

Let us Learn

Hey kids, in this chapter you will learn about

- (i) Introduction of numbers upto five digits,
- (ii) Extension of numbers,
- (iii) Place value of numbers,
- (iv) Comparison of numbers,
- (v) Ascending-Descending order of numbers.

Introduction of Number upto Five Digits

In previous class, we have learnt numbers upto four digits.

We know that,

The largest four digit number is 9,999

On adding 1 to 9999, we get, 10000

9999

 $\frac{+1}{10,000}$

The number 10,000 is the smallest five digit number. We read it as ten-thousand. Let us see,

Ones = 1	One tens = 10 ones
Ten ones = $10 \times 1 = 10$	One hundred = 10 tens
Hundred ones = $100 \times 1 = 100$	One thousand $= 10$ hundreds
Thousand ones = $1,000 \times 1 = 1,000$	

Now, summerise the above

Ten thousands = 10×1 thousand = 10 thousands

 $= 10 \times 10$ hundreds = 100 hundreds

 $=10 \times 10 \times 10$ tens =1000 tens

 $=10 \times 10 \times 10 \times 10$ ones =10,000 ones

Forming Numbers

Let us play a game, in which we enjoy as well as learn to make new numbers; See the following symbols

 \boxtimes = Ones = 1, # = One tens = 10, * = One hundreds = 100

 $= One thousand = 1,000, \qquad \qquad \blacksquare = Ten thousand = 10,000$

Now, we have to make various numbers using these symbols.

For example,

(i) One * and one = 100 + 1000 = 1100

(ii) Five \boxplus Four * and five \boxtimes = 50,000 + 400 + 5 = 50,400 + 5 = 50,405

(iv) Seven \boxplus and two \boxtimes = 70,000 + 2 = 70,002

(v) Four \boxplus seven six # and one $\boxtimes = 40,000 + 7,000 + 200 + 60 + 1 = 47,261$

Do and Learn

= + ++ =

= + + +=

= + + =

= + + =

- 1. Complete the following table using the symbols given above :
 - 1. Five \boxplus , three \boxplus , Eight # and Two \boxtimes

 - 3. Six \boxplus , Three \star and three \boxtimes
 - 4. Seven \boxplus , Three # and Five \boxtimes
 - 5. Three ⊕, Two ★, Eight # and Six ⊠
- 2. Encircle symbols in groups in given larger circle and also write the numbers formed from these symbols. One is solved for your understanding.





Numbers

⊞ Ten Thousand	卐 Thousand	* Hundreds	# Tens	⊠ Ones	Expanded form	Number
1	4	5	3	0	10,000 + 4,000 + 500 + 30 + 0	14,530

Extension of Numbers

Importance of Commas or Periods

Number having 5 or more digits can be read quickly and easily by putting them into groups using commas.

See the following :



Mathematics (Class V)



Thirty eight thousand Thirty eight thousand Thirty eight thousand four hundred fifty eight

Yes, we have noticed that numbers at ten thousands and thousands place should be added always.

Do and Learn

1. Choose any five digits from 0 to 9 and make any ten numbers using these five digits, write the expanded and word form for each number. One is done for you.

S. No.	Number	Expended from	Word form
0	54582	50,000 + 4,000 + 500 + 80 + 2	Fifty four thousand five hundred eighty two
1			
2			
3			
4			
5			

Numbers

6		
7		
8		
9		
10		

Place Value of Numbers

See the following place value table

Place	Ten Thousand	Thousand	Hundred	Tens	Ones
Place Value	10,000	1,000	100	10	1

In the number <u>29,314</u>.

The place value of 4 is $4 \times 1 = 4$

The place value of 1 is $1 \times 10 = 10$

The place value of 3 is $3 \times 100 = 300$

The place value of 9 is $9 \times 1,000 = 9,000$

The place value of 2 is $2 \times 10,000 = 20,000$

Example 1. Find the place value of the encircled digits in each of the following numbers. (a) 6 (2),180 (b) (3) 2,650 (c) 59,6 (2) 4

Sol. (a) In 62,180, 2 is in thousands place, so place value of 2 in the given number is $2 \times 1000 = 2000$.

(b) In 32,650, 3 is in ten thousands place, so place value of 3 in the given number is $3 \times 10,000 = 30,000$.

(c) In 59,624, 2 is in tens place, so place value of 2 in the given number is $2 \times 10 = 20$.

Do Yourself

Example 2. (i) Fill in the place value table for the following numbers according to the place value.

Place value	T.Th	Th	Н	Т	0
Number	10,000	1000	100	10	1
48,769					
14,050					
38,290					
15,845					
10,000					

(ii) Write the place value of encircled digit for the following numbers:

(a) 48,76	(b)7①,405

(c) (8) 9,059 (d) 96,1 (2) 3

(e) 2(8),142 (f) 46, 7) 98

(iii) Find the place value of 9 and 6 in 59,264.

Comparison of Numbers

We use the symbols >, < and = to compare any two numbers. There are two cases :

Case 1. When all numbers have different number of digits, For example,

(i) 20,563 and 9,456 (ii) 9,586 and 35,826 (iii) 8,467 and 67,352

Rule to Compare these Numbers

Number with *MORE* number of digits is a larger number and number with a *LESS* number of digits is a smaller number.

Number	Number of digits	Larger number	
20,563	Five		
9,456	Four	20,303 > 9,430	
9,586	Four	9,586 < 35,826	
35,826	Five		
8,467	Four	8 167 < 67 350	
67,352	Five	8,407 < 67,352	

Case 2. When all number have same number of digits. For example,

(i) 78,846 and 78,546

(ii) 15,623 and 15,073

(iii) 24,569 and 24,659

Rule to Compare these Numbers

We use place value chart to compare these numbers.

There are three steps to find the larger number out of two numbers having same number of digits. $\overline{Step \ 1}$ Write the number one below the other in place value chart.

TTh	Th	Н	Т	0
7	8	8	4	6
7	8	5	4	6

Step 2 Compare the columns from left to right

Place	Comparison	Result	Remark
TTh	7, 7	7 = 7	Contd. Comparison
Th	8, 8	8 = 8	Contd. Comparison
Н	8, 5	8 > 5	Stop Comparison

Step 3When we stop the comparison on the basis of last result, we decide the greatest or smallest number.Hence,78,846 > 78,546

Example 3. Compare 64532 and 64325.

Sol. Place value chart

T Th	Th	Н	Т	0
6	4	5	3	2
6	4	3	2	5

Numbers

Comparison	Result	Remark
6, 6	6 = 6	contd.
4, 4	4 = 4	contd.
5, 3	5 > 3	Stop

Hence, 64,532 > 64,325

Do Yourself

Example 4. Circle the greatest and cross the smallest number :

(i) 4,536; 4,892; 4,370; 4,452

(iii) 25,286; 23,245; 25,270; 25,210

(v) 4,685; 4,444; 3,847; 9,071

(ii) 15,623, 15,073; 15,189; 15,800

(iv) 6,895; 23,787; 24,569; 24,659

• Trick : If two numerals contain the same number of digits, then compare them by their left most digit. If the left most digits are also the same, we compare by their next digits from the left and so on. For example, (i) 45,679 < 45,789

(ii) 50,562 > 50,541

(iii) 65,432 < 65,439

Thus, numbers can be compared by the following :

- (i) Counting the number of digits in the given number.
- (ii) Checking their place value starting from the left to right.

Do and Learn

Compare the following by using < , > and = signs.		
1. 4,506 56,780	2. 18,579	18,579
3. 57,939 87,399	4. 43,483	44,833
5. 35,703 2,308	6. 48,458	46,358
7. 76,345 76,396	8. 47,346	47,634

Ascending Descending Order of Numbers

Ascending Order

Ascending order of numbers is writing the numbers **from the smallest to the greatest**. See the folloiwng example

Arrange the given numbers in ascending order.

387, 4,462, 17,347, 986, 38,432 Ascending order of given number is following : 387, 986, 4,462, 17,347, 38,432

Descending Order

Descending order of numbers is writing the numbers from the greatest to the smallest.

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See the following example
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Arrange the given numbers in descending order.

