

3

Subtraction



Warm Up

Vocabulary



- Subtraction
- Regroup
- Subtract
- Borrow

1. Each child has exactly 95 rupees to spend. The cost of each toy is shown with it. How much change does each get back?

Arun



₹43

	T	O
	9	5
-	4	3
	5	2

Arun gets back 52 rupees.

Priya



₹66

	T	O
	9	5
-	6	6
	2	9

Priya gets back 29 rupees.

Shubham

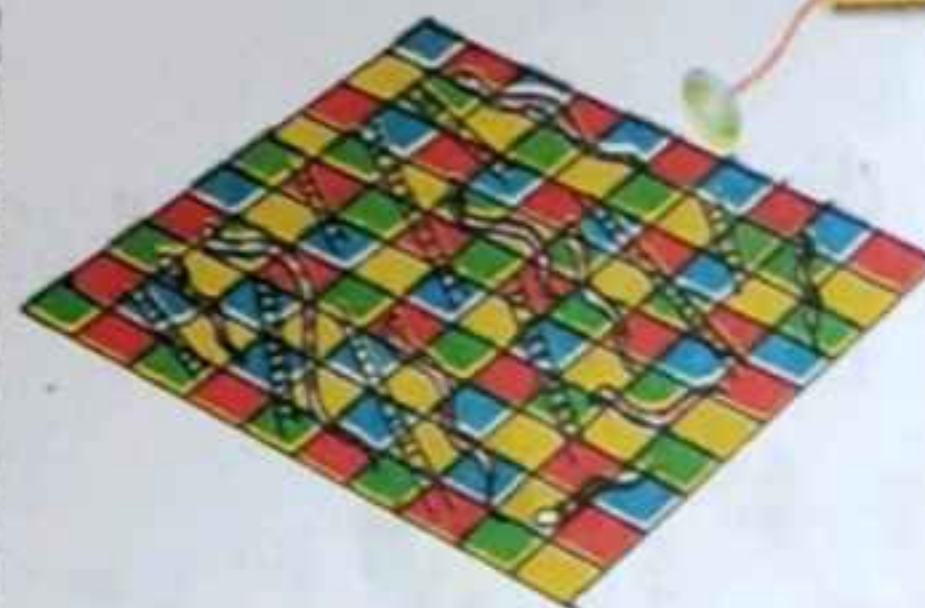


₹78

	T	O
	9	5
-	7	8
	1	7

Shubham gets back 17 rupees.

Asma



₹62

	T	O
	9	5
-	6	2
	3	3

Asma gets back 33 rupees.

2. Tick (✓) the pairs of numbers that have a difference of 15.

75, 60



87, 73



49, 34



68, 12



SUBTRACTING 3-DIGIT NUMBERS (WITHOUT BORROWING)

Let us subtract 161 from 483.
We can subtract one number from the other in the following ways:

Using the Expanded Form

$$\begin{aligned} 483 &= 400 + 80 + 3 \\ -161 &= -100 - 60 - 1 \\ \hline &= 300 + 20 + 2 = 322 \end{aligned}$$



Using the Short Form

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

$$\begin{array}{r} 483 \\ -161 \\ \hline 322 \end{array}$$

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

So, $483 - 161 = 322$.

Exercise 3A

1. Using the expanded form, subtract the following.

(a)	$\begin{aligned} 678 &= 600 + 70 + 8 \\ -361 &= -300 - 60 - 1 \\ \hline 317 \end{aligned}$	$\begin{aligned} 600 &+ 70 + 8 \\ -300 &- 60 - 1 \\ \hline 300 &+ 10 + 7 = 317 \end{aligned}$	$\begin{array}{r} 678 \\ -361 \\ \hline 317 \end{array}$
(b)	$\begin{aligned} 476 &= 400 + 70 + 6 \\ -245 &= -200 - 40 - 5 \\ \hline 231 \end{aligned}$	$\begin{aligned} 400 &+ 70 + 6 \\ -200 &- 40 - 5 \\ \hline 200 &+ 30 + 1 = 231 \end{aligned}$	$\begin{array}{r} 476 \\ -245 \\ \hline 231 \end{array}$

