

# ADDITION AND SUBTRACTION



## Warm Up



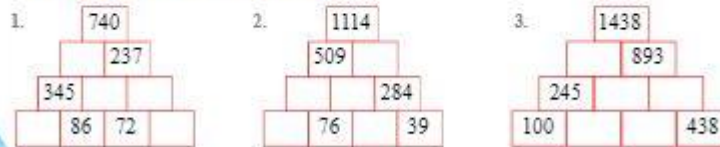
A. Ravi went to Mumbai from New Delhi by the Mumbai Rajdhani express. The distances between various stations on this route are given below. **ANS**

1. New Delhi to Kota: 465 km
2. Kota to Ratlam: 266 km
3. Ratlam to Vadodara: 262 km
4. Vadodara to Surat: 129 km
5. Surat to Mumbai: 262 km

Help Ravi find out the distance between New Delhi and Mumbai by filling in the boxes.

$$\begin{array}{r}
 465 \\
 + 266 \\
 \hline
 731
 \end{array}
 \quad \rightarrow \quad
 \begin{array}{r}
 731 \\
 + 262 \\
 \hline
 \phantom{000}
 \end{array}
 \quad \rightarrow \quad
 \begin{array}{r}
 \phantom{000} \\
 + 129 \\
 \hline
 \phantom{000}
 \end{array}
 \quad \rightarrow \quad
 \begin{array}{r}
 \phantom{000} \\
 + 262 \\
 \hline
 \phantom{000}
 \end{array}$$

B. Each number in the blocks is the sum of the two numbers below it. Fill in the missing numbers. **ANS**



## ADDING 4-DIGIT NUMBERS

### Addition without regrouping

**EXAMPLE 1** Find the sum of 1340 and 5658.

$$\begin{array}{r}
 \text{Thousands} \nearrow \\
 \begin{array}{cccc}
 \text{Th} & \text{H} & \text{T} & \text{O} \\
 1 & 3 & 4 & 0 \\
 + & 5 & 6 & 5 & 8 \\
 \hline
 & & & 8 & \\
 \hline
 & & & 9 & 8 \\
 \hline
 & & & 9 & 9 & 8 \\
 \hline
 & & 6 & 9 & 9 & 8 \\
 \hline
 \end{array}
 \end{array}$$

Add the ones.      Add the tens.      Add the hundreds.      Add the thousands.

ANS. 6998

**EXAMPLE 2** Find the sum of 2356, 1231 and 1302.

$$\begin{array}{cccc}
 \text{Th} & \text{H} & \text{T} & \text{O} \\
 2 & 3 & 5 & 6 \\
 + & 1 & 2 & 3 & 1 \\
 + & 1 & 3 & 0 & 2 \\
 \hline
 4 & 8 & 8 & 9 & \\
 \hline
 \end{array}$$

ANS. 4889

**EXAMPLE 3** Add 2130, 213, 4102 and 324.

$$\begin{array}{cccc}
 \text{Th} & \text{H} & \text{T} & \text{O} \\
 2 & 1 & 3 & 0 \\
 & 2 & 1 & 3 \\
 & 4 & 1 & 0 & 2 \\
 + & & 3 & 2 & 4 \\
 \hline
 6 & 7 & 6 & 9 & \\
 \hline
 \end{array}$$

ANS. 6769

### Addition with regrouping

**EXAMPLE 4** Add 7254, 6263 and 7948.

Step 1 Add the ones.  $4 + 3 + 8 = 15$  ones.  
Regroup 15 ones into 1 ten and 5 ones.  
Write 5 in the ones column.

Step 2 Carry over 1 ten to the tens column and add the tens.  
 $1 + 5 + 6 + 4 = 16$  tens. Regroup 16 tens into 1 hundred and 6 tens. Write 6 in the tens column.

Step 3 Carry over 1 hundred to the hundreds column and add the hundreds.  
 $1 + 2 + 2 + 9 = 14$  hundreds. Regroup 14 hundreds into 1 thousand and 4 hundreds. Write 4 in the hundreds column.

Step 4 Carry over 1 thousand to the thousands column and add the thousands.  
 $1 + 7 + 6 + 7 = 21$  thousands. Write 1 in the thousands column and 2 in the ten thousands column.

$$\begin{array}{cccc}
 \text{TTh} & \text{Th} & \text{H} & \text{T} & \text{O} \\
 & 1 & 1 & 1 & \\
 & 7 & 2 & 5 & 4 \\
 & 6 & 2 & 6 & 3 \\
 + & 7 & 9 & 4 & 8 \\
 \hline
 2 & 1 & 4 & 6 & 5 \\
 \hline
 \end{array}$$



26

**EXAMPLE 5** Find the sum of 1752 and 9089.

$$\begin{array}{cccc}
 \text{TTh} & \text{Th} & \text{H} & \text{T} & \text{O} \\
 & 1 & 7 & 5 & 2 \\
 + & 9 & 0 & 8 & 9 \\
 \hline
 1 & 0 & 8 & 4 & 1 \\
 \hline
 \end{array}$$