986, 6,421, 14,176, 979, 87,346

Descending order of given number is following : 87,346, 14,176, 6,421, 986, 979

Example 5. Arrange the given numbers in ascending and descending order. 44,565, 36,735, 37,536, 44,655, 7,400

 Sol.
 Ascending order :

 7,400, 36,735, 37,536, 44,565, 44,655

 Descending order :

 44,655, 44,565, 37,536, 36,735, 7,400

Do Yourself

Example 6. Arrange the following numbers in the ascending and descending orders.

(i) 27,045,	18,137,	33,270	10,678
(ii) 33,198,	12,384,	21,765,	24,250
(iii) 52,830,	41,197,	64,532,	47,675
(iv) 26,487,	33,765,	26842,	38,482

Exercise 1

- **1**. Write the numerals for the following:
- (i) One thousand six hundred. (ii) Five thousand and forty two.
- (iii) Seven thousand nine hundred and eighty six
- (iv) Eighty thousand nine hundred and thirty.

(v) Ninety thousand seven thousand four hundred and eighty.

2. Write the word form of the following:

(i) 24056	(ii) 40009	(iii) 99999
(iv) 80511	(v) 67725	
3. Write the expanded form of the :	following:	
(i) 12372	(ii) 23434	(iii) 45302
(iv) 75004	(v) 68877	
4. Write the following in numeral f	form	
(i) 40000 + 5000 + 700 + 70 + 2	(ii) 60000 + 0000 + 000 +	-20 + 6
(iii) 30000 + 9000 + 900 + 00 + 8	(iv) 50000 + 2000 + 800 +	-10 + 1
(v) 80000 + 0000 + 000 + 00 + 8		
5. Give the place value for the enc	ircled digits in the followi	ng numbers
(i) (5)5074	(ii) 6 <u>3</u> 489	(iii) 75 <u>(4</u>)02
(iv) 867 (5) 3	(v) 9143(2)	(vi) 93124

Numbers

- 6. Write the place value of 6 and 2 in the following numbers.
- (i) 28506 (ii) 36265 (iii) 52266
- (iv) 69242
- 7. Use the symbol >, < or = to compare the following numbers
 - (i) 2979 2932 (ii) 5423 5432
- (iii) 8952 8952 (iv) 6850 6852
- 8. Using the given digits 4, 1, 0, 5 and 7 write the smallest and greatest five digit numbers without repetition of the digits.

(v) 82563

- 9. Write the following numbers into ascending order.
 - (i) 26886, 37725, 30840, 25975, 40021
 - (ii) 59307, 53907, 59703, 57039, 57903
- (iii) 74443, 74434, 74344, 77444, 77555

10. Write the following numbers into descending order :

- (i) 41525, 51425, 34152, 42325, 50925
- (ii) 86067, 81316, 85032, 82511, 81154
- (iii) 76543, 73456, 74356, 76435, 74353



1. Using the given digits 8,5,2,0 and 1 write the smallest and the greatest five digit number without repetition of the digits.

Smallest number _____ . Greatest number _____ .

- 2. State True or False :
 - (i) Forty eight thousand five hundred two can be written as 48502.
 - (ii) 1873 can be written as 10000 + 800 + 70 + 3 in expanded form.
- (iii) We read 4009 as four thousand nine in words.
- (iv) Place value of 2 in number 73208 is 200.
- 3. Using the given digits 7,6,8,4 and 3 write the smallest and the greatest five digit number without repetition of the digits.
 - Smallest number _____.
- Greatest number _____.
- 4. State true or False (i) 2979 < 2932
 - (ii) 8952 > 8952
- (iii) 3675 > 3657
- (iv) 9821 > 9766

Practice Cornel

 Using the given digits 4,1,0,5 and 7 write the smallest and the greatest five digit number without repetition of the digits Smallest number ______.

Greatest number _____.

- 6. State True or False:
 - (i) 58024 can be written as fifty thousand eight houndred twenty four.
 - (ii) 71089 can be written as 70000 + 1000 + 000 + 80 + 9 in expanded form.
- (iii) We read 5001 as five thousand one in words.
- (iv) Place value of 8 in number 5385 is 800.
- 7. Using the given digits 9,4,3,1 and 2 write the smallest and the greatest five digit number wihtout repetition of the digits.

Smallest number _____.

Greatest number _____ .

- 8. State true or false.
 - (i) 55050 can be written as 50 thousand + 5 thousand +0 hundred +5 tens + 0 ones.
 - (ii) 77397 can be written as 70 thousand + 7 thousand + 9 hundred + 7 tens + 3 ones.
- (iii) 70091 will be in between 69999 and 70001.
- (iv) Place value of 6 in 45650 will be 600
- 9. Write the folloiwg in ascending order.
 - (i) 41839, 41893, 43981
 - (ii) 19806, 1988, 19888, 19900
- **10**. State true or false.
 - (i) Place value of 4 in 84760 is 4000.
 - (ii) 87269 will be come before 87169.
 - (iii) 273 > 378.
 - (iv) 80045 can be written as 8000 + 400 + 5.



Addition and Subtraction

Let us Learn

Hey kids, in this chapter you will learn about

- (i) Use of understanding of place value in addition and subtraction of numbers
- (ii) Use of carrying in addition and subtraction.

Use of Understanding of Place Value in Addition and Subtraction of Numbers

In previous class, we have learnt addition and subtraction upto three digits. Now, here we will learn to add or subtract with or without carry upto four digits.

Let us revise the following as we have study in previous class.

Practice Exercise

S	ol	ve th	nese :													
1.		4	0	6		2 .	7	2	3			3.		6	5	3
	+	3	1	3			+	1	8	9			+	3	3	3
4 .		7	0	0		5 .		5	5	7						
	_	5	9	9			_	2	7	7						
6 . :	58	0+2	27 + 3	306 =	=	 • • • • •	••••									
7	47	3 – 2	296 =	·		 ••••	•									
8. :	36	4+0	67 – 1	199 =	=	 ••••	•••••	••								

9. 37 - 15 + 10 =

Mathematics (Class V)

Sol.	1 1
1. 4 0 6	2. 7 2 3
+ 3 1 3	+ 1 8 9
7 1 9	9 1 2
9	
6 10 10	5 15
4. 7 0 Ø	5. <i>X X</i> 7
-599	- 2 7 7
1 0 1	2 8 0
6. 580 + 27 + 306	
	0 + 7 + 6 = 1 3
	(1) + 8 + 2 + 0 = (1)
	(1) + 5 + 3 = 9
\Rightarrow	580 + 27 + 306 = 913
7. 473 – 296	
	$(13) \not 3 - 6 = 7$
	(16) $\not B = 7$
	(3)/(4-2) = 1
\Rightarrow	473 - 296 = 177
8. 364 + 67 - 199	
	4 + 7 - 9 = 11 - 9 = 2

3.		6	5	3
	+	3	3	3
		9	8	6

$$4 + 7 - 9 = 11 - 9 = 2$$

$$6 + 6 - 9 = 12 - 9 = 3$$

$$3 - 1 = 2$$

$$364 + 67 - 199 = 232$$

9. 37 - 15 + 10

 \Rightarrow

$$7-5+0=23-1+1=4-1=337-15+10=32$$

10. Find the total number of students if there were 185 boys and 162 girl in a Government Senior Secondary School, Udaliyas.

No. of Boys = 185Sol.

No. of girls = 162

No. of girls = 162	1
	185
	+162
	347
So, total number of students $= 185 + 162 =$ Hence, total students are 347.	347

Addition and Subtraction

- 11. Find the total number of plants if there were 225 plants of rose, 156 plants of marigold and 178 plants of jasmine.
- *Sol.* Number of plants of rose = 225

Number of plants of marigold = 156 Number of plants of jasmine = 178 Total number of plants

8	
	11
= 225 + 156 + 178 = 559	225
	156
	+1 7 8
	5 5 9

Hence, total number of plants are 559.

12. Geeta's father is a pat seller in haat market. Last sunday, he made 523 pots in which 484 were sold. Find how many pots does he have now?