2. Subtract:

(a)	<table border="1"> <thead> <tr> <th>H</th> <th>T</th> <th>O</th> </tr> </thead> <tbody> <tr> <td>6</td> <td>8</td> <td>5</td> </tr> <tr> <td>-3</td> <td>7</td> <td>2</td> </tr> <tr> <td>3</td> <td>1</td> <td>3</td> </tr> </tbody> </table>	H	T	O	6	8	5	-3	7	2	3	1	3	(b)	<table border="1"> <thead> <tr> <th>H</th> <th>T</th> <th>O</th> </tr> </thead> <tbody> <tr> <td>8</td> <td>6</td> <td>6</td> </tr> <tr> <td>-3</td> <td>4</td> <td>3</td> </tr> <tr> <td>5</td> <td>2</td> <td>3</td> </tr> </tbody> </table>	H	T	O	8	6	6	-3	4	3	5	2	3	(c)	<table border="1"> <thead> <tr> <th>H</th> <th>T</th> <th>O</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>9</td> <td>5</td> </tr> <tr> <td>-2</td> <td>6</td> <td>3</td> </tr> <tr> <td>2</td> <td>3</td> <td>2</td> </tr> </tbody> </table>	H	T	O	4	9	5	-2	6	3	2	3	2	(d)	<table border="1"> <thead> <tr> <th>H</th> <th>T</th> <th>O</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>9</td> <td>5</td> </tr> <tr> <td>-1</td> <td>6</td> <td>2</td> </tr> <tr> <td>1</td> <td>3</td> <td>3</td> </tr> </tbody> </table>	H	T	O	2	9	5	-1	6	2	1	3	3
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(e)

H	T	O
9	0	4
-	5	0
4	0	3

(f)

H	T	O
7	8	9
-	4	2
3	6	5

(g)

H	T	O
6	8	5
-	2	7
4	1	2

(h)

H	T	O
9	7	8
-	7	6
2	1	7

3. Find the difference.

(a)

H	T	O
4	2	9
-	2	0
2	2	0

(b)

H	T	O
8	9	4
-	3	6
5	3	1

(c)

H	T	O
7	1	3
-	7	0
0	1	1

(d)

H	T	O
9	8	2
-	9	4
0	4	3

(e)

H	T	O
5	9	0
-	1	1
4	8	0

(f)

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

(g)

H	T	O
5	0	9
-	2	0
3	0	6

(h)

H	T	O
8	0	0
-	2	0
6	0	0

SUBTRACTING 3-DIGIT NUMBERS (WITH BORROWING)

Borrowing from tens to ones

Let us subtract 439 from 895.

Method 1: Using the Expanded Form

We write the given numbers in expanded form and then subtract as follows

$$\begin{array}{l}
 895 = 8 \text{ hundreds } 9 \text{ tens } 5 \text{ ones} \\
 - 439 = 4 \text{ hundreds } 3 \text{ tens } 9 \text{ ones} \\
 \hline
 \end{array}$$

Diagram illustrating the borrowing process:

8 tens + 1 ten = 9 tens

5 ones + 10 ones = 15 ones

895 = 8 hundreds 8 tens 15 ones

439 = 4 hundreds 3 tens 9 ones

8 hundreds 8 tens 15 ones - 4 hundreds 3 tens 9 ones = 4 hundreds 5 tens 6 ones = 456

Method 2: Using the Short Form

H	T	O
8	9	5
-	4	3
4	5	6

Step 1: Subtract the ones. Borrow from tens, if required.

Step 2: Subtract the tens.

Step 3: Subtract the hundreds.

So, $895 - 439 = 456$.

Exercise 3B

Subtract:



1.

H	T	O
	3	11
6	4	1
- 2	3	7
4	0	4

2.

H	T	O
	7	17
5	8	7
- 2	3	8
3	4	9

3.

H	T	O
	4	18
9	5	8
- 4	4	9
5	0	9

4.

H	T	O
	4	12
4	5	2
- 1	2	3
3	2	9

5.

H	T	O
	8	11
3	9	1
-	2	7
3	6	4

6.

H	T	O
	5	10
7	6	0
- 1	2	1
6	3	9

7.

H	T	O
	8	11
8	9	1
- 2	5	4
6	3	7

8.

H	T	O
	2	10
4	3	0
- 1	1	2
3	1	8

Borrowing from hundreds to tens and from tens to ones

Let us subtract 389 from 653.

Write the numbers in column form as shown.

