

# 2

## Addition

### Vocabulary

- ♦ Addition
- ♦ Regroup
- ♦ Add
- ♦ Carry



### Warm Up

1. Add the following.

$$\begin{array}{r} 53 \\ + 10 \\ \hline 63 \end{array}$$

P

$$\begin{array}{r} 26 \\ + 63 \\ \hline 89 \end{array}$$

E

$$\begin{array}{r} 44 \\ + 25 \\ \hline 69 \end{array}$$

T

$$\begin{array}{r} 82 \\ + 17 \\ \hline 99 \end{array}$$

$$\begin{array}{r} 134 \\ + 18 \\ \hline 52 \end{array}$$

A

$$\begin{array}{r} 149 \\ + 41 \\ \hline 90 \end{array}$$

L

$$\begin{array}{r} 156 \\ + 29 \\ \hline 85 \end{array}$$

H

$$\begin{array}{r} 166 \\ + 27 \\ \hline 93 \end{array}$$

Which is the largest land animal? Write the letters that match the sum to answer the question.

E, L, E, P, H, A, N, T  
93      90      89      63      85      52      99      69

2. The additions on each side of the balance have the same answer. Fill in the missing number.

(a)  $\begin{array}{r} 42 + 7 \\ 49 \end{array}$   $\Delta$   $\begin{array}{r} 40 + 9 \\ 49 \end{array}$

(b)  $\begin{array}{r} 38 + 5 \\ 43 \end{array}$   $\Delta$   $\begin{array}{r} 40 + 3 \\ 43 \end{array}$

(c)  $\begin{array}{r} 16 + 4 \\ 20 \end{array}$   $\Delta$   $\begin{array}{r} 9 + 11 \\ 20 \end{array}$

(d)  $\begin{array}{r} 55 + 9 \\ 64 \end{array}$   $\Delta$   $\begin{array}{r} 61 + 3 \\ 64 \end{array}$



## ADDING THREE 2-DIGIT NUMBERS

**Example 1:** Ayushree read 37 pages of a book on Saturday, 26 pages on Sunday and the rest 42 on Monday. How many pages did the book have in all?

**Solution:** We will get the total number of pages by adding the number of pages read on the three days, that is,  $37 + 26 + 42 = 105$ .

Working

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

Carry

**Note:** Here, we see that after carrying 1 to the tens place and adding  $1 + 3 + 2 + 4$ , we get 10, where 0 comes in the tens place and 1 in the hundreds place. So, adding bigger 2-digit numbers can result in a 3-digit number.

### Exercise 2A

Add:

1.

	1	
T	O	
1	6	
2	8	
+	5	2
9	6	

2.

	1	
T	O	
2	8	
1	8	
+	4	3
8	9	

3.

	1	
T	O	
6	4	
1	2	
+	1	8
9	4	

4.

	1	
T	O	
3	6	
4	2	
+	1	5
9	3	

5.

1	H	1	T	O
×		1	9	
×		2	1	
+	×	6	3	
1	0	3		

6.

1	H	2	T	O
×		2	9	
×		3	5	
+	×	3	8	
1	0	2		

7.

1	H	1	T	O
×		4	4	
×		1	6	
+	×	4	5	
1	0	5		

8.

1	H	2	T	O
×		3	7	
×		2	6	
+	×	5	8	
1	2	1		

9.

1	H	1	T	O
×		3	8	
×		3	2	
+	×	4	5	
1	1	5		

10.

1	H	1	T	O
×		2	4	
×		6	6	
+	×	4	8	
1	3	8		

11.

1	H	1	T	O
×		5	2	
×		7	9	
+	×	2	5	
1	5	6		

12.

1	H	2	T	O
×		2	7	
×		8	6	
+	×	2	8	
1	4	1		



# WORD PROBLEMS

**Example 2:** There are 18 apples on one tree and 24 apples on the other tree. How many apples are there on both the trees?

**Solution:**

Number of apples on the first tree = 18

Number of apples on the second tree = 24



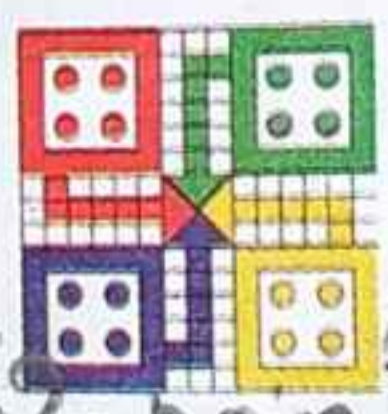



So, the number of apples on both the trees  
 $= 18 + 24 = 42$

Working

T	O
1	
1	8
+	2 4
4	2

## Exercise 2B

Solve the following.