Sol. Number of pots made = 523

Number of pots sold = 484Number of pots remains = 523 - 484 = 39

$$\begin{array}{c}
11\\
\hline
4 \times 13\\
5 \times 2 \times \\
\hline
-4 \times 8 & 4\\
\hline
0 & 3 & 9
\end{array}$$

Hence, he has 39 pots at last.

13. Add or subtract the following as required within Indial Numeral System.

1.		٢	ų	७	2.		४	દ્	9	;	3.		६	ų	७
	+	3	२	8		+	२	८	9			+	8	ç	3
4.		८	ଓ	ç	5.		ų	ç	ર	(6.		ર	ų	৩
		४	3	4			8	८	१				१	8	६
Sol.			হ				१	१					হ	হ	
1.		٢	ų	७	2.		४	દ્	የ	;	3.		६	ų	७
	+	Ą	२	४		+	२	٢	9			+	४	9	ર
	<u>१</u>	१	٢	१			७	ų	۷			१	१	પ	0
4.		८	७	ç	5.		ų	ç	२		6.		3	ų	७
	_	ጸ	ঽ	ų		_	४	٢	१			_	१	४	६
		ጸ	Х	8			१	१	१				२	१	१

Use of Carrying in Addition or Subtraction Addition

Maths teacher asked the students to solve the following problem. She also announced that,



The students were eagerly waiting for the question.

The teacher said, I bought a cot for ₹ 24,500, a bureau for ₹ 7,800 and a table for ₹ 4,500. What is the total cost of the things I have bought?

All the students tried to solve the sum. She saw Kumkum and Puneet two students completed the sum ahead of others. She called them to show their note books. Shockingly, they got two different answers.

Check the methods they followed and tell whose answer is correct.

KUMKUM	Cost of the cost	= ₹ 24,500
	Cost of the bureau Cost of the table Total Cost	= ₹ 7,800 = +₹ 4,500 = ₹ 2,51,800
PUNEET	Cost of the cost	= ₹24,500
	Cost of the bureau	= ₹7,800
	Cost of the table	=+₹4,500
	Total cost	= ₹36,800

Can you understand that, Kumkum did not follow the place value correctly, while writing the numbers. So she went wrong in her calculations. Let us learn how to write numbers using place values.

Example 1. Add the following numbers, by writing them one below the other 64,737 + 3,475 + 22,710 + 276.

Sol.

TTh	Th	Н	Т	0		Th	Н	Т	0		TTh	Th	Н	Т	0		Н	Т	0
6	4	7	3	7	+	3	4	7	5	+	2	2	7	1	0	+	2	7	6
								TT h	Th	Н	Т	0							
								1	2	1	1	•	← C	Carry					
								6	4	7	3	7							
									3	4	7	5							
								2	2	7	1	0							
							+			2	7	6							
								9	1	1	9	8							

Do Yourself

Example 2. Find the sum of 386,74,786,9 and 59.

NOTE If you leave enough space between the numbers, you can avoid making mistakes, while adding the numbers

Subtraction

"Why have you not completed your homework still?" asked Kaniska's mother. "Mother, I am not able to complete one particular problem", replied Kaniska.



Mother had a glance of Kaniska's problem.

$$2763 - 267 = ?$$

The mother saw, how she has written the number one below the other. She explained her daughter the mistake committed by her.

Now you would have understood why Kaniska was not able to get the correct answer.

Can you correct Kaniska's mistake yourselves? Do you need help to solve te problem? Example 3. Subtract the following numbers, by writing them one below the other 7632 - 6,267.

Th	Н	Т	0			Th		Н	Т	0
7	6	3	2	-	-	6		2	6	7
							-	0]	
					Ih	H		0		
							12			
						5	Ź	12		
					7	ø	Z	2		
					-6	2	6	7		
					1	3	6	5		

Hints to Understand :

To subtract ones :

Since 2 is smaller than 7, convert 1 ten from 3 and then regroup into ones (10 + 2 = 12). Hence

$$12 - 7 = 5$$

To subtract tens :

Since 2 is smaller than 6, convert 1 hundred from 6 and then regroup into tens. 12-6=6

To subtract hundreds :

Subtract 2 hundreds from 5 hundreds.

A + 2178 = 5983

5 - 2 = 3.

Do Yourself

Example 4. Subtract 5,860 from 6,985.

Example 5. The sum of two numbers is 5983. If one of them is 2178, then find the other number. Sol. Sum of two numbers = 5983

> 7 13 5983

-2 1 7 8

3805

First number = 2178Second number =? Let second number is A. then.

-	_	_	_	-

 \Rightarrow

\Rightarrow	A = 5983 - 2178
	= 3805
Hence,	second number is 3805.

Do Yourself

Example 6. Mr. Vijay needs₹9175 for repairing his house. He sold jute for₹1225, cow for₹5025 and goat for ₹ 1900. How much more does he need?

Example 7. In town bus, ₹ 5,402 was collected in the first week and ₹ 6,424 was collected in the second week. By how much was the collection amount more in the second week compared to that of the first week?

First week collection =₹ 5407 Sol.

> Second week collection = ₹ 6,424 Difference in both collections

> > = 6424 - 5407

=1017



Hence, ₹ 1017 was more in second week as compared to that of the first week.

Do Yourself

Example 8. ₹ 3000 is needed for the picnic of the students of class third, fourth and fifth ₹ 1055 and ₹ 1200 have been collected from the class Four and Five respectively. How much taka will have to be collected from class Three ?

Addition and Subtraction

Exercise 2

1.	Solve	the f	ollov	wing:											
(i)	2	9	4	2	(ii)	7	4	3	1	(iii)	6	0	7	5	
	+ 1	0	5	6	+	1	6	2	9	+	3	1	4	6	
(iv)	4	8	7	5	(v)	5	0	0	0	(vi)	8	8	0	8	
	+ 2	1	5	6		2	5	5	2	_	5	3	0	3	
(vii)	9	4	2	1	(viii)	8	5	2	1						
	- 8	3	7	2		7	3	7	2						
2.	Add th	ne fo	llowi	ing :											
(i) 8723	5 and	d 907	7	(i	ii) 76	585 a	nd 2	108						
(ii	i) 5113	3, 19	99 a:	nd 638	(ir	v) 89	999 a	nd 1	001						
3.	Subtra	act th	ne fo	llowing:											
(i) 840	from	394	4	(i	ii) 24	407 f	rom	4817						
(ii	i) 4999	9 froi	m 60	00	(ir	v) 79	986 fi	rom	8344						

- 4. Find the addition of largest number of four digits and largest number of three digits.
- 5. Ramesh deposited ₹ 2850 in January and ₹ 3650 in Febuary in his bank account. Find the total amount he deposited in both months.
- 6. Anshu bought a cycle for ₹ 2999 and Ruchi bought a cycle for ₹2650. Find the difference of amount of both cyles.
- 7. Sum of two number is 7678 and if one of then is 4613 and find the other number.
- 8. Mohan has an amount of ₹ 10,000. He bought wheat for ₹ 4500 and rice for ₹ 1600. How much money does he have now?
- 9. A total of 8976 children were given drops of pulse polio under Bagwas was Panhayat in three phases. 2780 children were given drops in first phase and 2925 children in second phase. State how many children were given the drops in the third phase?
- **10**. Add or subtract the following within Indian Numeral System.