Step 1: Subtract the ones. Since $9 > 3$, we cannot subtract 9 from 3. So, borrow 1 ten from the tens column.

Then, 4 tens are left in the tens column, and 1 ten (borrowed) + 3 ones = 13 ones in the ones column. Subtracting 9 ones from 13 ones, we get 4 ones.

Step 2: Subtract the tens. Since $4 < 8$, we cannot subtract 8 from 4. So, borrow 1 hundred from the hundreds column. Now, we have 5 hundreds left in the hundreds column and 1 hundred (borrowed) + 4 tens = 14 tens in the tens column. Subtracting 8 tens from 14 tens, we get 6 tens.

Step 3: Subtract the hundreds. 5 hundreds - 3 hundreds = 2 hundreds.

H	T	O
	14	
5	4	13
6	8	9
- 3	8	9
2	6	4

So, $653 - 389 = 264$.

$$\begin{array}{r}
 653 \\
 - 389 \\
 \hline
 \end{array}
 = 600 + 50 + 3 - 300 - 80 - 9
 = \overset{\text{40} + 10}{\begin{array}{r} 600 + 50 + 3 \\ - 300 - 80 - 9 \end{array}}
 = \overset{\text{500} + 100}{\begin{array}{r} 600 + 40 + 13 \\ - 300 - 80 - 9 \end{array}}
 = \begin{array}{r} 500 + 140 + 13 \\ - 300 - 80 - 9 \\ \hline 200 + 60 + 4
 \end{array}$$

Look at the following examples.

H	T	O
6	11	15
7	1	5
4	8	6
2	3	9

H	T	O
7	14	10
8	4	0
3	7	5
4	7	5

H	T	O
7	9	14
8	10	4
	6	8
7	3	6

In the last subtraction problem, first borrow 1 hundred from 8 hundreds. Now, in place of 0 tens you have 10 tens in the tens column. Borrow 1 ten from 10 tens. 4 ones + 1 ten (borrowed) become 14 ones in the ones column.

Exercise 3C

Subtract:

1.

H	T	O
2	16	16
3	7	6
1	9	8
1	7	8

2.

H	T	O
4	13	12
5	4	2
2	5	3
2	8	9

3.

H	T	O
5	11	18
6	2	8
1	4	9
4	7	9

4.

H	T	O
6	16	
7	6	9
2	8	9
4	8	0

5.

H	T	O
3	17	10
4	8	0
1	9	3
2	8	7

6.

H	T	O
	0	12
7	1	2
2	0	4
5	0	8

7.

H	T	O
3	11	13
4	2	3
1	6	4
2	5	9

8.

H	T	O
4	11	15
5	2	5
2	3	6
2	8	9

9.

H	T	O
4	13	11
5	4	1
2	6	3
2	7	8

10.

H	T	O
6	10	
7	0	7
3	5	6
3	5	1

11.

H	T	O
8	9	10
9	0	0
6	7	6
2	2	4

12.

H	T	O
7	16	17
8	7	7
	8	8
7	8	9

13.

H	T	O
8	10	10
9	1	0
2	9	5
6	1	5

14.

H	T	O
2	18	18
3	0	8
1	2	9
1	7	9

15.

H	T	O
8	14	
9	4	5
3	8	3
5	6	2

16.

H	T	O
4	10	10
5	0	0
4	6	4
0	3	6

WORD PROBLEMS

Example: The library purchased 435 new books this year for class 2. If 278 of them are storybooks, how many of them are general books?

Solution: To get the number of general books, we subtract the number of storybooks from the new books purchased.