- Mrs Batra baked 26 chocolate cakes and 48 vanilla cakes. How many cakes did she bake altogether? She bake 74 cakes. 
- There are 53 passengers in one compartment and 38 in another compartment of a train. How many passengers are there in the two compartments? There are 91 passengers in a train. 
- Mandy scored 28 points in a game of ludo on Saturday. On Sunday, she scored 34 more points than on Saturday. How many points did she score on Sunday? She score 62 points 
- A hawker sold 43 eggs to one customer and 57 eggs to another customer. How many eggs did he sell to the two customers? He sell 100 eggs. 
- Rachna's mother bought 24 oranges, 18 bananas and 13 apples. How many fruits did she buy altogether? She buy 55 fruits 
- Ankit had 64 marbles. His friend Sanjay gave him 27 more. He won 15 marbles in a game. How many marbles does he have now? 

Ankit have 106 marbles.

Workspace

T	O
1	
26	
+	48
74	

T	O
1	
53	
+	38
91	

T	O
1	
28	
+	34
62	

T	O
1	
43	
+	57
100	

T	O
1	
24	
+	18
+	13
55	

T	O
1	
64	
+	27
+	15
106	



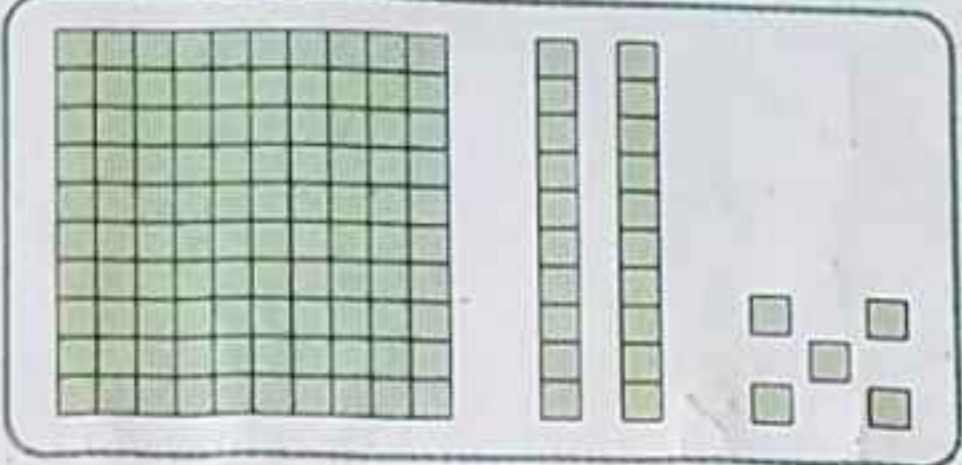
## ADDING 3-DIGIT NUMBERS (WITHOUT CARRYING)

Let us add 125 and 224.

We can add the given numbers in the following ways:

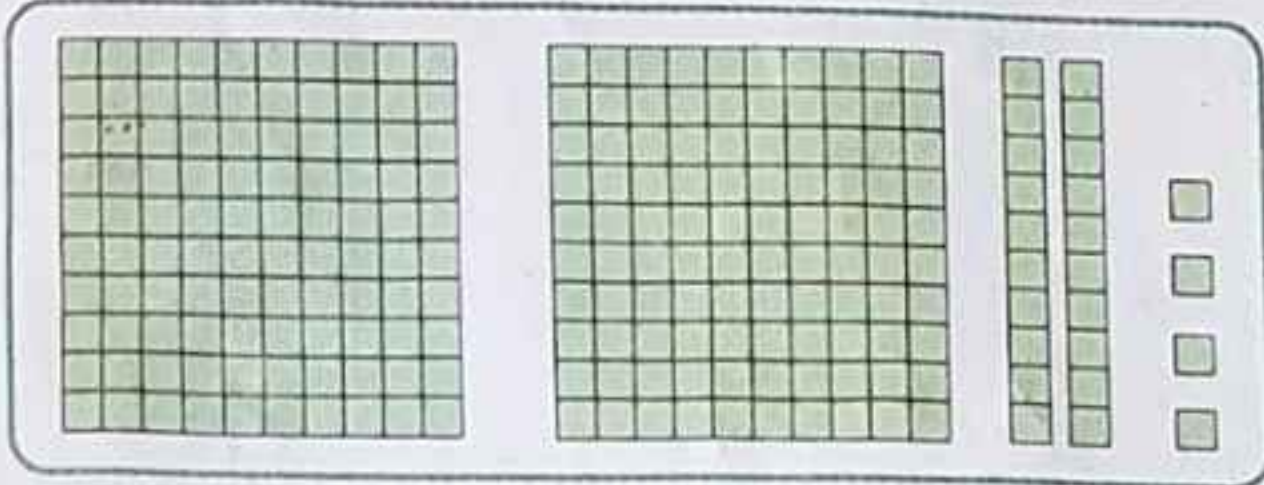
### Using the Expanded Form

125



+

224



$$\begin{array}{r}
 100 + 20 + 5 \\
 + 200 + 20 + 4 \\
 \hline
 300 + 40 + 9 \\
 = 349
 \end{array}$$

### Using the Short Method

Arrange the numbers one below the other according to their place values and add columnwise.

H	T	O
1	2	5
+	2	2
2	4	9

Adding the ones.  
 Adding the tens.  
 Adding the hundreds.

So,  $125 + 224 = 349$ .

## Exercise 2C

1. Do the following sums using expanded form.

(a)  $248 = 200 + 40 + 8$   
 $+ 351 = + 300 + 50 + 1$   
 $\underline{599}$        $500 + 90 + 9 = 599$

(b)  $644 = 600 + 40 + 4$   
 $+ 253 = + 200 + 50 + 3$   
 $\underline{897}$        $800 + 90 + 7 = 897$

(c)  $541 = 500 + 40 + 1$   
 $+ 353 = + 300 + 50 + 3$   
 $\underline{894}$        $800 + 90 + 4 = 894$

$$\begin{array}{r}
 248 \\
 + 351 \\
 \hline
 599
 \end{array}$$

$$\begin{array}{r}
 644 \\
 + 253 \\
 \hline
 897
 \end{array}$$

$$\begin{array}{r}
 541 \\
 + 353 \\
 \hline
 894
 \end{array}$$



2. Add:

(a)

H	T	O
4	2	3
+	3	5
7	7	9

(b)

H	T	O
7	1	3
+	1	8
8	9	5

(c)

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

(d)

H	T	O
4	1	9
+	4	6
8	7	9

(e)

H	T	O
7	1	3
+	1	2
8	3	8

(f)

H	T	O
5	1	5
+	3	1
8	2	9

(g)

H	T	O
3	1	6
+	6	0
9	1	8

(h)

H	T	O
2	3	0
+	3	3
5	6	0



(i)

H	T	O
4	2	5
+	2	0
6	2	7

(j)

H	T	O
5	3	1
+	3	3
8	6	4

(k)

H	T	O
6	2	5
+	2	4
8	6	7

(l)

H	T	O
2	1	9
+	7	0
9	1	9

(m)

H	T	O
2	2	4
+	3	5
5	7	6

(n)

H	T	O
8	1	2
+	7	1
8	8	3

(o)

H	T	O
3	0	2
+	6	7
9	7	7

## ADDING 3-DIGIT NUMBERS (WITH CARRYING)

### Carrying from ones to tens

Let us add 437 and 328.

#### Method 1: Using the Expanded Form

We write the numbers in expanded form and then add as follows:

Writing 15 as

$$\begin{array}{rcl}
 437 & = & 400 + 30 + 7 \\
 + 328 & = & 300 + 20 + 8 \\
 \hline
 & = & 700 + 50 + 15 \\
 & = & 700 + 50 + (10 + 5) \\
 & = & 700 + (50 + 10) + 5 \\
 & = & 700 + 60 + 5 = \mathbf{765}
 \end{array}$$



## Method 2: Using the Short Form

Arrange the numbers one below the other according to place value and add columnwise.

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

### Step 1: Add the ones.

$$7 + 8 = 15 = 1 \text{ ten } 5 \text{ ones}$$

Write 5 under the ones column and carry 1 ten to the tens column.

### Step 2: Add the tens.

$$1 \text{ (carried over)} + 3 + 2 = 6$$

Write 6 under the tens column.

### Step 3: Add the hundreds.

$$4 + 3 = 7$$

Write 7 under the hundreds column.

So,  $437 + 328 = 765$ .



## Class Work

Add:

1.

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

2.

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

3.

H	T	O
	1	
5	0	8
+ 3	7	6
8	8	4

4.