$(v) \begin{array}{cccccccccccccccccccccccccccccccccccc$	(i)	२ ५ ६ ८ + ४ ३ ५ ४	(ii) そ ま ⊻ ७ + 8 こ Ę 9	(iii) て	(iv) ₹ 8 ½ 0 + 8 ᢏ 9 ₹
	(v)	9	(vi)	(vii)	(viii) 8 モ て - そ の て の

- 11. Find the total amount that syam paid if he bought an almirah for ₹६५८० and a bed for ₹२६२४.
- 12. Rama bought a table for ₹३४५० and Radha bought a table for ₹२९६०. State the difference in the cost of both.
- **13**. Find the sum of greatest and smallest number of four digits
- 14. २६४ students were participate in an examination. Out of them १९४ were passed. Find the students who were failed.
- 15. If sum of two number is ९७३२, where one of them is ३८४६. Find the other.
- 16. १२५ m cloth is required to make three curtains and २८६ m cloth is required to make five canopy. Find the total length of cloth.
- 17. Ritu has ₹575. Sweta has ₹190 less than Ritu. If the rupee of the two is put together, it equals to Renu's rupee. How much rupee does Renu have?
- 18. Mr. Ajay went to market with ₹525. He bought fish for ₹150, oil for ₹90 and vegetables for ₹75. How much money was left with him?
- 19. A factory produced 6849 helicopters in 2014 6574 helicopters in 2015. How many total helicopters did the factory produce in the two years?
- 20. 1543 people appeared in an examination in a particular year. 893 more people appeared in the same examination in the next year. How many people appeared in the examination in the second year?
- 21. The sales turnover of a company in 2015 was ₹4748 crore. In the 2016 the turnover increased to ₹5847 crore. What is the increase in sales turnover in 2016?
- 22. The difference of two number is 891. If the greater number is 1561, find the other number.
- 23. In the year 2015 schools were planted in village. In first village government spent ₹2893; in second village ₹2713 were spent; in third village government spent ₹1745 and in fourth village ₹5712 were spent. How much money was spent in all four villages.
- 24. The population of a village was 7832. During the flood 2807 people died and 1347 people moved to the neighbouring city. How many people were left in the village?



1. Match the following :

Column 'A'	Column 'B'
171 + 21	135
165 – 30	2080
2086 – 6	132
19 + 113	192

2. Solve :

(i) 7325	(ii) 7 3 2 5
+ 1 9 6 3	-6581

3. Match the following :

0	
Column 'A'	Column 'B'
144 + 15	159
125 + 25	334
216 + 118	2580
2587 – 7	150

4. Solve :

(i)	3758	(ii) 6 3 7 2
+	2637	-2863

- 5. There were 250 plants of rose, 165 plants of merigoldand 187 plants of jasmine. Find the total number of plants.
- 6. Match the following.

Column 'A'	Column 'B'
१७,१४८	Eigthy two thousand
६६,२६४	(3000 + 30 + 2)
८२,०००	Six ten thousand, six thousand two hundred, six tens, four ones.
३,०४१	१ Hundred, ४ tens, ८ ones, ७ thousands, १ ten thousand

- 7. 264 students participated in an examination. Out of them 194 were passed. State the students who failed.
- 8. Match the following :

Column 'A'	Column 'B'
133 – 13	2036
2018 + 18	500
213 + 287	42
50 - 8	120

- 9. Find the sum of smallest four digit number and largest three digit number.
- **10**. Match the following :

Column 'A'	Column 'B'
18 + 112	130
2072 – 12	200
162 – 22	2060
170 + 30	140



Multiplication and Division

Let us Learn

Hey kids, in this chapter you will learn about

- (i) Multiplication of three digit numbers by standard method.
- (ii) Division of three digit number by two digit number by standard method.

Multiplication of 3-digit numbers

See the following example and get the concept.

Concept : Yes, we get the following concept :



This method of multiplication is called as Standard Method.

Example 1. Heeralal earns ₹ 275 per day by doing work in field. He works for 312 days in a year. Find how much money he will earn in the whole year.

Sol.

$$\begin{array}{r}
2 7 5 \\
\times 312 \\
5 5 0 \\
2 7 5 0 \\
+ 8 2 5 0 0 \\
\hline
8 5 8 0 0
\end{array}$$
(300 + 10 + 2)
(300 + 10 + 2)
(275 \times 2)
(275 \times 2)
(275 \times 10)
(275 \times 300)
(275 \times 300)

Hence, Heeralal earns ₹ 85,500 in the whole year.

Do Yourself

Example 2. Cost of a ceiling fan is ₹735. Find the cost of 125 ceiling fans.? [Ans. ₹ 91,875]

Example 3. A factory produces 285 PVC pipes in a day. How many PVC pipes will it produce in the whole year, if the factory has 293 working days in the year?

Sol.

20)	
$\times 2 \ 9 \ 3 \ (200 + 90)$	+ 3)
$\overline{855} \leftarrow (285 \times$	3)
$2 5 6 5 0 \leftarrow (285 \times 9)$	90)
5 7 0 0 0 \leftarrow (285 \times 2	200)
8 3 5 0 5	

Hence, factory will produce 83,505 PVC pipes in the whole year.

Do Yourself

Example 4. A carton can hold 144 apples. 675 cartons of apples were brought to a market on a day. Find the total number of apples brought to the market on the day ? [Ans. 97,200 Apples]

Exercise 3.1

1. Multiply the following :

- (i) 286 × 125
- (iv) 999×400

(11)	0//	Х	Z1Z		
(v)	777	\times	222		
viii)	845	×	599		

(iii) 637×380

(vi) 609 × 605

(ix) 988×514

(iii) ४३६ × ५००

(vii) 987 × 321 (x) 900 × 888

2. Multiply the following number written in devnagri script.

1)

- (iv) $\xi \xi \xi \times \xi \xi \chi$ (v) $\zeta \xi \chi \times \xi \xi \chi$



- 4. There are 165 students in government sen. Sec. School Tada. A donar donates ₹ 550 per student for uniform. State the amount donated by donar.
- 5. 220 litre oil can fill a drum. How much oil can be filled in such 340 drams ?
- 6. Cost of a chair is ₹678. Find the cost of 296 such chairs.
- 7. If 525 plants are in one bed, then find the number of plants in 213 beds.
- 8. 408 balls can be filled one box. Find the number of balls that can fill 634 boxes.
- 9. Price of a book is ₹250. What is the amount needed to buy 140 such books?
- 10. In a boys hostel, the amount spent for the boys per day is ₹350. Calculate the amount spent for 30 days.
- 11. There are 128 trees in a row of a garden. How many trees are there in 217 rows in that garden?
- 12. There are 112 guavas in a basket. How many guavas are there altogether in 190 baskets?

Division of 3-Digit Number by 2-Digit Number

See the following example and get the concept. **Method-I** :

 $432 \div 12 = 36$

 $432 \div 12 = 36$

Concept : Yes, we get the following concept :

$$30 + 6 = 36$$

$$12) \overline{432}$$

$$-360 \leftarrow (12 \times 30)$$

$$\overline{72}$$

$$72 \leftarrow (12 \times 6)$$

$$\overline{00}$$

$$12) \overline{432}$$

$$36$$

 $\frac{72}{00}$

Method-II :

Hence.

Hence,

students

Practice Corner

NOTE Here, we see two methods to solve the given example, method-II is more convenient for the

See the following definition, which helps you to understand division operation.

- The number which divides is called the divisor.
- The number which is divided is called the dividend.
- The number that we get after dividing is the quotient.
- The number which remains after the division is called the remainder; remainder must be smaller than the divisor.
- If the remainder is zero, then dividend is thoroughly divisible by the divisor.

28	÷ 4	= 7	 Dividend ÷ Divisor = Quotient
\downarrow	\downarrow	\downarrow	
Dividend	Divisor	Quotient	

Hence, Dividend = Divisor × Quotient

 $\Rightarrow \qquad 28 = 4 \times 7$

 \Rightarrow 28 = 28

Division is the opposite method of multiplication

8) 149	(18
8	
69)
- 64	í
5	

Here, 149 Dividend

- 8 Divisor
- 18 Quotient
 - 5 Remainder

Verification : $149 = 8 \times 18 + 5$

That is,

Dividend = Divisor × Quotient + Remainder

Some important results :

- When divisor and dividend is equal, quotient is 1.
- When divisor is 1, quotient equals to the dividend.
- When divisor is 0, quotient is also 0.
- When divisor is 0, we cannot divide, for this reason divisor cannot be 0 in any situation. This results infinite ∞, as any number ÷ 0 = ∞.

Example 1. *Divide the following : 887 ÷ 19*

Sol. 887 ÷ 19

$$\begin{array}{r} 46 \\
 19)887 \\
 \underline{-76} \\
 127 \\
 \underline{-114} \\
 13
 \end{array}$$

Hence, Divisor = 19, divident = 887, Quotient = 46, Remainder = 13

Do Yourself

Example 2. Divide : 789 ÷ 31 [Ans. Q - 25, R - 14]

Example 3. Bhoopendra has 342 toffees and he wants to distribute these toffees among his 16 friends equally. State how much toffees will each friends get. How much toffees will remain.