ANS. 10841

**EXAMPLE 6** Add 1372, 7541, 5462 and 6272.

$$\begin{array}{cccc}
 \text{TTh} & \text{Th} & \text{H} & \text{T} & \text{O} \\
 & 1 & 3 & 7 & 2 \\
 + & 7 & 5 & 4 & 1 \\
 + & 5 & 4 & 6 & 2 \\
 + & 6 & 2 & 7 & 2 \\
 \hline
 2 & 0 & 6 & 4 & 7 \\
 \hline
 \end{array}$$

ANS. 20647



### I Can Do It!

Add. ANS

1. $\begin{array}{r} 3756 \\ + 1231 \\ \hline \end{array}$	2. $\begin{array}{r} 3474 \\ + 1214 \\ \hline \end{array}$	3. $\begin{array}{r} 2489 \\ + 1211 \\ \hline \end{array}$	4. $\begin{array}{r} 5396 \\ + 6725 \\ \hline \end{array}$
5. $\begin{array}{r} 2510 \\ 6207 \\ + 1010 \\ \hline \end{array}$	6. $\begin{array}{r} 4060 \\ 4729 \\ + 5160 \\ \hline \end{array}$	7. $\begin{array}{r} 3523 \\ 7113 \\ + 3896 \\ \hline \end{array}$	8. $\begin{array}{r} 9999 \\ 9999 \\ + 1999 \\ \hline \end{array}$

## ADDING LARGE NUMBERS

### Addition without regrouping

**EXAMPLE 7** Add 25173 and 44316.

$$\begin{array}{cccc}
 \text{TTh} & \text{Th} & \text{H} & \text{T} & \text{O} \\
 2 & 5 & 1 & 7 & 3 \\
 + & 4 & 4 & 3 & 1 & 6 \\
 \hline
 6 & 9 & 4 & 8 & 9 & \\
 \hline
 \end{array}$$

ANS. 69489

**EXAMPLE 8** Add 43012, 14564 and 20323.

$$\begin{array}{cccc}
 \text{TTh} & \text{Th} & \text{H} & \text{T} & \text{O} \\
 & 4 & 3 & 0 & 1 & 2 \\
 & 1 & 4 & 5 & 6 & 4 \\
 + & 2 & 0 & 3 & 2 & 3 \\
 \hline
 & 7 & 7 & 8 & 9 & 9 \\
 \hline
 \end{array}$$

ANS. 77899

**EXAMPLE 9** Add 13406, 31151, 20210 and 5101.

$$\begin{array}{cccc}
 \text{TTh} & \text{Th} & \text{H} & \text{T} & \text{O} \\
 & 1 & 3 & 4 & 0 & 6 \\
 & 3 & 1 & 1 & 5 & 1 \\
 & 2 & 0 & 2 & 1 & 0 \\
 + & & 5 & 1 & 0 & 1 \\
 \hline
 & 6 & 9 & 8 & 6 & 8 \\
 \hline
 \end{array}$$

ANS. 69868



27

### Addition with regrouping

**EXAMPLE 10** Add 62384 and 23579.

	T	T	H	T	O
	1	1			
	6	2	3	8	4
+	2	3	5	7	9
	8	5	9	6	3

ANS. 85963

**EXAMPLE 11** Add 37214, 25705 and 34596.

	T	T	H	T	O
	1	1	1		
	3	7	2	1	4
	2	5	7	0	5
+	3	4	5	9	6
	9	7	5	1	5

ANS. 97515



### Exercise 2.1

#### A. Add. **ANS**

- |  |   |   |  |
|--|---|---|--|
| <p>1. <math>\begin{array}{r} 4425 \\ + 4351 \\ \hline \end{array}</math></p> <p>5. <math>\begin{array}{r} 219 \\ 9356 \\ + 53988 \\ \hline \end{array}</math></p> <p>9. <math>\begin{array}{r} 256 \\ 1028 \\ 5621 \\ + 346 \\ \hline \end{array}</math></p> | <p>2. <math>\begin{array}{r} 3474 \\ + 8298 \\ \hline \end{array}</math></p> <p>6. <math>\begin{array}{r} 34376 \\ 12102 \\ + 13210 \\ \hline \end{array}</math></p> <p>10. <math>\begin{array}{r} 7428 \\ 901 \\ 1345 \\ + 2637 \\ \hline \end{array}</math></p> | <p>3. <math>\begin{array}{r} 13406 \\ + 65092 \\ \hline \end{array}</math></p> <p>7. <math>\begin{array}{r} 52692 \\ 5246 \\ + 3193 \\ \hline \end{array}</math></p> <p>11. <math>\begin{array}{r} 31277 \\ 5622 \\ 531 \\ + 627 \\ \hline \end{array}</math></p> | <p>4. <math>\begin{array}{r} 25278 \\ + 43469 \\ \hline \end{array}</math></p> <p>8. <math>\begin{array}{r} 75721 \\ 16935 \\ + 5398 \\ \hline \end{array}</math></p> <p>12. <math>\begin{array}{r} 33963 \\ 45372 \\ 608 \\ + 1956 \\ \hline \end{array}</math></p> |
|--|---|---|--|

#### B. Arrange in columns and add. **ANS**

- |   |   |
|---|---|
| <p>1. 12409 + 33098</p> <p>3. 15486 + 21786 + 5437</p> <p>5. 23451 + 28079 + 28786 + 12341</p> <p>7. 21803 + 3456 + 883</p> | <p>2. 32058 + 9436</p> <p>4. 33333 + 12059 + 24279</p> <p>6. 15481 + 22486 + 13492 + 8019</p> <p>8. 21531 + 6520 + 6472</p> |
|---|---|



28

### PROPERTIES OF ADDITION



Numbers can be added in any order. Their sum will remain the same.

