

3

Addition of Smaller Numbers



Simple Addition

Addition means to combine two or more numbers. The symbol of addition is '+' (plus).

$$4 + 2 = 6$$

It is read as "4 added to 2 is 6 or 4 plus 2 is 6."

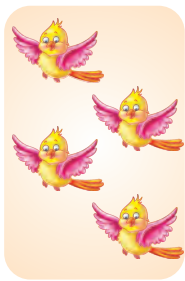

4 and 2 are called **addends** and 6 is called **sum**.

For Example :

$$\begin{array}{r} 1. \quad 6 \rightarrow \text{addend} \\ + \quad 2 \rightarrow \text{addend} \\ \hline 8 \rightarrow \text{sum} \end{array}$$

$$\begin{array}{r} 2. \quad 5 \quad + \quad 2 \quad = \quad 7 \\ \quad \downarrow \quad \quad \downarrow \quad \quad \downarrow \\ \text{addend} + \text{addend} = \text{sum} \end{array}$$

Property of Addition

 4 + 0 = 4 

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

1 added to a number gives the successor of a number as the sum.

For Example :

$$1. 128 + 1 = 129 \quad 2. 186 + 1 = 187$$



Facts to Know

- ❖ Numbers to be added together are called addends and result of addition is called the sum.





Order of Addends



Look at the following.

1.

T	O
4	6
2	3
6	9

+

T	O
2	3
4	6
6	9

Same sum

2.

T	O
4	5
3	4
7	9

+

T	O
3	4
4	5
7	9

Same sum

3.

3	+	4	+	1	=	8
4	+	3	+	1	=	8
1	+	3	+	4	=	8

} → Same sum

If we change the sequence of the addends, the sum remains the same.

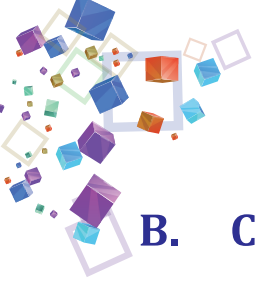


Exercise 3.1

A. Fill in the blank boxes.

1.	$6 + 9 = 15$	addends	<input type="text"/>	and	<input type="text"/>	sum	<input type="text"/>		
2.	$5 + 3 = 8$	addends	<input type="text"/>	and	<input type="text"/>	sum	<input type="text"/>		
3.	$6 + 7 = 13$	addends	<input type="text"/>	and	<input type="text"/>	sum	<input type="text"/>		
4.	$4 + 2 + 6 = 12$	addends	<input type="text"/>	,	<input type="text"/>	,	<input type="text"/>	sum	<input type="text"/>
5.	$3 + 5 + 6 = 14$	addends	<input type="text"/>	,	<input type="text"/>	,	<input type="text"/>	sum	<input type="text"/>





B. Change the order of the addends and find their sum.

1. $46 + 32$

T	O
4	6
+	3 2

T	O
3	2
+	4 6

2. $56 + 12$

T	O
5	6
+	1 2

T	O
1	2
+	5 6

3. $62 + 44$

T	O
6	2
+	4 4

T	O
4	4
+	6 2

4. $36 + 63$

T	O
3	6
+	6 3

T	O
6	3
+	3 6



Addition of Three Numbers

In addition of three numbers, we first add any two numbers. Then the sum of the two, add with third number and get final answer.

For Example: $74 + 12 + 13$

T	O
7	4
+	1 2
Sum is	8 6

Now to the sum 86, we will add 13.

T	O
8	6
+	1 3
9	9

So, the final answer we get is 99 .



Regrouping of Numbers



Rearranging the numbers to make addition or subtraction easier to solve is called 'Regrouping'.



=



18 balls
or
18 ones

same as

1 ten

+

8 ones

In the same way,

16 ones = 1 ten + 6 ones

13 ones = 1 ten + 3 ones

Similarly,

2 tens + 15 ones = 2 tens + 1 ten + 5 ones
= 3 tens + 5 ones

4 tens + 29 ones = 4 tens + 2 tens + 9 ones
= 6 tens + 9 ones



Exercise 3.2

A. Find the sum of the three numbers and write the final answer in each.

1. $14 + 21 + 43$

	T	O		T	O

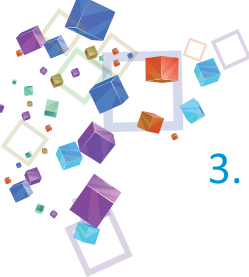
Answer:

2. $52 + 24 + 13$

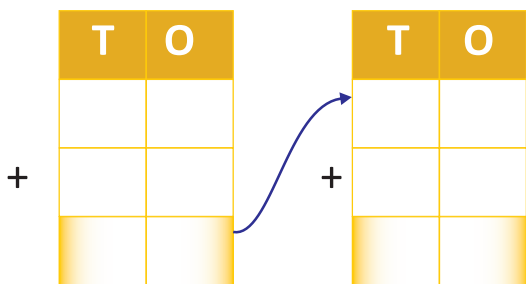
	T	O		T	O

Answer:



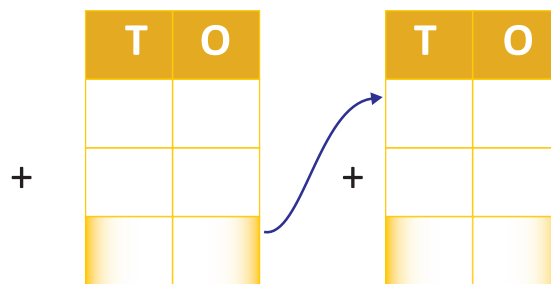


3. $10 + 48 + 25$



Answer:

4. $41 + 26 + 22$



Answer:

B. Fill in the blank boxes.

1. 5 tens + 15 ones = 5 tens + ten + ones = tens + ones
2. 7 tens + 13 ones = 7 tens + en + nes = ens + nes
3. 4 tens + 28 ones = 4 tens + en + nes = ens + nes
4. 6 tens + 24 ones = 6 tens + en + nes = ens + nes

C. Filling boxes, write in tens and ones and find the number.

1. 4 tens + 14 ones = tens + ones =
2. 7 tens + 26 ones = tens + ones =
3. 5 tens + 37 ones = tens + ones =
4. 3 tens + 34 ones = tens + ones =



Addition without Regrouping (Carry Over)

Example I: Add 34 and 53.

Solution:

Step 1 : Arrange the numbers in the columns properly.

Expanded form

34	→	3 tens and 4 ones
53	→ +	5 tens and 3 ones
		8 7





Step 2 : Add the ones.
 $4 \text{ ones} + 3 \text{ ones} = 7 \text{ ones}$
 Write 7 in the ones column.

Step 3 : Add the tens.
 $3 \text{ tens} + 5 \text{ tens} = 8 \text{ tens}$
 Write 8 in the tens column.
 Therefore, $34 + 53 = 87$.

short form	
T	O
3	4
+ 5	3
8	7



Addition with Regrouping (Carry Over)

Example II : Add 36 and 48.

Solution :

$$36 = 30 + 6 = 3 \text{ tens} + 6 \text{ ones}$$

$$48 = 40 + 8 = 4 \text{ tens} + 8 \text{ ones}$$

Let us write the numbers in expanded form to add.

$$\begin{array}{r}
 3 \quad 6 \longrightarrow 3 \text{ tens} + 6 \text{ ones} \\
 + 4 \quad 8 \longrightarrow 4 \text{ tens} + 8 \text{ ones} \\
 \hline
 7 \text{ tens} + 14 \text{ ones}
 \end{array}$$

$$\text{Now, } 7 \text{ tens} + 14 \text{ ones} = 8 \text{ tens} + 4 \text{ ones} = 84.$$

$$\text{So, } 36 + 48 = 84.$$



Addition in Short Way

Example III: Add 56 and 25.

Solution : Arrange the numbers in the column properly.

Step 1 : Add the ones first.

$$6 \text{ ones} + 5 \text{ ones} = 11 \text{ ones} = 1 \text{ ten} + 1 \text{ ones}$$

Write 1 in the ones column and take 1 ten to the tens column.

	T	O
1	5	6
+	2	5
	8	1





Step 2

: Add the tens.

5 tens + 2 tens + 1 ten (carry over) = 8 tens

Write 8 in the tens column.

Therefore, $56 + 25 = 81$.



Exercise 3.3

A. Find the sum of the following.

1.
$$\begin{array}{r} 43 \\ + 52 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 63 \\ + 35 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 44 \\ + 42 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 34 \\ + 35 \\ \hline \end{array}$$

5.
$$\begin{array}{r} 56 \\ + 21 \\ \hline \end{array}$$

6.
$$\begin{array}{r} 13 \\ + 13 \\ \hline \end{array}$$

7.
$$\begin{array}{r} 40 \\ + 33 \\ \hline \end{array}$$

8.
$$\begin{array}{r} 58 \\ + 40 \\ \hline \end{array}$$

B. Find the sum of the following (with carry over).

1.
$$\begin{array}{r|l} \text{T} & \text{O} \\ \hline 2 & 9 \\ + 5 & 4 \\ \hline & \end{array}$$

2.
$$\begin{array}{r|l} \text{T} & \text{O} \\ \hline 8 & 5 \\ + 2 & 7 \\ \hline & \end{array}$$

3.
$$\begin{array}{r|l} \text{T} & \text{O} \\ \hline 2 & 7 \\ + 3 & 5 \\ \hline & \end{array}$$