Sol. $342 \div 16$



Here, dividend is 342, divisor is 16, Quotient is 21 and Remainder = 6 Hence, 6 toffees will remain and each friends will get 21 toffees.

Do Yourself

Example 4. Moni's father divided 455 lichies equally in thirteen parts. He gave two parts to Moni. How many lichies did get?

[*Ans.* $35 \times 2 = 70$]

Example 5. In a shelf there are 186 books. There are 194 books in another shelf. From these books if everyone is given 4 books then how many people can be given those books?

Sol. Number of books in a shelf = 186 Number of books in another self = 194Total books = 380

Now, $\begin{array}{c}
4) 380 (95) \\
\frac{36}{20} \\
20 \\
00
\end{array}$

Hence, 95 people can be given these books.

Do Yourself

Example 6. There are 150 lozenges in a packet. From these, 14 lozenges are kept and remaining lozenges are distributed equally among 17 people. How many lozenges does each one get?
 [Ans. 8]

NOTE We can verify the answer, by the following :

 $\mathsf{Dividend} = (\mathsf{Quotient} \times \mathsf{Divisor}) + \mathsf{Remainder}$

Exercise 3.2

1 . Solve the following :		
(i) 255÷15	(ii) 312÷12	(iii) 640÷16
(iv) 702÷13	(v) 357÷21	(vi) 770÷28
(vii) 952÷34	(viii) 847÷18	(ix) 656÷23
(x) $945 \div 35$		
9 Divide the following w	ritton in downaari aarint	

2. Divide the following written in devnagri script.

(i) ६८४÷१९	(ii) ખરપ \div રપ	(iii) ८५८÷३३
(iv) ४३७ ÷ १६	(v) 4ξ ξ \div 23	

3. Chaya bought 20 copies for ₹360. State the cost of one copy?

4. Dheeraj have 864 bananas. State how many dozen banana he has ?

- 5. If 702 people can sit in 27 buses, then state how many people can sit in a bus?
- 6. Omkar has ₹400. If the cost of one metre cloth is ₹30, then how much cloth, he can bought and how much money, remains left with him ?
- 7. How many garlands can be made using 648 flowers, when ever 24 flowers are needed to make one garland?
- 8. Find the number of years in 936 months.
- 9. Cost of 15 copies is ₹180. Find the cost of one copy.
- 10. A total of 682 oranges are packed equally in 31 cartoons. How many oranges are packed in one carton?



- 1. There are 142 students in a class. Each one gave subscription of ₹325 for a tour. State the amount collected as subscription in all.
- 2. There are 445 mangoes in 5 baskets. How many mangoes are there in such 12 baskets ?
- 3. A 171 metre long ribbon is divided into 19 parts equally. Find the length of each part.
- 4. Calculate the number of seconds in a day.
- 5. On an average, a healthy adult's heart beats 72 times in a minute. How many times does it beat in half of the day?
- 6. Each of 25 women gave ₹75 as subscription. By putting this subscription together, it was distributed equally among 15 flood affected people. How many rupees did each get?
- 7. Puneet bought a packet of 125 apples. He kept in side 5 apples from the packet. He distribute the remaining apples equally among his 15 friends. How many apples were given to his each friend ?



Vedic Mathematics

Let us Learn

Hey kids, in this chapter you will learn about

- (i) Subtraction operation,
- (ii) Multiplication operation (base 10) using sutra Nikhilam.

Subtraction Operation

In prveious class, we have learnt about Ekadhikena, Ekanyunena, Ekadhik Purvena, Ekanyunena Purvena and Complementary Digit.

Here, we revise these and understand the basics of vedic mathematics.

(i) Ekadhikena (एकाधिकेन)

Ekadhikena means one more digit or number.

To find ekadhik of a number, add one (1) to that number and mark on its unit digit as a dot (.).

e.g., Ekadhik of 12 = 12 = 12 + 1 = 13

Ekadhik of digit 3 in 1534, the new number = 1534 = 1544.

Example 1. Find the ekadhiken of the following numbers : 3, 9, 12, 28. *Sol.*

Numbers	Ekadhiken	Value of Edkadhiken
3	• 3	4
9	• 9	10
12	12 12	13
28	28	29



(ii) Ekanyunena

It is opposite process of ekadhikena, *i.e.*, in ekayunena, we decrease 1 from a particular digit or from a particular digit of a number and that particular digit has a dot (.) below it.

e.g., Ekanyunena of 12 = 12 = 12 - 1 = 11

Edanyunena of digit 3 in 1534 the new number = 1534 = 1524

Example 3. Find the ekanyunena of the following numbers : 5, 9, 20, 25.

Number	Ekadhikena	Value of Ekadhikena
5	5	4
9	9	8
20	20	19
25	25	24

Do Yourself

Example 4. Find the ekanyunena of 78, 69, 91, 99.

(iii) Ekadhikena Purvena (एकाधिकेन पूर्वेण)

Ekadhikena-Purvena is combined operation in which ekadhiken and purvena can be done simultaneously, see the following table carefully :

Number	Purvena of	Purvena	Ekadhiken-Purvena	Value of ekadhikena-purvena
7	7	0	• 07	17
9	9	0	• 09	19
16	6	1	• 16	26

(iv) Ekanyunena-Purvena

It means, when a number is given, then find out purvena digit of a particular digit or number. Now, find the ekanyuena of this digit or number. See the following table carefully :

Number	Purvena of	Ekanyunena Purvena	Value of ekanyuena purvena
15	5	15 •	05
23	3	23	13
159	9	159 •	149
351	1	351	341

(v) Complementary Digit (परममित्र अंक)

Sum of a digit or number is equal to 10, so we can say that Number/Digit + Complementary digit = 10 Now, see the following table,

Number	Complementary Digit (10-Number/Digit)	Value of Complementary digit/number
1	10-1	9
2	10-2	8
3	10-3	7
4	10-4	6
5	10-5	5
6	10-6	4
7	10-7	3
8	10-8	2
9	10-9	1
10	10-10	0

2. Subtraction using Ekanyunena Purvena and Complementary Digit

We can understand the subtraction using ekanyunena purvena and complementary digit by the following steps :

- Step-1. When the digit at minuend (upper digit) is greater than subtracted digit (lower digit) normal subtract is to be done.
- **Step-2.** In case if upper digit is less than lower digit, then we add complementary digit of lower digit to upper and write the sum in lower last place and put an ekanyunena mark on previous digit of upper digit.
- Step-3. Repeat this process.

Example 5. Solve : 753 – 584 = ? **Sol.**

Hint :

(i) :: 3 < 4

- ... Add 6 (complementary digit of 4) to 3 and put an ekayunena mark on 5 (purvena of 3), write (3 + 6 =) 9 in total of C_1 .
- (ii) :: 5 < 8 or 4 < 8
 - : Add 2 (complementary digit of 8) to 5 or 4 and put an ekanyunena mark on 7 (purvena of 5), write (5 + 2 =) 6 in total of C_2 .

 \therefore 7(in) for 6 > 5

: Write (6-5 =) lin total of C_3 .

Do Yourself

Example 6. Solve : 983 – 495 = ?

```
Example 7. Solve : 8185 – 2496 = ?
```

Sol.

C_4	C_3	C_2	C_1
8	1	8	5
•	•	•	
- 2	4	9	6
5	6	8	9

Hint :

(i) :: 5 < 6

:. Add 4 (complementary digit of 6) to 5 and put an ekanynena mark on 8 (purvena of 5) and write (4+5=) 9 in total of C_1 .

(ii) ::
$$8 < 9 \text{ or } 7 < 9$$

: Add 1 (complementary digit of 9) to 8 or 7 and put an ekanyunena on 1 (purvena of 8) and write (1 + 7 =) 8 in total of C_2 .

(iii) ::
$$1 < 4 \text{ or } 0 < 4$$

:. Add 6 (complementary digit of 4) to 1 or 0 and put on ekanyunena mark on 8 (purvena of 1) and write (6+0) = 6 in total of C_3 .