<table style="border-collapse: collapse;"> <tr> <td>Th</td><td>H</td><td>T</td><td>O</td> </tr> <tr> <td>6</td><td>7</td><td>8</td><td></td> </tr> <tr> <td>+</td><td>2</td><td>9</td><td>4</td> </tr> <tr> <td colspan="4" style="border-top: 1px solid black;"></td> </tr> <tr> <td>3</td><td>6</td><td>2</td><td>0</td> </tr> </table> <p>← same</p>	Th	H	T	O	6	7	8		+	2	9	4					3	6	2	0	<table style="border-collapse: collapse;"> <tr> <td>Th</td><td>H</td><td>T</td><td>O</td> </tr> <tr> <td>2</td><td>9</td><td>4</td><td>2</td> </tr> <tr> <td>+</td><td>6</td><td>7</td><td>8</td> </tr> <tr> <td colspan="4" style="border-top: 1px solid black;"></td> </tr> <tr> <td>3</td><td>6</td><td>2</td><td>0</td> </tr> </table> <p>← same</p>	Th	H	T	O	2	9	4	2	+	6	7	8					3	6	2	0	<table style="border-collapse: collapse;"> <tr> <td>T</td><td>T</td><td>H</td><td>T</td><td>O</td> </tr> <tr> <td>4</td><td>2</td><td>5</td><td>7</td><td>6</td> </tr> <tr> <td>+</td><td>2</td><td>8</td><td>3</td><td>5</td> </tr> <tr> <td colspan="5" style="border-top: 1px solid black;"></td> </tr> <tr> <td>7</td><td>1</td><td>4</td><td>0</td><td>4</td> </tr> </table> <p>← same</p>	T	T	H	T	O	4	2	5	7	6	+	2	8	3	5						7	1	4	0	4
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When 1 is added to a number, the sum is the successor of the number.

<table style="border-collapse: collapse;"> <tr> <td>H</td><td>T</td><td>O</td> </tr> <tr> <td>2</td><td>3</td><td>6</td> </tr> <tr> <td>+</td><td>1</td><td></td> </tr> <tr> <td colspan="3" style="border-top: 1px solid black;"></td> </tr> <tr> <td>2</td><td>3</td><td>7</td> </tr> </table> <p>← successor of 236</p>	H	T	O	2	3	6	+	1					2	3	7	<table style="border-collapse: collapse;"> <tr> <td>Th</td><td>H</td><td>T</td><td>O</td> </tr> <tr> <td>4</td><td>5</td><td>6</td><td>7</td> </tr> <tr> <td>+</td><td>1</td><td></td><td></td> </tr> <tr> <td colspan="4" style="border-top: 1px solid black;"></td> </tr> <tr> <td>4</td><td>5</td><td>6</td><td>8</td> </tr> </table> <p>← successor of 4567</p>	Th	H	T	O	4	5	6	7	+	1							4	5	6	8	<table style="border-collapse: collapse;"> <tr> <td>T</td><td>T</td><td>H</td><td>T</td><td>O</td> </tr> <tr> <td>7</td><td>2</td><td>3</td><td>2</td><td>8</td> </tr> <tr> <td>+</td><td>1</td><td></td><td></td><td></td> </tr> <tr> <td colspan="5" style="border-top: 1px solid black;"></td> </tr> <tr> <td>7</td><td>2</td><td>3</td><td>2</td><td>9</td> </tr> </table> <p>← successor of 72328</p>	T	T	H	T	O	7	2	3	2	8	+	1									7	2	3	2	9
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+	1																																																													
7	2	3	2	9																																																										

When 0 is added to a number, the sum is the number itself.