New books	=	435
Storybooks	=	278
General books	=	435 - 278
	=	157

Working

H	T	O
	12	
3	2	15
4	3	5
2	7	8
1	5	7

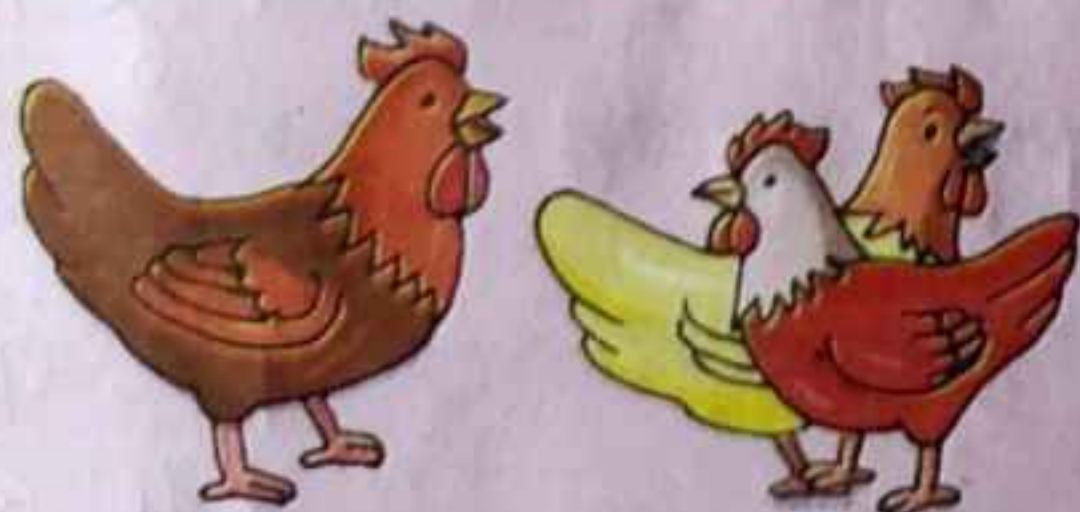
Exercise 3D

Solve the following word problems.

1. 825 people visited a book fair. 98 of them were children. How many adults were there in the book fair?



H	T	O
8	2	5
	9	8
7	2	7



2. A farmer had 275 chickens. He sold 169 of them. How many chickens were left?

H	T	O
2	7	5
1	6	9
1	0	6

3. George needs 260 pictures to fill his album. He has 185 pictures in the album. How many more pictures can be put in the album?



H	T	O
2	6	0
-	1	8
0	7	5



4. Navin and his father have travelled 318 km. They are taking a 700 km trip. How much farther they have to travel?

H	T	O
7	0	0
-	3	1
3	8	2

5. Prem had a collection of 212 bottle caps. Ashok had a collection of 165 bottle caps. How many more bottle caps were in Prem's collection than in Ashok's?



H	T	O
2	1	2
-	1	6
0	4	7



6. Vijay planted 325 small tomato plants. 162 of the plants did not live. How many plants lived?

H	T	O
3	2	5
-	1	6
1	6	3

7. Manav has 132 marbles. His friend Ajay has 28 marbles less than him. How many marbles does Ajay have?



H	T	O
1	3	2
-	2	8
1	0	4



8. Aadhar is reading a book that has 275 pages. He read 129 pages on the first day. How many pages are left for him to read?

H	T	O
2	7	5
-	1	2
1	4	6

9. Nidhi and Rhea spent ₹900 in a book shop. If Rhea bought a book for ₹465, how much did Nidhi spend?



$$\begin{array}{r} 9 \\ 8 \cancel{10} 0 \\ \text{H T O} \\ \cancel{9} \cancel{0} \cancel{0} \\ - 465 \\ \hline 435 \end{array}$$



10. 623 visitors went to the zoo in the month of November. 289 fewer visitors went to the zoo in December. How many visitors went to the zoo in the month of December?

$$\begin{array}{r} 51113 \\ \text{H T O} \\ \cancel{6} \cancel{2} \cancel{3} \\ - 289 \\ \hline 334 \end{array}$$

ADDITION AND SUBTRACTION TOGETHER

As you solve more and more word problems, it will become easier for you to decide whether to add or subtract.

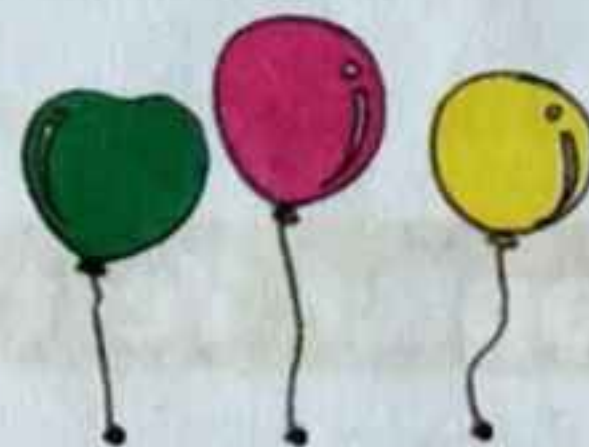
Read the problems carefully and solve.