(iv) :: 7 > 2 or 6 > 2... Write (6-2 =)4 in total of C_4 .

Do Yourself

Example 8. Subtract 7654 from 8321. [Ans. 0667]

Exercise 4.1

Subtract the following by using Ekanynena Purvena and Complementary digit.

8 2	6 6	74
1. -5 4	2. -4 8	3 6 9
3 4 2	5 2 4	945
41 4 3	5. -267	6876
4 1 6 2	7264	1245
7. -2536	8. -3897	9. <u>- 9 7 8</u>
2757		
10 1 5 6 5		

3. Subtraction Using Ekadhikena Purvena and Complementary Digit

We can understand the subtraction using ekadhikena purvena and complementary digit by the following steps :

- Step 1. When the digit at minuend (upper digit is greater than subtracted digit (lower digit) normal subtract is to be done.
- Step 2. In case if upper digit is less than lower digit, then we add complementary digit of lower digit to upper and write the sum in lowest last place and **put an ekadhik mark on previous digit of lower digit**.

Step 3. Repeat this process.

Example 1. Solve : 700 – 432 = ?

Sol.

$$\begin{array}{cccc} C_3 & C_2 & C_1 \\ 7 & 0 & 0 \\ \hline -4 & 3 & 2 \\ \hline 2 & 6 & 8 \end{array}$$

Hint : (i) ∵ 0 < 2

: Add 8 (complementary of 2) to 0 and put an ekadhik mark on 3 (purvena of 2), write

(0 + 8 =) 8 in total of C_1 .

(ii) ::
$$0 < 3$$
 or $0 < 4$

: Add 6 (complementary digit of 3) to 0 and put an ekadhik mark on 4 (purvena of 3), write (0 + 6 =) 6 in total of C_2 .

Vedic Mathematics

(iii) :: 7 > 4 or 7 > 5
∴ Write (7 - 4 = 7 - 5 =) 2 in total of
$$C_3$$
.

Do Yourself

Example 2. Solve : 800 - 389 = ? [Ans. 411]

Exercise 4.2

Subtract the following by using Ekadhikena Purvena and complementary digit.

$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$5 \ 0 \ 0$ 23 0 9	8 0 5 36 0 8
1700	8 3 0 5	4 0 0 0
4. <u>-9 7 3</u>	5. <u>-5 2 8 1</u>	6 . <u>-2 7 3 6</u>
9700	1000	9000
7. $-4 9 0 4$	8. <u>-8 5 4</u>	93 8 9 6
1500		
10 . – 7 8 5		

Multiplication Operation (base 10) using Nikhilam 4. Extreme Digit, Nikhilam Digit, Base and Deviation

(i) Extreme Digit (चरम अंक)

It is the digit of number placed at ones place. For example–In 7856, 6 is at one's place, so it is called extreme digit.

(ii) Nikhilam Digit (निखिलम अंक)

It is the digit other than extreme digit. In above example 7,8 and 5 are nikhilam digits.



(iii) Base

Here, the meaning of base is taking as number base or base of a number. Any real number more than one can be number base.

To make calculations easy and to obtain their answer in exact way, 10 is considered as base. Here, the base of decimal number system is also ten (10).

(iv) Deviation

Deviation is the difference of given number and base *i.e.*, if we subtract base from given number, then remainder is called as deviation.

So,

Deviation = Number – Base

If number is greater than base, then deviation is positive. If number is less than base then deviation is negative. We put number of digits in deviation equal to number of zeros in base, *e.g.*,

Deviation of 18 w.r.t. base 10 = +8

See the table for deviation...

Number	Deee	Deviation		Value of
Number	Base	Positive	Negative	Deviation
9	10		\checkmark	-1
6	10		\checkmark	-4
14	10	\checkmark		+4
85	100		\checkmark	-15

Example 1. Find the deviation of (i) 13 and (ii) 8 w.r.t. base 10.

```
Sol. (i) 13 = 13 - 10 = 3 = +3
```

(ii) 8 = 8 - 10 = -2

Hence, deviations are +3 and -2 respectively.

Do Yourself

Example 2. Find the deviation of 18 and 7 w.r.t. base 10. [Ans. + 8, - 3]

Exercise 4.3

Write the deviation of the following w.r.t. base 10.
 (i) 14, (ii) 11, (iii) 8, (iv) 9, (v) 13, (vi) 19, (vii) 7, (viii) 6.

5. Multiplication of Two Numbers (Sutra Nikhilam Base)

Multiplication of two numbers can be obtained by sutra nikhilam base if both numbers are near base 10.

Methods

- 1. According to number, choose its closest base 10.
- 2. Write deviation w.r.t. base in front of base.
- 3. Divide the product place in two parts using slant (transversal) line.
- 4. Write product of deviation in right side.
- 5. In left side, write deviation of first number + second number.
- 6. Put digits in left side equal to number of zeros in base. Put zeros on right of a number to make equal number of digits. This technique can be applied to other numbers also.
- 7. If product of deviation is negative, then convert it into positive after taking one (1) from left. Remember that one (1) taken from left side is equal to base in right side. This is clear by the following examples :

Example 1. Find: 11×15.

Sol.

11×15, Bas	se = 10
= 11	+1
15	+5
=15 + 1/	/1×5
=16/5	
=165	

Hint :

(i) Deviation = +1, +5

(ii) Write 11 + 5 or 15 + 1 in left side.

(iii) In right side, multiplication of deviations = 8 (one digit).

Do Yourself

```
Example 2. Find 13×12
[Ans. 156]
```

```
Example 3. Find 9 \times 11.
```

```
Sol. 9 \times 11, Base = 10
```

```
= 9 -1
\frac{11 + 1}{= 11 - 1/(-1) \times 1}
= 10/-1
= 9 + 1/-1
= 9/10 - 1
= 9/9
= 99
```

Hint:

- (i) Deviation = -1, +1
- (ii) Write 11 1 or 9 + 1 in left side.
- (iii) In right side, multiplication of deviations = -1 (one digit).

Mathematics (Class V)

Do	Youself

Example 4. Find : 8 × 13. [Ans. 104]

34

Example 5. Find 14×17 .	
Sol. 14×17 , Base = 10 = $14 + 4$ $\frac{17 + 7}{= 17 + 4/(+4) \times (+7)}$ = $21/28$ = $21/28$ = $23/8$ = $23/8$ = 238	 Hint : (i) Base = 10, Deviations = +4, +7 (ii) Write 14 + 7 or 17 + 4 in left side. (iii) As one zero in base 10, so more tens digit to one left side. (iv) Write 21 + 2 = 23.

Do Yourself

Example 6. Find : 13×19. [Ans. 247]

Exercise 4.4

Find the following by using Nikhilam sutra.

1 . 12×9	2 . 15×12	3 . 13×17	4. 8×9
5 . 14×11	6 . 9×16	7. 12×13	<mark>8</mark> .13×10
9. 15 × 16	10 . 18 × 12		



- **1**. Find the value of 12×14 w.r.t. base 10 by using sutra Nikhilam.
- 2. Subtract the following by using ekadhikena purvena and Complementary digit. 805-608 = ?
- 3. Find the following by using ekanyunena purvena and Complementary digit : $$800\!-\!543$$
- 4. Find the deviation of the following number w.r.t. 10.

(i) 5 (ii) 8 (iii) 13

- **5**. Find the following complementary digit of the following digit : 3, 5, 9.
- 6. Find the value of 15×17 w.r.t. base 10 by using sutra Nikhilam.
- 7. Find the value of 11×16 w.r.t. base 10 by using sutra Nikhilam.

Practice Corner



Multiples and Factors

Let us Learn

Hey kids, in this chapter you will learn about (i) Multiples (ii) Factors

Multiples

Let there are two numbers A and B, then product of both is called multiple of A or multiple of B See the following example :

Example 1. Make a multiplication table for 2, 5 and 8. *Sol.*

Multiples of 2	Multiples of 5	Multiples of 8
1×2=2	$1 \times 5 = 5$	$1 \times 8 = 8$
$2 \times 2 = 4$	2×5=10	2×8=16
$3 \times 2 = 6$	3×5=15	$3 \times 8 = 24$
4 × 2 = 8	4×5 = 20	4 × 8 = 32
$5 \times 2 = 10$	5×5=25	$5 \times 8 = 40$
6 × 2 = 12	$6 \times 5 = 30$	$6 \times 8 = 48$
		•••••

Do Yourself

Example 2.	Make a multip	plication table for the fo	llowing numbers.
(i) 7	(ii) 13	(iii) 16	(iv) 18

From the multiplication we can say "Every multiple of a number is completely divisible by that number."

