̸	2̸
− 2	5	9	3
4	8	5	9

3.
Th	H	T	O
⑥	⑨	⑨	⑫
7̸	0̸	0̸	2̸
− 4	6	2	8
2	3	7	4

Exercise 2E

1. (a)
```
    8 6 3 2
  − 3 4 3 1
    5 2 0 1
```
(b)
```
      ⑤ ⑭
    6 6̸ 4̸ 7
  − 3 2 7 5
    3 3 7 2
```
(c)
```
      ⑧ ⑨ ⑩
    8 0̸ 0̸ 0̸
  − 6 5 2 5
    2 3 7 5
```
(d)
```
      ⑧ ⑨ ⑩
    0̸ 0̸ 0̸ 7
  − 5 1 3 6
    3 8 7 1
```

2. (a)
```
    ①
    3 4 1 9
  + 5 7 3 0
    9 1 4 9
```
```
    ⑧ ⑪
    0̸ 1̸ 4 9
  − 4 9 1 8
    4 2 3 1
```
(b)
```
    ① ①
    3 5 7 0
  + 4 8 7 5
    8 4 4 5
```
```
    ⑦ ⑬ ⑬ ⑮
    8̸ 4̸ 4̸ 5̸
  − 4 9 8 7
    3 4 5 8
```
(c)
```
        ①
    8 0 3 9
  +   9 4 7
    8 9 8 6
```
```
    ⑧ ⑱
    8 0̸ 8̸ 6
  − 6 5 9 3
    2 3 9 3
```

3. Total students = 4020
   Students attending online classes = 3857
   Students who did not join classes = 163
```
    ③ ⑨ ⑪ ⑩
    4̸ 0̸ 2̸ 0̸
  − 3 8 5 7
        1 6 3
```

4. A shopkeeper had greeting cards = 2685
   He ordered more cards = 1500
   Total cards = 4185
   He sold cards = 2948
   Cards left in the shop = 1237
```
    ①
    2 6 8 5
  + 1 5 0 0
    4 1 8 5
```
```
    ③ ⑪ ⑦ ⑮
    4̸ 1̸ 8̸ 5̸
  − 2 9 4 8
    1 2 3 7
```

5. (a) $(7036 − 3168 = 3868)$
6. (d) $(6000 − 3624 = 2376)$

Exercise 2F

1.
```
    2 5 9 6 3
  − 1 4 7 0 2
    1 1 2 6 1
```
2.
```
    8 7 6 0 9 2
  − 2 3 5 0 7 1
    6 4 1 0 2 1
```
3.
```
    ⑦ ⑩ ⑬ ⑥ ⑫
    8̸ 1̸ 3̸ 7̸ 2̸
  − 6 9 6 5 4
    1 1 7 1 8
```

4.
$$
\begin{array}{r}
\overset{\circledR}{9}\,\overset{\circledR}{\cancel{7}}\,\overset{②}{\cancel{3}}\,\overset{⑨}{\cancel{0}}\,\overset{⑯}{\cancel{6}}\,4 \\
-\;5\;2\;1\;8\;7\;3 \\
\hline
3\;9\;1\;1\;9\;1
\end{array}
$$

5.
$$
\begin{array}{r}
\overset{⑥}{\cancel{7}}\,\overset{⑨}{\cancel{8}}\,\overset{⑨}{\cancel{0}}\,\overset{⑨}{\cancel{0}}\,\overset{⑩}{\cancel{0}} \\
-\;5\;0\;9\;9\;9 \\
\hline
1\;9\;0\;0\;1
\end{array}
$$

6.
$$
\begin{array}{r}
\overset{⑤}{\cancel{6}}\,\overset{⑰}{\cancel{8}}\,\overset{⑨}{\cancel{0}}\,\overset{⑫}{\cancel{3}}\,\overset{⑨}{\cancel{0}}\,\overset{⑰}{\cancel{7}} \\
-\;3\;9\;5\;4\;7\;8 \\
\hline
2\;8\;4\;8\;2\;9
\end{array}
$$

Class Work (Page 40)