<table style="border-collapse: collapse;"> <tr> <td>Th</td><td>H</td><td>T</td><td>O</td> </tr> <tr> <td>2</td><td>5</td><td>8</td><td>9</td> </tr> <tr> <td>+</td><td>0</td><td></td><td></td> </tr> <tr> <td colspan="4" style="border-top: 1px solid black;"></td> </tr> <tr> <td>2</td><td>5</td><td>8</td><td>9</td> </tr> </table>	Th	H	T	O	2	5	8	9	+	0							2	5	8	9	<table style="border-collapse: collapse;"> <tr> <td>T</td><td>T</td><td>H</td><td>T</td><td>O</td> </tr> <tr> <td>4</td><td>6</td><td>0</td><td>7</td><td>5</td> </tr> <tr> <td>+</td><td>0</td><td></td><td></td><td></td> </tr> <tr> <td colspan="5" style="border-top: 1px solid black;"></td> </tr> <tr> <td>4</td><td>6</td><td>0</td><td>7</td><td>5</td> </tr> </table>	T	T	H	T	O	4	6	0	7	5	+	0									4	6	0	7	5	<table style="border-collapse: collapse;"> <tr> <td>T</td><td>T</td><td>H</td><td>T</td><td>O</td> </tr> <tr> <td>5</td><td>2</td><td>7</td><td>8</td><td>9</td> </tr> <tr> <td>+</td><td>0</td><td></td><td></td><td></td> </tr> <tr> <td colspan="5" style="border-top: 1px solid black;"></td> </tr> <tr> <td>5</td><td>2</td><td>7</td><td>8</td><td>9</td> </tr> </table>	T	T	H	T	O	5	2	7	8	9	+	0									5	2	7	8	9
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### CHECKING ADDITION



How do you check a sum?

To check a sum add the numbers in the reverse order.



**EXAMPLE 12** Add 2456 and 5962. Check the answer by adding in the reverse order.

<table style="border-collapse: collapse;"> <tr> <td>2</td><td>4</td><td>5</td><td>6</td> </tr> <tr> <td>+</td><td>5</td><td>9</td><td>6</td> </tr> <tr> <td colspan="4" style="border-top: 1px solid black;"></td> </tr> <tr> <td>8</td><td>4</td><td>1</td><td>8</td> </tr> </table> <p>← Add</p>	2	4	5	6	+	5	9	6					8	4	1	8	<table style="border-collapse: collapse;"> <tr> <td>8</td><td>4</td><td>1</td><td>8</td> </tr> <tr> <td>+</td><td>2</td><td>4</td><td>5</td> </tr> <tr> <td colspan="4" style="border-top: 1px solid black;"></td> </tr> <tr> <td>10</td><td>6</td><td>6</td><td>2</td> </tr> </table>	8	4	1	8	+	2	4	5					10	6	6	2
2	4	5	6																														
+	5	9	6																														
8	4	1	8																														
8	4	1	8																														
+	2	4	5																														
10	6	6	2																														

ANS. 8418. Since the sum is the same in both the cases, it is correct.



29

### ESTIMATING THE SUM

Round off the numbers to estimate their sum. This will give a rough idea of the sum.

**EXAMPLE 13** Find the estimated sum and the exact sum of 486 and 124.

$$\begin{array}{r}
 486 \\
 +124 \\
 \hline
 ?
 \end{array}
 \quad
 \begin{array}{l}
 \text{round off to} \\
 \text{the nearest 100} \\
 \rightarrow
 \end{array}
 \begin{array}{r}
 500 \\
 +100 \\
 \hline
 600 \\
 \leftarrow \text{estimated sum}
 \end{array}
 \quad
 \begin{array}{r}
 486 \\
 +124 \\
 \hline
 610 \\
 \leftarrow \text{exact sum}
 \end{array}$$

### ADDING HORIZONTALLY

**EXAMPLE 14** Add 342 and 453 horizontally.

Step 1 Add the ones.  $342 + 453 \rightarrow 5$

Step 2 Add the tens.  $342 + 453 \rightarrow 95$

Step 3 Add the hundreds.  $342 + 453 \rightarrow 795$

**ANS.**  $342 + 453 = 795$



### Exercise 2.2

#### A. Fill in the blanks. **ANS**

- $27943 + 35961 = 35961 + \underline{\hspace{2cm}}$
- The successor of 99999 =  $\underline{\hspace{2cm}}$
- $37005 + 0 = \underline{\hspace{2cm}}$
- $41052 + \underline{\hspace{2cm}} = 41053$

#### B. Add. Check the answer. **ANS**

- $$\begin{array}{r}
 3452 \\
 +4356 \\
 \hline
 \end{array}
 \quad
 \begin{array}{r}
 3452 \\
 +4356 \\
 \hline
 \end{array}$$
- $$\begin{array}{r}
 6705 \\
 +2048 \\
 \hline
 \end{array}
 \quad
 \begin{array}{r}
 6705 \\
 +2048 \\
 \hline
 \end{array}$$
- $$\begin{array}{r}
 22563 \\
 +14467 \\
 \hline
 \end{array}
 \quad
 \begin{array}{r}
 22563 \\
 +14467 \\
 \hline
 \end{array}$$
- $$\begin{array}{r}
 28816 \\
 +11059 \\
 \hline
 \end{array}
 \quad
 \begin{array}{r}
 28816 \\
 +11059 \\
 \hline
 \end{array}$$



30

#### C. Estimate each sum. Also find the exact sum. **ANS**

Question	Rounded off to the	Estimated sum	Exact sum
1. $56 + 72$	nearest 10		
2. $315 + 425$	nearest 100		
3. $3892 + 5380$	nearest 1000		