10

Properties of Multiples

- 1. Every number is a multiple of 1.
- 2. Every number is a multiple of itself.
- 3. Zero is a multiple of every number (except zero).
- 4. Every multiple of a number is greater than or equal to the number itself.
- 5. There are infinite multiples for every number. That is there is no end to the multiples of any particular number.

Example 3. Find the first five multiples of 12.

Sol.To find the multiples of 12, we multiply it with 1, 2, 3, 4 and 5. $12 \times 1 = 12;$ $12 \times 2 = 24;$ $12 \times 3 = 36;$ $12 \times 4 = 48;$ $12 \times 5 = 60$ Thus, the first five multiples of 12 are 12, 24, 36, 48 and 60.

Do Yourself

Example 4. Find the first five multiples of 3 and 6.

Exam	ple 5. Check whether 4222 is a multiple of 36 or not.	117
Sol.	If 4222 is exactly divisible by 36, then it is a multiple of 4222 otherwise not.	36) 4222
	Since, 4222 is not divisible by 36 exactly.	-36
	Therefore, 4222 is not a multiple of 36.	62
	-	-36
		262
		252

Do Yourself

Example 6. Check whether 2632 is a multiple of 28 or not.

Common Multiples

Example 7. See the following number chart. Draw \Box on multiples of 3 and \bigcirc on multiples of 4.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
Multiples and Factors

Answer the following questions based on chart given below:

- (i) Which is the smallest multiple of 3?
- (ii) Which is the smallest multiple of 4?
- (iii) Write three numbers which are multiple of both 3 and 4?
- (iv) Which number is the smallest same multiple of 3 and 4?
- (v) Which is the largest same multiple of 3 and 4?
- (vi) Which is the first multiple of 3 and 4 greater than 100?
- (vii) Write the smallest number in chart which is multiple of at least two number and write these numbers also, which is multiple.

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(viii) Which number is the smallest multiple of 5 and 8.

Sol.

1	2	3	4	5	6	7	8	9	10
11	(12)	13	14	15	(16)	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	5 [36] 37 38 39		(40)		
41	42	43	(44)	45	46	47	(48)	49	50
51	(52)	53	54	55	(56)	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	(72)	73	74	75	(76)	77	78	79	80
81	82	83	84)	85	86	87	88	89	90
91	92	93	94	95	96)	97	98	99	(100)

- (i) 3, (ii) 4, (iii) 12, 24, 36, (iv) 12, (v) 96
- (vi) Numbers greater than 100 are not included in the chart.
- (vii) 2 is the multiple of 1 and 2.
- (viii) The smallest multiple of 5 and 8 = 40.

Do Yourself

Example 8. See the following number chart. Draw \Box on multiples of 4 and \bigcirc on multiples of 6.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Answer the following questions based on chart given below :

- (i) Which is the smallest multiple of 4?
- (ii) Which is the smallest multiple of 6?
- (iii) Write three numbers which are multiple of both 4 and 6?
- (iv) Which number is the smallest same multiple of 4 and 6?
- (v) Which is the largest same multiple of 4 and 6?
- (vi) Which is the first multiple of 3 and 6 greater than 100?
- (vii) Write the smallest number in chart which is multiple of at least two number and write these numbers also, which is multiple.
- (viii) Which number is the smallest multiple of 4 and 7.

Example 9. Write first three common multiples of 5 and 2.

Sol. Multiples of 5 = 5, 10, 15, 20, 25, 30, 35, 40

Multiples of 2 = 2, 4, 8, 10, 12, 14, 16, 20, 22, 24, 26, 28, 30, 32, Common multiples of 5 and 2 = 10, 20, 30

Do Yourself

Example 10. Write first four common multiples of 3 and 4. [Ans. 24, 36, 48]

Example 11. Write two common multiples of 8, 6 and 4, also write the smallest common multiple.

Sol. Multiples of 8 : 8, 16, 24, 32, 40, 48, 56,...
Multiples of 6 : 6, 12, 18, 24, 30, 36, 42, 48, 54,...
Multiples of 4 : 4, 8, 16, 20, 24, 28, 32, 36, 40, 44, 48, 52, ...
Common multiples of 8, 6 and 4 = 24, 48, ...
Smallest common multiple of 8, 6 and 4 = 24.

Do Yourself

Example 12. Write three common multiples of 9, 6 and 3, also write the smallest common multiple.

[**Ans.** 18, 36, 54; 18]

Exercise 5.1

- Write first four multiples of the following :

 (i) 4
 (ii) 7
 (iii) 14
 (iv) 19

 Encircle on the multiples of given numbers.

 (i) 3 5, 9, 3, 13, 18
 (ii) 5 45, 11, 10, 22, 55
- (iii) 12 12, 36, 32, 48, 18 (iv) 15 25, 35, 15, 40, 45

- 3. Encircle on the multiples of both 3 and 4 in the following : 6, 12, 15, 18, 24, 30.
- 4. Write the multiples of 7 between 10 and 30.
- 5. Write the multiples of 4 greater than 25.
- 6. Write the smallest multiple of 2 and 5.
- 7. Write the smallest multiple of 8 and 12.
- 8. Write the smallest multiple of 6, 9 and 15.
- 9. Write five multiples of 3 which is greater than 20.
- **10**. Find out the common multiples of 5 and 6. Write the smallest multiple.
- **11**. Find the four multiples of the following :
 - (i) 6, (ii) 8, (iii) 15, (iv) 19
- 12. Write 18 multiples of 9 and 6 and also write common multiples.

Factors

A factor is a number which divides the number completely and leaving no remainder behind itself.

e.g., $3 \times 4 = 12.3$ and 4 are factors of 12

Do You Know ? 1 is a factor of every number.

Every number except 1 is a factor of itself. Thus, every number have atleast two factors, 1 and the number itself. *i.e.*, the factors of 8 are 1, 2, 4 and 8.

Interesting Fact A number has limited number of factors but unlimited number of multiples.

Properties of Factors

- 1. 1 is a factor of every number. In fact 1 is the smallest factor of any number.
- 2. A number (except zero) is a factor of itself. In fact the number is the greatest factor itself.
- 3. Every non-zero number is a factor of 0.
- 4. A factor of a number is less than or equal to the number.
- 5. Every number (except 1) has at least two factors. That is 1 and the number itself.

Example 1. Find all the factors of 12.

Sol. We know that

 $1 \times 12 = 12$ $2 \times 6 = 12$ or $6 \times 2 = 12$ $3 \times 4 = 12$ $4 \times 3 = 12$

Hence, 1, 2, 3, 4, 6 and 12 are the factors of 12.

Do Yourself

Example 2. Write all the factors of 8 and 15.

Example 3. Write all the factors of 18 and 24. Is there any number which is factor of both 18 and 24.

Sol. Factors of 18 = 1, 2, 3, 6, 9, 18

Factors of 24 = 1, 2, 3, 4, 6, 8, 12, 24

Yes, there are 4 numbers, which are factors for both 18 and 24. These factors are called common factors.

Do Yourself

Example 4. Write all the factors of 24 and 32. Write all the common factors of both.

Example 5. Find out all factors of 9 and 27. Write their common factors. Identify the largest common factor.

Sol.

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Do Yourself

Example 6. Find out all factor of 4 and 36, write their common factors. identify the largest common factor.

Example 7. Find the largest number by which 20, 40 and 60 are completely divisible.

Sol. Factors of 20 = 1, 2, 4, 5, 10, 20Factors of 40 = 1, 2, 4, 5, 8, 10, 20, 40Factors of 60 = 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60So, common factors = 1, 2, 4, 5, 10, 20

Hence, the required number is 20.