1.
$$
\begin{array}{r}
\overset{①}{\;}\overset{①}{\;}\overset{①}{\;} \\
2\;7\;8\;9\;5 \\
+\;1\;9\;6\;5\;2 \\
\hline
4\;7\;5\;4\;7
\end{array}
\qquad
\begin{array}{r}
\;\;\overset{⑥}{\;}\overset{⑭}{\;}\overset{⑬}{\;}\overset{⑰}{\;} \\
4\;\overset{}{\cancel{7}}\,\overset{}{\cancel{5}}\,\overset{}{\cancel{4}}\,\overset{}{\cancel{7}} \\
-\;4\;6\;9\;7\;8 \\
\hline
5\;6\;9
\end{array}
$$

2.
$$
\begin{array}{r}
\overset{①}{\;}\;\;\overset{①}{\;}\overset{①}{\;}\overset{①}{\;} \\
3\;6\;2\;3\;2\;4 \\
+\;3\;4\;5\;8\;9\;6 \\
\hline
7\;0\;8\;2\;2\;0
\end{array}
\qquad
\begin{array}{r}
\overset{⑥}{\;}\overset{⑨}{\;}\overset{⑰}{\;}\overset{⑪}{\;}\overset{⑪}{\;}\overset{⑩}{\;} \\
\overset{}{\cancel{7}}\,\overset{}{\cancel{0}}\,\overset{}{\cancel{8}}\,\overset{}{\cancel{2}}\,\overset{}{\cancel{2}}\,\overset{}{\cancel{0}} \\
-\;3\;2\;8\;9\;4\;7 \\
\hline
3\;7\;9\;2\;7\;3
\end{array}
$$

3.
$$
\begin{array}{r}
\overset{①}{\;}\overset{①}{\;}\;\;\;\overset{①}{\;} \\
6\;5\;3\;2\;1\;8 \\
+\;\;\;8\;8\;4\;0\;2 \\
\hline
7\;4\;1\;6\;2\;0
\end{array}
\qquad
\begin{array}{r}
\overset{③}{\;}\overset{⑪}{\;}\overset{⑤}{\;}\overset{⑪}{\;}\overset{⑩}{\;} \\
7\;\overset{}{\cancel{4}}\,\overset{}{\cancel{1}}\,\overset{}{\cancel{6}}\,\overset{}{\cancel{2}}\,\overset{}{\cancel{0}} \\
-\;4\;2\;8\;5\;6\;1 \\
\hline
3\;1\;3\;0\;5\;9
\end{array}
$$

4.
$$
\begin{array}{r}
\overset{①}{\;}\overset{①}{\;}\;\;\;\overset{①}{\;} \\
4\;8\;9\;3\;1\;8 \\
+\;\;\;2\;9\;3\;4\;8 \\
\hline
5\;1\;8\;6\;6\;6
\end{array}
\qquad
\begin{array}{r}
\overset{④}{\;}\overset{⑪}{\;}\overset{⑦}{\;}\overset{⑮}{\;}\overset{⑮}{\;}\overset{⑯}{\;} \\
\overset{}{\cancel{5}}\,\overset{}{\cancel{1}}\,\overset{}{\cancel{8}}\,\overset{}{\cancel{6}}\,\overset{}{\cancel{6}}\,\overset{}{\cancel{6}} \\
-\;\;\;5\;1\;6\;7\;8 \\
\hline
4\;6\;6\;9\;8\;8
\end{array}
$$

Exercise 2G

1. Money deposited on Monday = ₹57,320
   Money deposited on Tuesday = ₹8,975
   Money deposited on Wednesday = ₹6,895
   Total money deposited = ₹73,190

   Money withdrawn on Thursday = ₹25,980
   Balance in bank account = ₹47,210

$$
\begin{array}{r}
\overset{②}{\;}\overset{②}{\;}\overset{①}{\;}\overset{①}{\;} \\
₹\;\;5\;7\;3\;2\;0 \\
₹\;\;\;\;\;8\;9\;7\;5 \\
+\;₹\;\;\;\;\;6\;8\;9\;5 \\
\hline
₹\;\;7\;3\;1\;9\;0
\end{array}
$$

$$
\begin{array}{r}
\;\;\overset{⑥}{\;}\overset{⑫}{\;}\overset{⑪}{\;} \\
₹\;\;\overset{}{\cancel{7}}\,\overset{}{\cancel{3}}\,\overset{}{\cancel{1}}\,9\;0 \\
-\;₹\;\;2\;5\;9\;8\;0 \\
\hline
₹\;\;4\;7\;2\;1\;0
\end{array}
$$