#### D. Add horizontally and find the sum. **ANS**

- $48 + 21 = \underline{\hspace{2cm}}$
- $37 + 14 = \underline{\hspace{2cm}}$
- $15 + 346 = \underline{\hspace{2cm}}$
- $225 + 148 = \underline{\hspace{2cm}}$
- $380 + 479 = \underline{\hspace{2cm}}$
- $521 + 711 = \underline{\hspace{2cm}}$
- $341 + 198 = \underline{\hspace{2cm}}$
- $400 + 542 = \underline{\hspace{2cm}}$
- $625 + 222 = \underline{\hspace{2cm}}$

### STORY SUMS

**EXAMPLE 15** To decorate a hall, a florist needs 3,500 marigolds, 4,600 roses and 2,850 lilies.

How many flowers does she need in all?

Number of marigolds = 3,500

Number of roses = 4,600

Number of lilies = 2,850

Total number of flowers needed =  $3,500 + 4,600 + 2,850$

**ANS.** The florist needs a total of 10,950 flowers.



**EXAMPLE 16** Mr Mehra spent ₹10,999 on airfare, ₹27,350 on hotel accommodation and ₹9,859 on taxi fare when he visited Chennai. How much money did he spend altogether?

Money spent on airfare = ₹10,999

Money spent on the hotel = ₹27,350

Money spent on taxi = ₹9,859

Money spent altogether = ₹10,999 + ₹27,350 + ₹9,859

**ANS.** Mr Mehra spent ₹48,208 altogether.

$$\begin{array}{r}
 10999 \\
 +27350 \\
 +9859 \\
 \hline
 48208
 \end{array}$$



31



### Exercise 2.3

10 Solve these story sums. **ANS**

- Rohit had a collection of 2,346 stamps. His brother gave him 1,999 stamps. How many stamps does Rohit have now?
- A farmer bought a pump set. He paid ₹58,960 from his savings and borrowed ₹40,750 from a bank. What is the cost of the pump set?
- A museum was visited by 47,985 children, 16,485 men and 12,025 women. How many people visited the museum in all?

#### SUBTRACTING 4-DIGIT NUMBERS

##### Subtraction without regrouping

EXAMPLE 17 Subtract 3074 from 5689.

Subtract	Th	H	T	O
	5	6	8	9
-	3	0	7	4
	2	6	1	5

Subtract	Th	H	T	O
	5	6	8	9
-	3	0	7	4
	2	6	1	5

Subtract	Th	H	T	O
	5	6	8	9
-	3	0	7	4
	2	6	1	5

Subtract	Th	H	T	O
	5	6	8	9
-	3	0	7	4
	2	6	1	5

Subtract the ones.    Subtract the tens.    Subtract the hundreds.    Subtract the thousands.

ANS. 2615

##### Subtraction with regrouping

EXAMPLE 18 Find the difference between 8623 and 4247.

- Step 1 Subtract the ones. 7 ones cannot be subtracted from 3 ones. So, regroup 2 tens and 3 ones into 1 ten and 13 ones.  $13 - 7 = 6$  ones.
- Step 2 Subtract the tens. 4 tens cannot be subtracted from 1 ten. So, regroup 6 hundreds and 1 ten into 5 hundreds and 11 tens.  $11 - 4 = 7$  tens.
- Step 3 Subtract the hundreds.  $5 - 2 = 3$  hundreds.
- Step 4 Subtract the thousands.  $8 - 4 = 4$  thousands.

ANS. 4376



### Exercise 2.4

10 A. Subtract. **ANS**

- |    |         |
|----|---------|
| 1. | 3 3 2 7 |
| -  | 1 2 0 3 |
|    |         |
|    | 2 1 2 4 |
- |    |         |
|----|---------|
| 2. | 6 5 4 2 |
| -  | 3 2 3 0 |
|    |         |
|    | 3 3 1 2 |
- |    |         |
|----|---------|
| 3. | 8 7 6 5 |
| -  | 4 3 2 1 |
|    |         |
|    | 4 4 4 4 |
- |    |         |
|----|---------|
| 4. | 9 9 9 9 |
| -  | 1 9 9 9 |
|    |         |
|    | 8 0 0 0 |
- 
- |    |         |
|----|---------|
| 5. | 7 9 6 8 |
| -  | 2 7 8 6 |
|    |         |
|    | 5 1 8 2 |
- |    |         |
|----|---------|
| 6. | 8 5 6 4 |
| -  | 3 6 2 5 |
|    |         |
|    | 4 8 3 9 |
- |    |         |
|----|---------|
| 7. | 9 6 6 3 |
| -  | 4 7 7 8 |
|    |         |
|    | 4 8 8 5 |
- |    |         |
|----|---------|
| 8. | 8 8 8 7 |
| -  | 7 8 8 8 |
|    |         |
|    | 1 0 0 0 |

B. Arrange in columns and subtract. **ANS**

- 8753 - 4321
- 6989 - 5465
- 9365 - 8210
- 6666 - 333

#### SUBTRACTING LARGE NUMBERS

##### Subtraction without regrouping

EXAMPLE 19 Subtract 20140 from 41262.