4.
$$\begin{array}{r|l} \text{T} & \text{O} \\ \hline 2 & 9 \\ + 4 & 6 \\ \hline & \end{array}$$

5.
$$\begin{array}{r|l} \text{T} & \text{O} \\ \hline 3 & 8 \\ + 4 & 8 \\ \hline & \end{array}$$

6.
$$\begin{array}{r|l} \text{T} & \text{O} \\ \hline 3 & 7 \\ + 2 & 7 \\ \hline & \end{array}$$

7.
$$\begin{array}{r|l} \text{T} & \text{O} \\ \hline 1 & 7 \\ + 3 & 4 \\ \hline & \end{array}$$

8.
$$\begin{array}{r|l} \text{T} & \text{O} \\ \hline 1 & 9 \\ + 2 & 9 \\ \hline & \end{array}$$





Adding Three 2-digit Numbers (without Carry Over)

Example IV : Add 32, 42 and 22.

Solution :

Step 1 : Arrange in expanded form.

32 \longrightarrow 3 tens and 2 ones

42 \longrightarrow 4 tens and 2 ones

22 \longrightarrow 2 tens and 2 ones

9 tens and 6 ones

Step 2 : Add the ones.

2 ones + 2 one + 2 one = 6 ones

Write 6 in the ones column.

Step 3 : Add the tens.

3 tens + 4 tens + 2 tens = 9 tens

Write 9 in the tens column.

Therefore, $32 + 42 + 22 = 96$.

short form

T	O
3	2
4	2
+ 2	2
<u>9</u>	<u>6</u>



Adding Three 2-digit Numbers (with Carry Over)

Example V : Add 34, 25 and 26.

Solution : Arrange the numbers in the columns properly.

Step 1 : Add the ones first.

4 ones + 5 ones + 6 ones = 15 ones

15 ones = 1 ten + 5 ones

Write 5 in the ones column and take 1 ten to the tens column.

T	O
¹ 3	4
2	5
2	6
<u>8</u>	<u>5</u>

Step 2 : Add the tens.





3 tens + 2 ten + 2 tens + 1 ten (carry over) = 8 tens

Write 8 in the tens column.

Therefore, $34 + 25 + 26 = 85$.

 **Exercise 3.4**

A. Find the sum of the following.

1.

	T	O
	5	4
	2	1
+	2	2

2.

	T	O
	4	3
	1	0
+	2	3

3.

	T	O
	3	5
	2	3
+	3	1

4.

	T	O
	1	5
	1	1
+	4	2

5.

	T	O
	2	5
	1	1
+	4	0

6.

	T	O
	4	2
	2	6
+	3	0

B. Find the sum of the following (with carry over).

1.

	T	O
	4	3
	2	4
+	2	5

2.

	T	O
	1	4
	4	2
+	2	8

3.

	T	O
	2	7
	1	2
+	2	5

4.

	T	O
	3	6
	2	3
+	1	7

5.

	T	O
	2	4
	3	7
+	1	6

6.

	T	O
	5	7
	2	8
+	1	9



Word Problems

Example VI : My sister caught 48 sparrows and my brother caught 36 sparrows. How many sparrows did they catch in all?

Solution :

Sister caught	4	8	sparrows
Brother caught	3	6	sparrows
	+	8	4

Exercise 3.5

Solve the following word problems.

- Prateek took 68 steps to reach the gate. Then, he took 26 steps to reach his bus. How many steps did he take in all?

To reach the gate	6	8	steps
To reach the bus	+	2	6 steps
In all, he took			steps

Answer :

- There were 68 red roses in one box and 67 pink roses in another box. How many roses in total were there in both boxes?
- Vipin has 86 rupees in his piggy bank. Mona has 56 rupees in her piggy bank. How many rupees do they have together?
- Milan collected 64 stamps and her brother collected 37 stamps. How many stamps do they have together?
- Hanshu made 28 toys and her mother made 46 toys. How many toys did they make together?





Points to Remember

- ❖ Addition means to combine two or more numbers.
- ❖ Numbers to be added together are called addends and result of addition is called their sum.
- ❖ When 0 is added in a number, the sum is the same number.
- ❖ Regrouping means rearranging the numbers to make addition or subtraction easier to solve.