2. Mrs Sinha earned in 2 years = ₹6,57,360
   In one year, she earned = ₹3,14,490
   She earned in the other year = ₹3,42,870

$$
\begin{array}{r}
\;\;\;\;\overset{⑥}{\;}\overset{⑫}{\;}\overset{⑯}{\;} \\
₹\;\;6\;5\;\overset{}{\cancel{7}}\,\overset{}{\cancel{3}}\,\overset{}{\cancel{6}}\,0 \\
-\;₹\;\;3\;1\;4\;4\;9\;0 \\
\hline
₹\;\;3\;4\;2\;8\;7\;0
\end{array}
$$

3. Total number of men, women and children = 99,358
   Number of men = 40,286
   Number of women = 39,350
   Total number of men and women = 79,636
   Number of children = 19,722

$$
\begin{array}{r}
\;\;\;\;\;\overset{①}{\;} \\
4\;0\;2\;8\;6 \\
+\;3\;9\;3\;5\;0 \\
\hline
7\;9\;6\;3\;6
\end{array}
$$

$$
\begin{array}{r}
\overset{⑧}{\;}\overset{⑱}{\;}\overset{⑬}{\;} \\
\overset{}{\cancel{9}}\,\overset{}{\cancel{9}}\,\overset{}{\cancel{3}}\,5\;8 \\
-\;7\;9\;6\;3\;6 \\
\hline
1\;9\;7\;2\;2
\end{array}
$$

4. Votes polled in favour of one candidate = 39,862
   Invalid votes = 2,974
   Votes polled in favour of one candidate and invalid votes = 42,836

$$
\begin{array}{r}
\overset{①}{\;}\overset{①}{\;}\overset{①}{\;} \\
3\;9\;8\;6\;2 \\
+\;\;\;2\;9\;7\;4 \\
\hline
4\;2\;8\;3\;6
\end{array}
$$

Total votes polled = 78,475

Votes polled in favour of the other candidate = 35,639

<pre>
  ⑦ ⑭ ⑥ ⑮
7 8̸ 4̸ 7̸ 8̸
- 4 2 8 3 6
─────────────
  3 5 6 3 9
</pre>

5. Delhi airport handled flights in a month = 35,000

   Mumbai airport handled in same month = 29,425

   Difference in flights = 5,575

<pre>
  ② ⑭ ⑨ ⑨ ⑩
3̸ 5̸ 0̸ 0̸ 0̸
- 2 9 4 2 5
─────────────
  5 5 7 5
</pre>

6. (b) (95,328 – 38,567 = 56,761)

7. (c) (1,00,000 – 89,234 = 10,766)

8. (c) (₹18,899 – ₹1099 – ₹500 = ₹17,300)

Exercise 2H

1. (a)
   $$
   \begin{array}{r}
   68 \rightarrow 70 \\
   +82 \rightarrow +80 \\
   \hline
   150
   \end{array}
   $$
   (b)
   $$
   \begin{array}{r}
   635 \rightarrow 600 \\
   +287 \rightarrow +300 \\
   \hline
   900
   \end{array}
   $$
   (c)
   $$
   \begin{array}{r}
   8274 \rightarrow 8000 \\
   +8634 \rightarrow +9000 \\
   \hline
   17000
   \end{array}
   $$

   (d)
   $$
   \begin{array}{r}
   49 \rightarrow 50 \\
   -22 \rightarrow -20 \\
   \hline
   30
   \end{array}
   $$
   (e)
   $$
   \begin{array}{r}
   985 \rightarrow 1000 \\
   -429 \rightarrow -400 \\
   \hline
   600
   \end{array}
   $$
   (f)
   $$
   \begin{array}{r}
   6851 \rightarrow 7000 \\
   -3216 \rightarrow -3000 \\
   \hline
   4000
   \end{array}
   $$

2. Cost of sweater =   ₹ 1 8 5 3   →   ₹ 2 0 0 0

   Cost of shoes =   + ₹ 1 2 5 0   →   + ₹ 1 0 0 0

   Total cost =   ₹ 3 1 0 3   Actual cost   ₹ 3 0 0 0   Estimated cost

3. Cost of chair =   ₹ 8 6 7 5   →   ₹ 9 0 0 0

   Cost of table =   – ₹ 5 3 7 5   →   – ₹ 5 0 0 0

   Diff. in cost =   ₹ 3 3 0 0   Actual difference   ₹ 4 0 0 0   Estimated difference