H	T	O
	1	
3	0	8
+ 4	1	9
7	2	7

## Exercise 2D



Add:

1.

H	T	O
	1	
6	4	8
+ 1	4	9
7	9	7

2.

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

3.

H	T	O
	1	
5	4	6
+ 3	1	8
8	6	4

4.

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



5.

H	T	O
	1	
6	8	6
+ 2	0	5
8	9	1

6.

H	T	O
	1	
2	8	4
+ 4	0	8
6	9	2

7.

H	T	O
	1	
4	2	7
+ 1	4	8
5	7	5

8.

H	T	O
	1	
8	0	8
+ 1	8	9
9	9	7

9.

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

10.

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

11.

H	T	O
	1	
5	4	7
+ 2	3	3
7	8	0

12.

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

13.

H	T	O
	1	
6	6	1
+ 2	0	9
8	7	0

14.

H	T	O
	1	
7	4	8
+ 1	3	7
8	8	5

15.

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

16.

H	T	O
	1	
7	1	8
+ 2	5	7
9	7	5

17.

H	T	O
	1	
1	3	9
+ 0	4	9
1	8	8

18.

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

19.

H	T	O
	1	
1	5	3
+ 6	1	8
7	7	1

20.

H	T	O
	1	
2	0	9
+ 3	7	7
5	8	6

## Carrying from ones to tens and from tens to hundreds

**Example 3:** Add 467 and 398.

**Solution:** Method 1: **Using the Expanded Form**

We can add the numbers as follows.

Writing 150 as

Writing 15 as

$$\begin{aligned}
 467 &= 400 + 60 + 7 \\
 + 398 &= 300 + 90 + 8 \\
 \hline
 &= 700 + 150 + 15 \\
 &= 700 + (100 + 50) + (10 + 5) \\
 &= (700 + 100) + (50 + 10) + 5 \\
 &= 800 + 60 + 5 \\
 &= \mathbf{865}
 \end{aligned}$$





## Class Work

Add the following. One has been done for you.

1.

H	T	O
1	1	
6	9	8
+	1	3 2
8	3	0

2.

H	T	O
1	1	
3	1	1
+	4	8 9
8	0	0

3.

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

4.

H	T	O
1	1	
5	7	5
+	1	2 5
7	0	0

## Exercise 2E

Add the following. One has been done for you.

1.

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

2.

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

3.

H	T	O
1	1	
7	3	6
+	1	6 8
9	0	4

4.

H	T	O
1	1	
3	4	7
+	4	9 3
8	4	0

5.

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

6.

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

7.

H	T	O
1	1	
8	2	9
+		7 3
9	0	2

8.

H	T	O
	1	
5	0	7
+	3	6 5
8	7	2

9.

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

10.

H	T	O
1	1	
7	5	9
+	1	5 7
9	1	6

11.

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

12.

H	T	O
1	1	
3	9	1
+	4	7 9
8	7	0



Find the sum. One has been done for you.

13.

H	T	O
1	1	
4	6	3
1	4	7
+	2	6
6	3	6

14.

H	T	O
1	1	
3	5	1
0	7	8
+	2	4
6	7	7

15.

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

16.

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

17.

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

18.

H	T	O
1	1	
4	8	1
1	0	2
+	3	3
9	2	2

19.

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

20.

