3. Addition

Revision

◆ **Solve the following sums.**

(1) 342 + 123 = ____

(2) 345 + 324 = ____

(3) 170 + 626 = ____

(4) 294 + 105 = ____

(5) 609 + 200 = ____

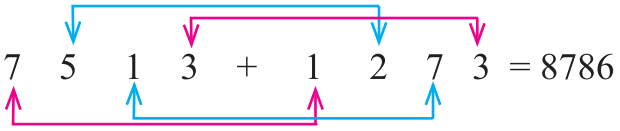
◆ **Study the sums given below.**

Th	H	T	U
4	3	0	1
+ 3	2	9	0
7	5	9	1

TTh	Th	H	T	U
7	3	2	1	5
+		3	5	2
7	3	5	6	7

While adding three-digit numbers, we add units to units, tens to tens and hundreds to hundreds. In the same way, while adding numbers with four or five digits, thousands are added to thousands and ten thousands to ten thousands.

◆ **Study the horizontal arrangement of the sum given below.**



First we add units to units. Then we add tens to tens, hundreds to hundreds and thousands to thousands.

Exercise

1. Arrange vertically and add.
   (1) 2301 + 4056 (2) 4017 + 2081 (3) 2017 + 17060
   (4) 4777 + 2001 (5) 941 + 99058 (6) 12336 + 50021
   (7) 77777 + 2001 (8) 999 + 4000

2. Add in horizontal arrangement.
   (1) 7006 + 2193 (2) 411 + 588 (3) 279 + 97410
   (4) 53046 + 2001 (5) 7013 + 91405 (6) 9298 + 80301

3. Match the equal numbers in the three columns.

Fourteen thousand plus three hundred	509 + 100	99702
Two thousand plus ninety	14000 + 300	609
Five hundred and nine + one hundred	99000 + 702	2090
Ninety-nine thousand + seven hundred and two	2000 + 90	14300

Addition : with carrying over

◆ **Tanvi has 637 beads.**

Saanvi has 574 beads.

How many beads do the two girls have altogether ?

Adding 7 single beads to 4, we get a string of 10 and 1 bead is left over.

3 strings of ten added to 7 strings is equal to 10 strings. Adding 1 new string makes a total of 11 strings of ten beads each.

Joining 10 out of 11 strings makes 1 purse of 100 and 1 string is left over.

Together the two girls have 11 purses of 100 beads. One new purse added to the 11 purses makes a total of 12 purses. Of these, 10 purses of 100 beads each, taken together make one wallet of 1000.

Let us make one wallet of 1000. 2 purses of 100 are left over.

The beads of both girls together 

make a total of 1211 beads.

Let us write the addition of 637 + 574 as shown alongside.

Th	H	T	U
1	1	1	
	6	3	7
+	5	7	4
1	12	11	11

◆ **Solve the sums given.**

Th	H	T	U
	5	4	8
+	9	5	7

Th	H	T	U
	6	5	0
+	8	7	9

Th	H	T	U
	4	8	9
+	5	1	1

Addition of four-digit numbers

Exercise

Add.

(1) 5642 + 4179

Th	H	T	U
5	6	4	2
+ 4	1	7	9

(2) 4984 + 775

Th	H	T	U
4	9	8	4
+	7	7	5

(3) 7850 + 29

Th	H	T	U
7	8	5	0
+		2	9

(4) 5689 + 135 + 87

Th	H	T	U
+			
+			

(5) 7 + 4895 + 137

Th	H	T	U
+			
+			

(6) 239 + 5310 + 30

Th	H	T	U
+			
+			

◆ **Add : 6785 + 7453**

Th	H	T	U
6	7	8	5
+ 7	4	5	3

TTh	Th	H	T	U
	1	1		
	6	7	8	5
+	7	4	5	3
1	4	2	3	8

First, we arrange the numbers vertically.

Add units to units. 5 + 3 = 8

Add tens to tens. 8T + 5T = 13T

13T means 1H and 3T.

Carry over the 1 H. 3 T remain.

Now, 7 H + 4 H = 11 H.

11H + 1H carried over = 12H.

12H means 1Th and 2H. Carry over 1Th. 2H remain.

Now, 6Th + 7Th = 13Th

13Th + 1Th carried over = 14Th.

Now, only one digit is written in each place.

Since 14Th means 1TTh and 4Th, we make a new place for the ten thousand. The new place will be marked 'TTh'.

The sum of the two numbers is 14238.

Exercise

1. Add the following.

(1) 7859 + 8546

TTh	Th	H	T	U
+				

(2) 8888 + 4576

TTh	Th	H	T	U
+				

2. Arrange vertically and add.

(1) 8509 + 3658 (2) 9076 + 4953 (3) 6841 + 7515

(4) 5709 + 7811 (5) 6854 + 3963 (6) 2847 + 9563

◆ **Add : 24558 + 37**

Amit, Rupesh and Sumit arranged the numbers vertically as shown below. Whose answer is correct ?

Amit

TTh	Th	H	T	U
+ 2	4	5	5	8
3	7			
6	1	5	5	8

Rupesh

TTh	Th	H	T	U
2	4	5	5	8
+			3	7
2	4	5	9	5

Sumit

TTh	Th	H	T	U
2	4	5	5	8
+ 3	7			
2	8	2	5	8

Rupesh's answer is correct. Amit and Sumit did not write the number 37 in the right place. 37 is a two-digit number. It has 3 tens and 7 units. There are no digits in the hundreds, thousands and ten thousands places. While adding numbers, we write units under units and tens under tens. Amit and Sumit's arrangements were wrong, therefore, their answers are also wrong.

Exercise

Add the following.

(1) 1719 + 4925 (2) 1157 + 900 (3) 2709 + 35

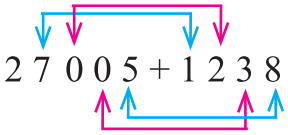
(4) 3752 + 485 (5) 8076 + 565 (6) 57004 + 3816

(7) 88709 + 165 (8) 27095 + 4807 (9) 51098 + 19803

(10) 300 + 150 + 70 + 35 (11) 49000 + 4200 + 620 + 54

(12) 4000 + 1600 + 800 + 80 + 320 + 32

◆ **Add the following numbers in the horizontal arrangement. Keep in your mind the number to be carried over.**



Exercise

Add horizontally.

(1) 4512 + 2395 (2) 92009 + 429 (3) 50325 + 152

Ayesha : We have understood how to add two numbers. However, I have a question.

Tai : What is it?

Ayesha : While adding numbers, why do we add first units, then tens, then hundreds? Why can't we add first hundreds, then tens and so on?

Tai : You can do it that way as well. I will show you both ways. Watch carefully. You will find the answer to your question.

Method 1

	H	T	U
	2	9	9
+	1	8	7
+	1	2	6
	4	19	22
	4+1	9+2	2
	5	11	2
	5+1	1	2
	6	1	2

Here, hundreds were added first, then tens and then units. Numbers were carried over twice to the hundreds from the tens place.

Method 2

	2	2	
	2	9	9
+	1	8	7
+	1	2	6
	6	21	22
	6	1	2

Here, numbers are added in the order of units, tens and then hundreds. A number in the tens place had to be carried over only once.

Ayesha : Now I understand. It is easier to start from the extreme right adding first units, then tens and hundreds, rather than from the extreme left starting with hundreds.

Remember : When adding numbers, it is more convenient to start by adding first units, then tens, hundreds and so on thus going on to digits of higher and higher place value.