	TTh	Th	H	T	O
	4	1	2	6	2
-	2	0	1	4	0
	2	1	1	2	2

ANS. 21122

Subtraction of large numbers is the same as subtraction of small numbers.



##### Subtraction with regrouping

EXAMPLE 20 Subtract 2079 from 13477.

	TTh	Th	H	T	O
	1	3	4	7	7
			16	6	17
		5	7	7	7
-		2	0	7	9
	1	1	3	9	8

ANS. 11398

EXAMPLE 21 Subtract 10823 from 27501.

	TTh	Th	H	T	O	
	2	7	5	0	1	
			14	9	11	
		8	4	10	11	
		2	7	5	0	1
-		1	0	8	2	3
	1	6	6	7	8	

ANS. 16678







### Exercise 2.5

#### A. Subtract. **ANS**

- $$\begin{array}{r} 9586 \\ -5174 \\ \hline \end{array}$$
- $$\begin{array}{r} 4688 \\ -3422 \\ \hline \end{array}$$
- $$\begin{array}{r} 86985 \\ -74202 \\ \hline \end{array}$$
- $$\begin{array}{r} 67303 \\ -46425 \\ \hline \end{array}$$
- $$\begin{array}{r} 35217 \\ -22007 \\ \hline \end{array}$$
- $$\begin{array}{r} 77987 \\ -54633 \\ \hline \end{array}$$
- $$\begin{array}{r} 97851 \\ -72968 \\ \hline \end{array}$$
- $$\begin{array}{r} 85435 \\ -62142 \\ \hline \end{array}$$
- $$\begin{array}{r} 94563 \\ -65160 \\ \hline \end{array}$$
- $$\begin{array}{r} 52068 \\ -28961 \\ \hline \end{array}$$
- $$\begin{array}{r} 47579 \\ -29699 \\ \hline \end{array}$$
- $$\begin{array}{r} 94295 \\ -37596 \\ \hline \end{array}$$

#### B. Arrange in columns and subtract. **ANS**

- $4386 - 2479$
- $9839 - 6948$
- $58254 - 36865$
- $47836 - 37941$
- $84664 - 64065$
- $63178 - 34842$
- $97574 - 96992$
- $54299 - 43100$

#### PROPERTIES OF SUBTRACTION



When 0 is subtracted from a number, the difference is the number itself.

$$\begin{array}{rcccccc} \text{T} & \text{Th} & \text{H} & \text{T} & \text{O} & \\ 2 & 4 & 5 & 8 & 9 & \\ - & & & & 0 & \\ \hline 2 & 4 & 5 & 8 & 9 & \end{array}$$



When 1 is subtracted from a number, the difference is the predecessor of the number.

$$\begin{array}{rcccccc} \text{T} & \text{Th} & \text{H} & \text{T} & \text{O} & \\ 1 & 3 & 7 & 8 & 6 & \\ - & & & & 1 & \\ \hline 1 & 3 & 7 & 8 & 5 & \end{array}$$

predecessor of 13786



When a number is subtracted from itself, the difference is 0.

$$\begin{array}{rcccccc} \text{T} & \text{Th} & \text{H} & \text{T} & \text{O} & \\ 4 & 2 & 5 & 7 & 8 & \\ - & 4 & 2 & 5 & 7 & 8 & \\ \hline & & & & 0 & \end{array}$$



#### CHECKING SUBTRACTION

You can check subtraction by addition. First find the difference and add the difference to the subtrahend. If the sum is equal to the minuend, then your answer is correct.

**EXAMPLE 22** Subtract 20161 from 45583. Check with addition.

$$\begin{array}{r} 45583 \\ -20161 \\ \hline 25422 \end{array} \quad \begin{array}{r} 25422 \\ +20161 \\ \hline 45583 \end{array}$$

find the difference →      → add the difference to the subtrahend  
Sum is equal to the minuend

#### ESTIMATING THE DIFFERENCE

Round off the numbers to estimate their difference. This will give a rough idea of the difference.

**EXAMPLE 23** Find the estimated difference as well as the exact difference between 516 and 197.

$$\begin{array}{r} 516 \\ -197 \\ \hline ? \end{array} \quad \begin{array}{r} 500 \\ -200 \\ \hline 300 \end{array} \quad \begin{array}{r} 516 \\ -197 \\ \hline 319 \end{array}$$

round off to the nearest 100      estimated difference      exact difference



### Exercise 2.6

#### A. Fill in the blanks. **ANS**

- $6340 - 0 = \underline{\hspace{2cm}}$
- $5200 - \underline{\hspace{2cm}} = 5200$
- $54731 - 54731 = \underline{\hspace{2cm}}$