1. There are 54 seats in a bus. Out of these, 36 seats are occupied by passengers. How many seats are vacant?



This is a subtraction problem as the question asked is "**How many seats are vacant?**".

2. A balloon seller had 97 red, 85 green and 80 yellow balloons. How many balloons did he have in all?



This is an addition problem as the question asked is "**How many balloons in all?**".

Exercise 3E



Will you add or subtract?

1. Janet had 253 oranges in her juice shop. She uses 165 oranges to make some juice for a party. How many oranges are left with her?

To get the number of left over oranges, we need to subtract 165 from 253.

$$\begin{array}{r} 11413 \\ \text{H T O} \\ 253 \\ - 165 \\ \hline 88 \end{array}$$

2. Mrs Brown baked 465 cookies on Saturday and 327 cookies on Sunday. How many cookies did she bake in all over the weekend?
To find the total number of cookies baked, we need to add 465 and 327.

3. 762 people ran in the marathon this year. 485 people crossed the finishing line. How many people did not cross the finishing line?

4. 280 bottles were collected during the recycling programme last year. 178 more bottles than last year were collected this year. What is the total number of bottles collected this year? How many bottles were collected in both the years altogether?

5. There are 275 passengers and 423 pieces of luggage in a flight. How many more pieces of luggage than passengers are there?

H	T	O
4	6	5
3	2	7
7	9	2
16	15	8
7	6	2
4	8	5
2	7	7
H	T	O
-	-	-
3	11	13
4	2	3
2	7	5
1	4	8

Mental Maths

21st CS

- 6 hundreds - 4 hundreds = 2 hundreds
- 10 less than 18 tens = 170
- 100 - 30 = 50 + 20. (Write <, > or =)
- The next number in the sequence 175, 155, 135 and 115 is 105. True or False?
- The tens digit in the difference of 783 and 264 is 1

Chapter Test

1. Subtract:

(a)

H	T	O
5	9	8
-	1	2
4	7	4

(b)

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

(c)

H	T	O
8	3	5
-	6	1
2	2	2

(d)

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

2. Subtract the following.

(a)

H	T	O
6	8	8
-	1	2
5	2	9

(b)

H	T	O
8	2	4
-	4	8
4	4	1

(c)

H	T	O
8	8	8
-	4	3
3	6	8

(d)

H	T	O
7	2	5
-	1	7
5	5	8

MCQs

Tick (✓) the correct answer.

3. 40 less than 20 tens is

(a) 60

(b) 140

(c) 240

✓(d) 160

4. $528 + \underline{\hspace{2cm}} = 654$

(a) 126

✓(b) 116

✗(c) 136

✗(d) 162

5. What is the missing digit? (10)

6	2	9
-	2	4
3	8	8

(a) 4

✓(b) 2

(c) 7

(d) 3

6. The cost of a pair of shoes and a pair of socks is ₹950. If the cost of the pair of socks is ₹125, what is the cost of the pair of shoes?

(a) ₹850

(b) ₹800

✓(c) ₹825

(d) ₹815

7. A fruitseller had 275 boxes of mangoes. He sold some boxes and had 161 boxes of mangoes left. How many boxes of mangoes did he sell?