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

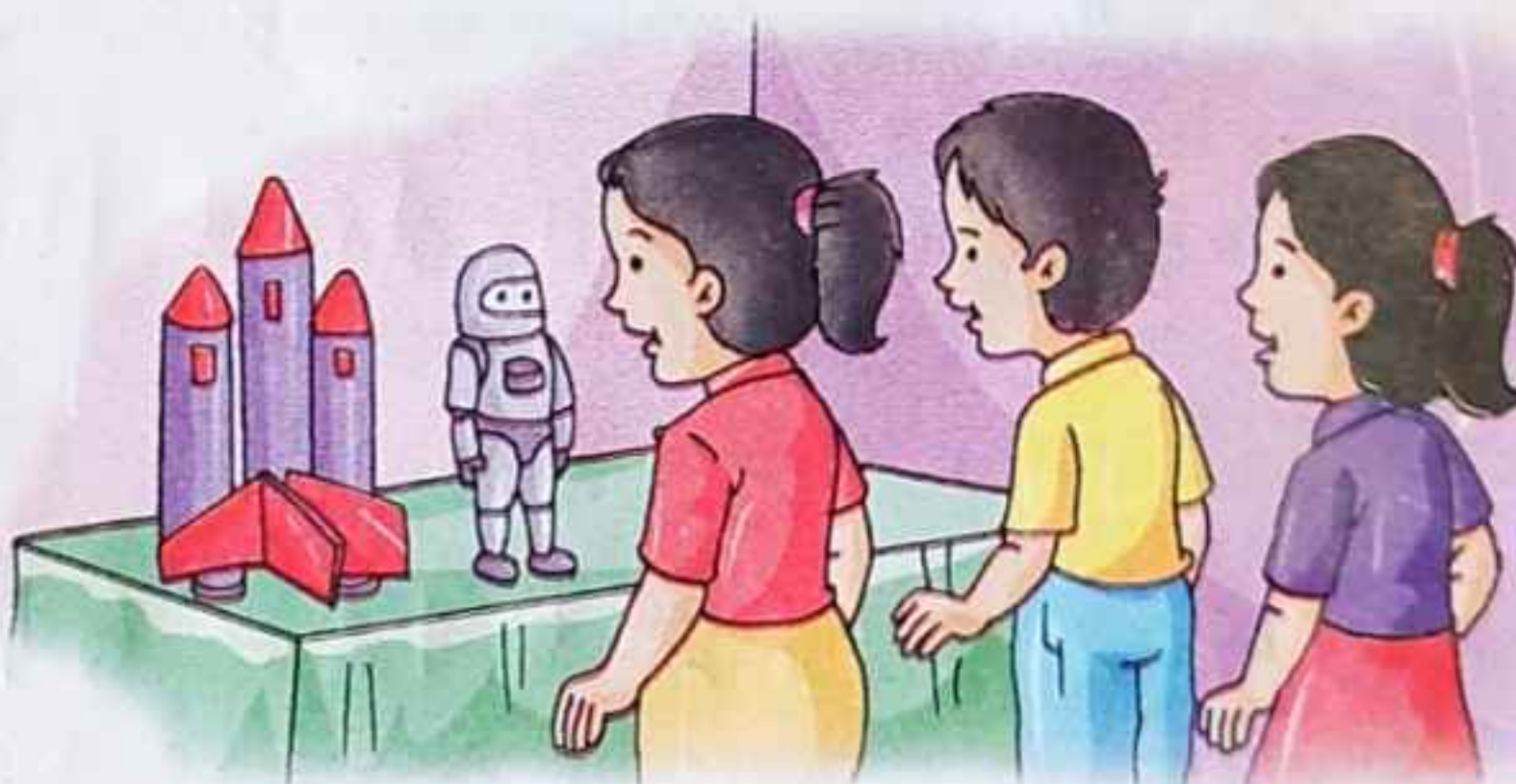
## WORD PROBLEMS

**Example 5:** An exhibition at the Science museum was watched by 248 boys and 364 girls on Sunday. How many students watched the exhibition in all on Sunday?

**Solution:** To find the total number of students who watched the exhibition, we add 248 and 364.

Working

H	T	O
1	1	
2	4	8
+	3	6
6	1	2



So, **612 students** watched the exhibition on Sunday.



## Exercise 2F

Solve the following problems.

1. There are 485 boys and 343 girls in a school. How many students are there altogether in the school?

There are 828 students in the school.



Workspace

① H T O

Boys 485

Girls + 343

total 828

① ① H T O

2. Pranav used 324 tiles to cover the floor of one bathroom and 276 tiles to cover the floor of the second bedroom. How many tiles did he use altogether?

There are 600 tiles altogether



Bathroom 324

Bedroom + 276

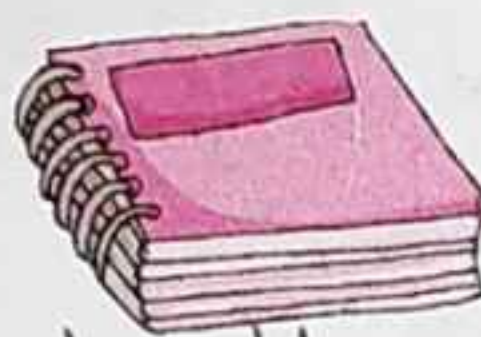
total 600

① ① H T O

3. Rehan bought a book for ₹275 and some stationery items for ₹425 from a bookshop. How much did he pay to the shopkeeper?

He pay ₹ 700 to the

Shopkeeper



Cost of books + 275

Cost of stationery + 425

total 700

② ① H T O

4. After selling 480 pieces of fruits, a fruit seller had 132 apples and 89 bananas left. How many fruits did he have at first?