#### B. Subtract and check by addition. **ANS**

- $$\begin{array}{r} 5584 \\ -1563 \\ \hline \end{array} \quad \begin{array}{r} \phantom{0000} \\ + \phantom{0000} \\ \hline \end{array}$$
- $$\begin{array}{r} 6575 \\ -2410 \\ \hline \end{array} \quad \begin{array}{r} \phantom{0000} \\ + \phantom{0000} \\ \hline \end{array}$$
- $$\begin{array}{r} 35267 \\ -18382 \\ \hline \end{array} \quad \begin{array}{r} \phantom{00000} \\ + \phantom{00000} \\ \hline \end{array}$$
- $$\begin{array}{r} 75689 \\ -36598 \\ \hline \end{array} \quad \begin{array}{r} \phantom{00000} \\ + \phantom{00000} \\ \hline \end{array}$$



**C. Estimate each difference. Also find the exact difference. ANS**

Question	Round off to the	Estimated difference	Exact difference
1. $71 - 59$	nearest 10		
2. $425 - 315$	nearest 100		
3. $5180 - 3992$	nearest 1000		

**STORY SUMS**

**EXAMPLE 24** 12,670 cars can be parked in a parking lot. One morning, 1,947 cars are already parked there. How many more cars can still be parked?

Number of cars that can be parked = 12,670

Number of cars already parked = 1,947

Number of cars that can still be parked =  $12,670 - 1,947$

**ANS.** 10,723 more cars can still be parked.

$$\begin{array}{r} 12\ 670 \\ - 1\ 947 \\ \hline 10\ 723 \end{array}$$



**Exercise 2.7**

**Solve these story sums. ANS**

- There are 1,500 seats in a cinema hall. If on a particular day, 895 people arrive to watch a movie, how many seats are vacant?
- A farmer had 7,500 oranges. Out of these, 859 oranges got spoiled. How many good oranges are left?
- 8,000 aeroplanes take off from an airport every day. But only 6,748 could take off on Monday due to bad weather. How many flights were cancelled?
- There are 11,500 seats in an indoor stadium. If on a particular day, 2,895 people come to watch a game, how many seats are vacant?
- The total cost of a television set and a mobile phone is ₹55,990. If the cost of the mobile phone is ₹17,897, find the cost of the television set.



**ADDITION AND SUBTRACTION TOGETHER**

To solve sums involving both addition and subtraction, go step-wise. Carry out addition first and then subtract. From the sum, subtract the number that has the minus sign (-) in front of it.

**EXAMPLE 25** Solve  $437 + 1542 - 1398$ .

Step 1 Add the first number to the number that has the + sign in front of it.

$$\begin{array}{r} 437 \\ + 1542 \\ \hline 1979 \end{array}$$

Step 2 From the sum, subtract the number that has the - sign in front of it.

$$\begin{array}{r} 1979 \\ - 1398 \\ \hline 581 \end{array}$$

**ANS.** 581

**EXAMPLE 26** Which number is 2472 more than 3168?

The number that is 2472 more than 3168 is  $3168 + 2472$

$$\begin{array}{r} 3168 \\ + 2472 \\ \hline 5640 \end{array}$$



**ANS.** 5640 is 2472 more than 3168.

**EXAMPLE 27** Which number is 2472 less than 6315?

The number that is 2472 less than 6315 is  $6315 - 2472$

$$\begin{array}{r} 6315 \\ - 2472 \\ \hline 3843 \end{array}$$



**ANS.** 3843 is 2472 less than 6315.

**EXAMPLE 28** What should be added to 5796 to get 10835?

The number to be added =  $10835 - 5796$

$$\begin{array}{r} 10835 \\ - 5796 \\ \hline 5039 \end{array}$$



**ANS.** 5039 should be added to 5796 to get 10835.





### Exercise 2.8

- A. Solve step-wise. ANS**
1.  $4617 + 2415 - 5918$
  2.  $2365 + 1687 - 1979$
  3.  $7315 - 4782 + 1508$
  4.  $1359 - 979 + 2648$
  5.  $4526 - 2487 + 1358$
  6.  $8350 - 6805 + 978$
  7.  $7000 - 3816 + 159$
  8.  $4000 + 389 - 3354$
- B. Find the number that is ANS**
1. 563 more than 8978.
  2. 2053 more than 10615.
  3. 8213 more than 6214.
  4. 4329 more than 12167.
- C. Find the number that is ANS**
1. 2867 less than 7853.
  2. 4071 less than 7340.
  3. 437 less than 1041.
  4. 9998 less than 9999.
  5. 798 less than 5663.
  6. 3715 less than 10113.
- D. What should be added to ANS**
1. 1672 to get 3400?
  2. 978 to get 9780?
  3. 2783 to get 4511?
  4. 897 to get 8970?
  5. 4513 to get 5375?
  6. 675 to get 3256?

#### Maths Online

For more practice on addition and subtraction, visit [rsgr.in/m4-1](https://rsgr.in/m4-1)



#### STORY SUMS

**EXAMPLE 29** Razia bought a Harry Potter book. It had 880 pages. She read 16 pages on Monday and 13 pages on Tuesday. How many pages does Razia still have to read?