EXERCISE

A. Multiple Choice Questions (MCQs)

Tick (✓) the correct option :

1. Addition of 24 and 35 is

(i) 59

(ii) 79

(iii) 49

(iv) 69

2. Numbers to be added together is known as

(i) addends

(ii) division

(iii) subtraction

(iv) sum

3. 6 tens + 12 ones is equal to

(i) 62 ones

(ii) 72 ones

(iii) 62 tens

(iv) 72 tens

B. Write in the columns and add.

1. $54 + 45$

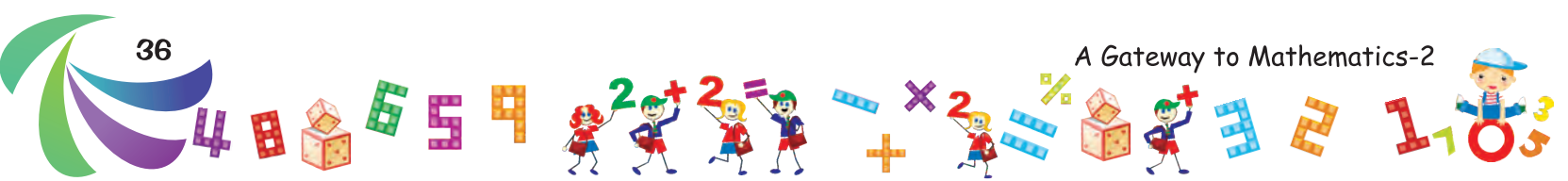
	T	O
+		

2. $44 + 44$

	T	O
+		

3. $46 + 23$

	T	O
+		





C. Fill in the blank boxes.

- 5 tens + 15 ones = tens + ones
- 7 tens + 26 ones = tens + ones
- 6 tens + 28 ones = tens + ones

D. Find the sum. Regroup the numbers if needed.

- | T | O |
|---|-----|
| 3 | 6 |
| + | 4 5 |
| | |
- | T | O |
|---|-----|
| 2 | 6 |
| + | 3 9 |
| | |
- | T | O |
|---|-----|
| 3 | 5 |
| + | 1 5 |
| | |
- | T | O |
|---|-----|
| 4 | 4 |
| + | 2 8 |
| | |

E. Find the sum of the following.

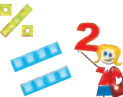
- | T | O |
|---|-----|
| 4 | 2 |
| + | 2 3 |
| | 8 |
| | |
- | T | O |
|---|-----|
| 2 | 7 |
| + | 3 5 |
| | 1 6 |
| | |
- | T | O |
|---|-----|
| 4 | 6 |
| + | 2 4 |
| | 2 6 |
| | |
- | T | O |
|---|-----|
| 4 | 8 |
| + | 2 5 |
| | 1 2 |
| | |

F. Solve the following word problems.

- There are 24 glasses, 16 cups and 14 plates in kitchen. How many pots are there in all?
- A student has 28 copies, 13 books and 24 pens. How many things does he have in all?
- There are 24 horses, 32 goats and 15 dogs. How many animals are there in all?



In a library, there are 35 books in a bookshelf. The librarian puts back 23 Science books and 29 English books in the same shelf. How many books are there in total on the bookshelf?



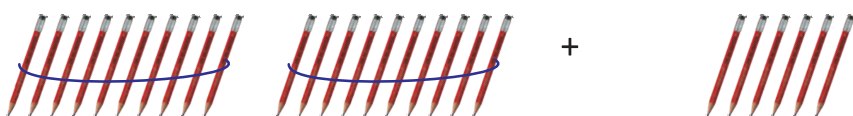


Objective : To understand the concept of addition with regrouping.

Materials Required : Pencils (30 per student) and rubber bands.

Activities :

- ❖ The activity is to be done in pairs.
- ❖ The partners together will have 60 pencils kept on the desk.
- ❖ The teacher will write an addition sum on the blackboard, say $26 + 18$.
- ❖ One child will take 26 pencils. He will make 2 bundles of 10 pencils each and will keep 6 pencils beside the bundles.



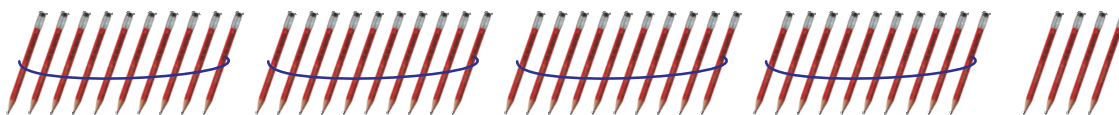
$$2 \text{ tens} + 6 \text{ ones} = 26$$

- ❖ The partner will take 8 pencils. He will make 1 bundle of 10 pencils and will keep 8 pencils besides the bundle.



$$1 \text{ ten} + 8 \text{ ones} = 18$$

- ❖ Now, to add the two numbers, 3 bundles of 10 each will be kept together and the loose pencils will be kept together and added, e.g. : $6 \text{ ones} + 8 \text{ ones} = 14 \text{ ones}$.
- ❖ From the 14 pencils, 1 bundle of 10 will be made and 4 pencils will be kept beside the 4 bundles of 10 pencils. The sum is then noted.



Hence, $26 + 18 = 44$.

- ❖ Then, the teacher will write another sum on the blackboard and will continue the activity for at least 10 sums.