He have 701 fruits at first



After selling 480

No. of apples + 132

No. of bananas + 89

total 701

① ① H T O

5. The money collected from the school winter carnival goes to an orphanage. For the carnival, three girls made quite a lot of effort and Preeti sold 338 tickets, Kavita sold 175 tickets and Arpita sold 245 tickets. How many tickets did the three girls sell altogether? What moral value is shown by the girls?



Preeti's sold tickets 338

Kavita sold tickets + 175

Arpita sold tickets + 245

total 758

[Value Based Question]

Three girls sell 758 tickets altogether.

We should help needy people



# Chapter Test



1. Add:

(a)

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

(b)

H	T	O
3	1	2
+ 1	2	4
4	3	6

(c)

H	T	O
1	8	0
+ 4	1	3
5	9	3

(d)

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

2. Solve the following.

(a)

H	T	O
3	4	8
+ 2	3	4
5	8	2

(b)

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

(c)

H	T	O
3	7	8
+ 1	8	2
5	6	0

(d)

H	T	O
2	9	8
+ 2	3	1
5	2	9

## MCQs

Tick (✓) the correct answer.

3. 200 more than 756 is

(a) 556

(b) 856

☒ (c) 956

(d) 456

4. What is the sum of the greatest and smallest numbers?

207

165

648

738

(a) 855

(b) 945

☒ (c) 903

(d) 813

5. 4 hundreds 2 tens 7 ones + 2 hundreds 9 ones = 6 hundreds \_\_\_\_\_ tens 6 ones.

(a) 2

☒ (b) 3

(c) 4

(d) 6

6. \_\_\_\_\_ is 10 tens more than the sum of 145 and 55.

☒ (a) 300

(b) 210

(c) 310

(d) 201

$$\begin{array}{r}
 145 \\
 + 55 \\
 \hline
 200 \\
 + 100 \\
 \hline
 300
 \end{array}$$

7.  $440 + 90 =$  \_\_\_\_\_

(a) 53 ones

(b) 53 hundreds

(c) 530 tens

☒ (d) 53 tens

8. The missing digit in the given sum is

(a) 9

☒ (b) 7

(c) 6

(d) 5

H	T	O
3	2	○
+ 4	○	3
8	0	0



9. A movie theatre sells 278 tickets for the morning show and 322 tickets for the afternoon show. How many tickets did it sell in all?  
 (a) 598 (b) 700 (c) 600 (d) 590
10. In the month of December, Jai saved ₹325 and his sister Mansi saved ₹183 more than him. How much did Mansi save?  
 (a) ₹701 (b) ₹513 (c) ₹838 (d) None of these

### Challenge! 21<sup>st</sup> CS

1. Which of the following has a sum between 6 hundreds and 7 hundreds?

(a)

H	T	O
3	6	5
+	2	2
5	8	8

(b)

H	T	O
4	8	3
+	1	1
5	9	8

(c)

H	T	O
4	7	8
+	2	2
7	0	0

(d)

H	T	O
5	2	4
+	1	3
6	6	1

2. Which of the following makes the given statement true?

185 + 38 + 62



175 + 55 + 59

(a) <

(b) >

(c) =

(d) None of these

### Quick Review

Fill in the blanks.

1.  $400 + 30 + 8 =$  438 (Standard form)

2. 635 < 660. (Write <, > or =)

3. The number name of the number shown by the abacus given is 503. Five hundred three



4. In the sum of 217 and 183, the digit at the tens place is 0.

5. The set of numbers 799, 675, 692, 898 in descending order is

$898 > 799 > 692 > 675$



# Worksheet

1. A **palindrome** is a word or phrase that reads the same forward and backward.

Example: **MOM**

Read forward: **MOM**

Read backward: **MOM**

Some numbers are palindrome too.

Example: **808**

Read forward: **808**

Read backward: **808**

We can find the palindrome of a given number. Study the following example.

**Example:** Start with any 3-digit number, say 162.

Reverse it, you get: 261

Add:  $162 + 261 = 423$

Reverse the sum: 324

Add:  $423 + 324 = 747$ , which is a palindrome.

**Note:** Continue reversing and adding until you get a **palindrome**.



Use the method given above to find a palindrome using the following numbers.

(a) 153

(b) 432

2. Use the digits given below in each of the following to complete the addition problem.

(a)



H	T	O
4	8	4
3	2	2
8	0	6

(b)



H	T	O
2	5	7
2	3	4
4	9	1