(a) 140

✓(b) 114

(c) 436

(d) 119

8. Which of the following number sentences has an answer "six hundred forty-eight"?

(a) $900 - 372$

(b) $383 + 255$

(c) $862 - 264$

✓(d) $169 + 479$

9. There are 300 rooms in a hotel. If 78 rooms are still vacant, how many rooms are booked?

(a) 122

✓(b) 222

(c) 232

(d) 432

10. Neha saves ₹710 from her pocket money whereas Rhea saves ₹225 less than Neha. How much does Rhea save?

(a) ₹935

(b) ₹260

✓(c) ₹485

(d) ₹465

Challenge! 21st CS

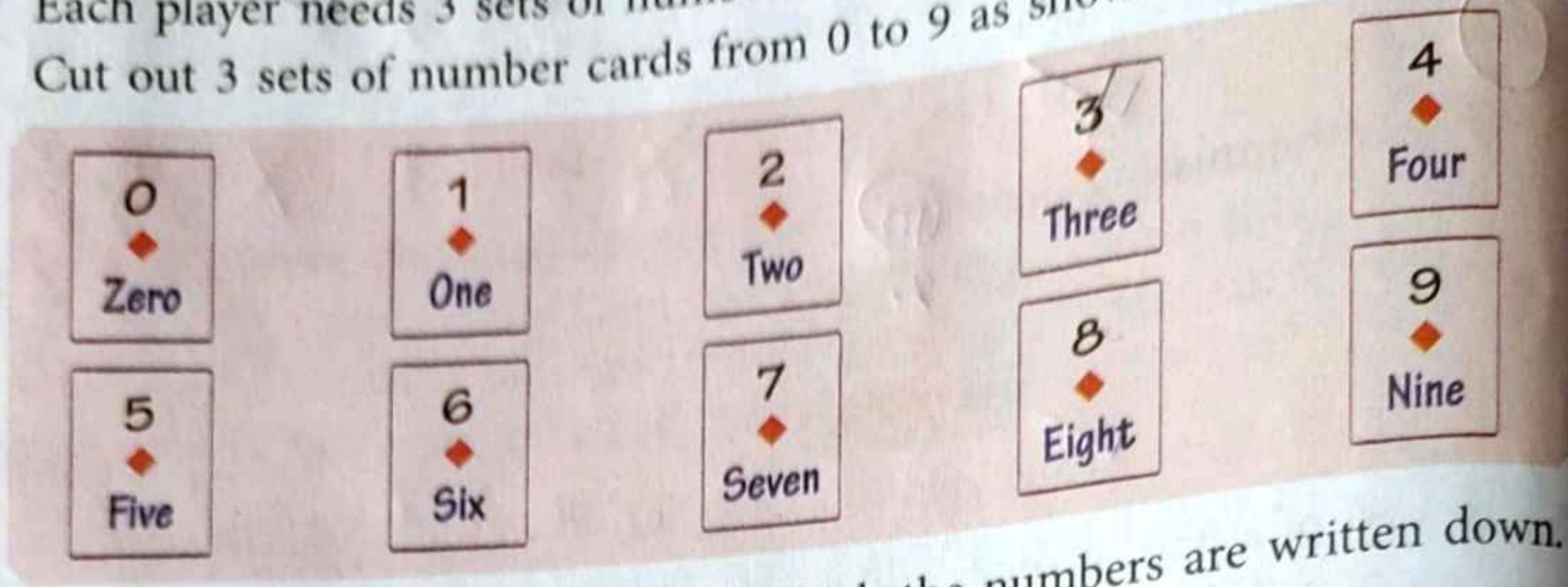
Subtract the sum of 378, 195 and 69 from the largest 3-digit number.