Total number of pages = 880  
 Number of pages read on Monday = 16  
 Number of pages read on Tuesday = 13  
 Number of pages Razia has to read =  $880 - 16 - 13$

$$\begin{array}{r} \phantom{0} 10 \\ 880 \\ - 16 \\ \hline 864 \\ \phantom{0} 13 \\ - \phantom{0} 13 \\ \hline 851 \end{array}$$

**ANS.** Razia has to read 851 pages.



38



### Exercise 2.9

- Solve these story sums. ANS**
1. Riya has 6,848 beads. Of these, 3,752 beads are red, 1,089 are green and the rest are yellow. How many yellow beads does she have?
  2. On Monday, 2,523 men, women and children visited the Science Museum. There were 845 men, 639 women and the rest were children. Find the number of children who visited the Science Museum.
  3. A factory manufactured 75,850 cars in 2017. In 2018, it manufactured 18,000 more cars. How many cars did it manufacture in 2018?
  4. The cost of manufacturing a car in 2016 was ₹96,328 and ₹98,999 in 2017. How much more did a car cost in 2017?
  5. Out of 75,850 cars manufactured in 2017, the factory manufactured 32,656 blue cars, 22,607 white cars and the rest of the cars were black. Find the number of black cars it manufactured.



39



# Maths Lab Activity

**Aim:** To use an abacus to add and subtract

**You will need:** A spike abacus and beads of four different colours

**Preparation:** Students work individually.

**Steps**

- Assign a coloured bead for each place. For example,
  - Pink** beads for thousands
  - Orange** beads for hundreds
  - Blue** beads for tens
  - Green** beads for ones



- Each student will make the number written on the blackboard on her/his abacus. For example, the number 4325 can be shown on the abacus as given above.
- Students follow the teacher's instructions by putting appropriate beads to make the number.

Now do the following.

- Increase the number by 100.
- Increase the number by 1000.
- Decrease the number by 1.
- Decrease the number by 20.
- Make the number 300 more than the number on the abacus.
- Make the number 2000 more than the number on the abacus.
- Make the number 4000 less than the number on the abacus.
- Make the number 5 less than the number on the abacus.



# Mental Maths

## A. Fill in the blanks. **ANS**

- \_\_\_\_\_ + 899 = 900
- 5426 + 0 = \_\_\_\_\_
- \_\_\_\_\_ added to 50 = 150
- 48 + \_\_\_\_\_ + 73 = 73 + 48 + 10
- 39519 + \_\_\_\_\_ = 39519
- Successor of 4528 = \_\_\_\_\_
- 3124 + 279 = 279 + \_\_\_\_\_
- \_\_\_\_\_ - 0 = 8957
- 7000 - \_\_\_\_\_ = 7000
- 3752 - \_\_\_\_\_ = 3751

## B. Fill in the missing digits. **ANS**

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

## C. Each column and row adds up to the numbers given outside the boxes. Complete the puzzles using the digits 1 to 9 without repetition. **ANS**

1. 

		2
	4	1
8		

15
10
20
20
13
12

2. 

	5	
3	4	
2		

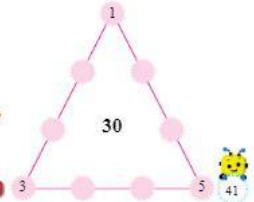
18
15
12
12
18
15

3. 

6	1	
	7	9

16
11
18
16
13
16

4. D. Arrange the numbers 7, 9, 11, 13, 15 and 17 in each such that the sum of the numbers along each side of the triangle is 30. You can use a number only once. **ANS**





# Worksheet

**A. Add or subtract. Type the correct letters that are matched to the answer in the circle to find the hidden message. ANS**

$$\begin{array}{r} 57638 \\ + 28419 \\ \hline \end{array}$$

E

$$\begin{array}{r} 29834 \\ - 13975 \\ \hline \end{array}$$

T

$$\begin{array}{r} 42146 \\ + 31264 \\ \hline \end{array}$$

A

$$\begin{array}{r} 35716 \\ - 20357 \\ \hline \end{array}$$

S

$$\begin{array}{r} 48985 \\ - 23897 \\ \hline \end{array}$$

I

$$\begin{array}{r} 68354 \\ - 32613 \\ \hline \end{array}$$

L

$$\begin{array}{r} 70000 \\ - 49348 \\ \hline \end{array}$$

M

$$\begin{array}{r} 72345 \\ 8693 \\ + 483 \\ \hline \end{array}$$

O

$$\begin{array}{r} 80949 \\ 5637 \\ + 242 \\ \hline \end{array}$$

V

$$\begin{array}{r} 56318 \\ 31067 \\ + 4009 \\ \hline \end{array}$$

H

25088

35741

81521

86828

86057

20652

73410

15859

91394

15359

**B. Solve these story sums. ANS**

1. A school bought 2,350 Maths Activity books in April. The school bought 870 more books in May than in April. How many books did the school buy in May? How many books were bought altogether?
2. A baker baked 56,000 cookies in the first week of May. He baked 13,500 fewer cookies in the second week. How many cookies did he bake in the second week? What was the total number of cookies baked in both the weeks?
3. The sum of two numbers is 58,400. If one number is 14,600, what is the other number?