4. (a) (Estimated copies = 8000 – 5000 = 3000)

Mental Maths

1. Sum of smallest 6-digit number and greatest 5-digit number = 1,00,000 + 99,999 = <u>1,99,999</u>

2. Next number in the sequence 1900, 1700, 1500, 1300, <u>1100</u>

3. 3 more than 99,997 = 99,997 + 3 = 1,00,000

4.
$$
\begin{array}{r}
215 \rightarrow 200 \\
+479 \rightarrow +500 \\
\hline
700
\end{array}
$$

5. Alka had money =   ₹ 5 0 0 0 → ₹ 5 0 0 0

   She bought groceries = – ₹ 3 8 9 4 → – ₹ 4 0 0 0

   Money left with her = ₹1000   ₹ 1 0 0 0

Chapter Test

1. (a) $74{,}000 + 11{,}000 = \underline{85{,}000}$.
   (b) $45{,}000 - 36{,}000 = \underline{9{,}000}$

   (c) The successor of $39{,}000 + 999$ $(39{,}999 + 1 = 40{,}000) = $ Forty thousand

   (d) $(1617 + 7895) + \underline{3692} = 1617 + (\underline{7895} + 3692)$

   (e) Estimated difference of 6815 and 3495 is $(7000 - 3000) = \underline{4{,}000}$

2. (a) $5963 - 0 = 5963$ – <u>True</u>

   (b) 7 thousands > 6 thousands $+ 100$ tens – <u>False</u>

   (c) The sum of an even 5-digit number and an odd 5-digit number is odd. – <u>False</u>

   (d) The difference of the smallest 5-digit number and the smallest 2-digit number is 9989. – <u>False</u>

   (e) The estimated sum of 2493 and 4815 is 7000. – <u>True</u>

3. (a)
```
  ① ② ① ①
    4 8 9 3 5
    2 6 5 4 5
  + 1 3 8 2 6
  ───────────
    8 9 3 0 6
```

   (b)
```
  ① ① ② ① ②
    7 0 8 9 5
    1 8 3 5 6 9
  + 2 0 7 6 2 8
  ─────────────
    4 6 2 0 9 2
```

   (c)
```
  ⑤ ⑪ ⑩ ⑨ ⑬
    6 2 1 0 3
  - 5 9 3 4 7
  ───────────
      2 7 5 6
```

   (d)
```
      ⑧ ⑩ ⓪ ⑰
    3 7 9 0 1 7
  - 1 3 6 8 0 9
  ─────────────
    2 4 2 2 0 8
```

4. In an election, Mr Sharma got votes $= 18{,}675$

   Mr Verma got more votes $= 2{,}455$

   Mr Verma got votes $= 21{,}130$

```
  ① ① ① ①
    1 8 6 7 5
  +   2 4 5 5
  ───────────
    2 1 1 3 0
```

5. Depth of Mariana Trench $= 11{,}033$ m

   Depth of Java Trench $= 7{,}725$ m

   Diff. in depth $= 3308$ m

```
  ⓪ ⑩ ⑩ ② ⑬
    1 1 0 3 3 m
  -   7 7 2 5 m
  ─────────────
      3 3 0 8 m
```

6. Persons visited the statue on Friday $= 12{,}458$

   Persons visited the statue on Saturday $= 19{,}450$

   Total persons who visited on Friday and Saturday $= 31{,}908$

```
  ①     ①
    1 2 4 5 8
  + 1 9 4 5 0
  ───────────
    3 1 9 0 8
```

   Persons who visited on Friday, Saturday and Sunday $= 50{,}832$

   Persons who visited on Friday and Saturday $= 31{,}908$

   Persons who visited on Sunday $= 18{,}924$

```
  ④ ⑨ ⑱ ② ⑫
    5 0 8 3 2
  - 3 1 9 0 8
  ───────────
    1 8 9 2 4
```

7. (b) $(₹4{,}86{,}740 + ₹89{,}580 = ₹5{,}76{,}320)$

8. (a) $(85{,}430 + 30{,}458 = 1{,}15{,}888)$

9. (c)

10. (b) $\{11560 - (3750 + 4390) = 11560 - 8140 = 3420\}$