357

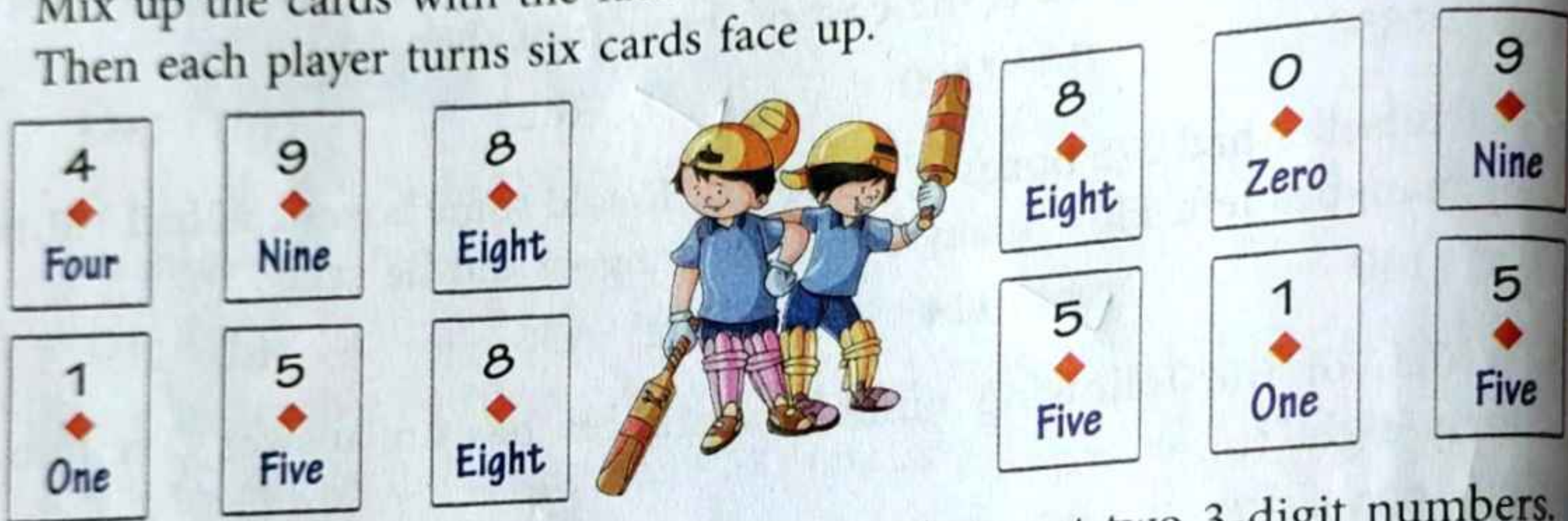
Fun Activity



- Two to four players can play the game at a time.
 - Each player needs 3 sets of number cards from 0 to 9.
1. Cut out 3 sets of number cards from 0 to 9 as shown below.



2. Mix up the cards with the face on which the numbers are written down. Then each player turns six cards face up.



3. Now, each player arranges the above 6 cards to get two 3-digit numbers.
4. Subtract the numbers. The player with the least difference scores 10 points.
5. Play 5 rounds. The player with the maximum points wins.

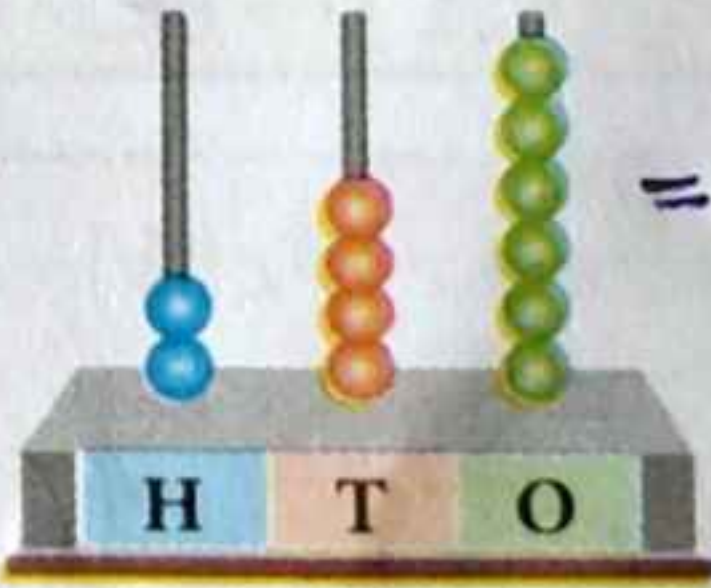
Quick Review

1. Write the sum of 275 and 318 in words. Five hundred ninety three
2. Which is the least number: 978, 879, 897 or 987? 879
3. A bookshop has 578 magazines, out of which 299 are sports magazines and the rest are children's magazines. What is the number of children's magazines? Write this number in expanded form. 279 200 + 70 + 9

Worksheet

Solve the problems in column A and match the differences to the numbers given in column B.

Column A		
1.	$\begin{array}{r} 40 \\ 509 \\ - 239 \\ \hline 270 \end{array}$	<u>(c)</u>
2.	$\begin{array}{r} 81010 \\ 910 \\ - 596 \\ \hline 314 \end{array}$	<u>(d)</u>
3.	$\begin{array}{r} 61215 \\ 735 \\ - 489 \\ \hline 246 \end{array}$	<u>(e)</u>
4.	$\begin{array}{r} 81011 \\ 910 \\ - 684 \\ \hline 217 \end{array}$	<u>(a)</u>
5.	$\begin{array}{r} 61010 \\ 710 \\ - 498 \\ \hline 202 \end{array}$	<u>(b)</u>

Column B	
(a)	$200 + 10 + 7 = 217$
(b)	Two hundred two = 202
(c)	2 hundreds 7 tens 270
(d)	$800 - 486 = 314$
(e)	 $= 246$