Do Yourself

Example 8. Find the largest number by which 36, 48 and 56 are completely divisible.
[Ans. 4]

Exercise 5.2

1 . Find the facto	ors of the following :	
(i) 7	(ii) 9	(iii) 16
(iv) 25	(v) 48	(vi) 63

Practice Corner

- 2. Find the common factors of the following :
- (i) 8 and 12 (ii) 10 and 20
- (iii) 7 and 16 (iv) 18 and 32
- 3. Find the largest factor of 21 and 28.
- 4. Find the largest number by which 45 and 75 are divisible completely.
- 5. Find the largest factor of 12, 18 and 24.
- 6. Find the largest common factor of 15, 27 and 36.
- 7. Two cans of milk contain 20 and 30 litre milk respectively. What is the measure of the largest utensils so that which can measure both cans completely.
- 8. Find the largest common factor of the following :





- 1. Two cans of water contain 25 and 45 liter water respectively. What is the measure of the largest utensils so that which can measure both cans completely.
- 2. Find the largest common factor of 12, 18 and 24.
- 3. Find the largest number by which 30,50 and 70 are divisible completely.
- 4. Write the multiples of 5 between 10 and 30.
- 5. Write three multiples of 3 greater than 22.
- 6. Find the largest number by which 15, 45 and 60 are divisible completely.



Understanding Fractions

Let us Learn

Hey kids, in this chapter you will learn about

- (i) Fraction as a part of whole
- (ii) Fraction on number line

Fraction as a Part of Whole

Let us see,

Mohan and Sneha were eating food and they finish their chapati at same time, then their mother chapped the chapati from the middle and gave one part to Mohan and other part to Sneha.

Now you tell what was the distribution of chapati between Mohan and Sneha.



Understanding Fractions

Similarly, if a chapati is distributed between 3 person, then



Now see, the following table,

Number of person in which chapati to be distributed	Part of whole give to each person
2 Persons	$ \left(\begin{array}{ccc} \frac{1}{2} & \frac{1}{2} \\ \end{array}\right) $
3 Persons	$ \begin{array}{c c} 1 \\ 3 \\ 1 \\ 3 \\ 3 \end{array} $
4 Persons	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$
5 Persons	$ \begin{array}{c} \frac{1}{5} \\ \frac{1}{5} $



From the above table, we conclude that number of persons in which a whole is to be distributed are equal to number of parts of whole.

Hence, each person gets equal part of whole.



NOTE A line (–) has been drawn to write simple fraction. The total number of parts have been written below the line and the parts under consideration have been written above the line.

Naming of Fraction

A fraction is always written with one number on top of a line and another number underneath that line. The numerator of a fraction is the top number. It is the "part" of the "whole" that we are talking about.

For example : In the fraction $\frac{1}{4}$, 1 is the numerator. The fraction indicates on part of a whole that has four

part.

$$\frac{1}{4} \rightarrow \text{Numerator}$$

The denominator is the bottom number of the fraction and represents te "whole". It is the number of parts the whole is divided into. To remember the denominator think "down"-ominator.

For example, in the fraction $\frac{1}{4}$, 4 is the denominator. This whole has been divided into four equal parts.

$$\frac{1}{4} \rightarrow \text{Dinominator}$$

 $\frac{3}{10}, \frac{5}{7}, \frac{6}{19}, \dots$

If Numerator < Denominator,

Then fraction is known as proper fraction.

For example-

If Numerator > Denominator,

The fraction is known as improper fraction.

For example- $\frac{12}{7}, \frac{9}{4}, \frac{15}{6}, \dots$

If fraction is added to a whole number, then this simplified fraction is known as mixed fraction.

1 +	- 1	$= \frac{5}{2}$	or	1^{-1}_{-}
4	Whole	4		4
Proper	number	Improper		Mixed
fraction		fraction		fraction

Mixed Fractions

(Also called "Mixed Numbers")

A Mixed Fraction is a whole number and a proper fraction combined.

Such as $1\frac{3}{4}$



(One and three quarters, 1³⁄₄)



Examples

$$2\frac{3}{8}$$
 , $7\frac{1}{4}$, $1\frac{14}{15}$, $21\frac{4}{5}$

See how each example is made up of a whole number **and** a proper fraction together? That is why it is called a "mixed" fraction (or mixed number).

Names

We can give names to every part of a mixed fraction :

Whole number
$$\rightarrow 2 \stackrel{1}{\overbrace{3}} \stackrel{\bullet}{\longleftarrow} Denominator$$

Three Types of Fractions

There are three types of fraction:

$$\underbrace{3}_{5 \leftarrow \text{Smaller}}^{\text{Smaller}}; \underbrace{9}_{5 \leftarrow \text{Smaller}}^{\text{Larger}}; 2 \underbrace{\frac{1}{3}}_{3 \text{ fraction}}^{\text{Mixed}}$$

Mixed Fractions or Improper Fractions

You can use either an improper fraction or a mixed fraction to show the same amount.

For example :
$$1\frac{3}{4} = \frac{7}{4}$$
, as shown here:

Example 1. (i) A chapati is distributed equally among five children. State the share of each children.

(ii) Four chapaties are distributed equally among three children. State the share of each children.

Sol. (i)



Each will get $\frac{1}{5}$ chapati.



Fraction on Number Line

Once, Ruby and Chetan was discussing about the position of a fractional number on number line.

Chetan–Where will be $1 + \frac{1}{2}$ situated on the number line?

Ruby–The number $1 + \frac{1}{2}$ is such that $1 < \left(1 + \frac{1}{2}\right) < 2$, hence, it will lie between 1 and 2 on number line.

Chetan–Can you show me this on number line? Ruby–Yes, sure.

In $1 + \frac{1}{2}$, 1 is complete or whole number. So, 1 will lie on *A*, and $\frac{1}{2}$ after *A* is the mid point between *A* and *B*, so $1 + \frac{1}{2}$ will lie in between *A* and *B*, showing in figure given below.

Representation of Fractions on a Number Line

In representations of fractions on a number line we can show fractions on a number line. In order to represents $\frac{1}{2}$ on the number line, draw the number line and mark a point A to represent 1.

Step 1: Divide the gap between *O* and *A* into two equal parts. Let *T* be the point of division. Then, point *T* represents $\frac{1}{2}$.



Step 2: To represent $\frac{1}{3}$ on a number line, we divide the gap between *O* and *A* into 3 equal parts. Let *T* and *Q* be the points of division. Then, *T* represents $\frac{1}{3}$ and *Q* represents $\frac{2}{3}$,

Step 3: By using the same procedure, point O represents $\frac{0}{3}$ and point A represents $\frac{3}{3}$.

Step 4: In order to represent $\frac{3}{5}$ on a number line, we divide the gap between 0 and 1 into 5 equal parts and take first 3 parts from 0 as shown below.

Fraction $\frac{3}{5}$ on a Number Line.



Equivalent Fractions Number Line

Example 3. Show the position of $5 + \frac{1}{4}$ on number line.

Sol.



Do Yourself

Example 4. Show the position of $4 + \frac{1}{3}$ on number line.

Decimal Numbers

Thousands	Hundreds	Tens	Ones
(1000)	(100)	(10)	(1)

The table given above signifies that the value increase 10 times as we move one step left from right and the value reduces to 1/10 times as we move a step right from left. Accordingly we can understand :

- 1. Hundreds is one tenth parts of thousands. It comes next right to thousands.
- 2. Tens is one tenth part of hundreds. It comes next right to hundred.
- 3. Ones is one tenth part of tens. It comes is next right to tens.

Thus, the place value of one tenth of it is immediately right to it. The above table can be extended as :

Thousands	Hundreds	Tens	One tenth	One hundredth	One thousandth
1000	100	10	1 10	1 100	1 1000

It is clear from the above table that :

One tenth part of unit (ones) is placed on the immediate right of ones and it is called tenths which is $\left(\frac{1}{10}\right)$ part

of unit.

- 1. One tenth part of tenths is placed on the immediate right of tenth and it is called hundredths which is $\left(\frac{1}{100}\right)$ part of ones (unit).
- 2. One tenth part of hundredths is placed on the immediate right of hundredths and it is called thousandth which is $\left(\frac{1}{1000}\right)$ part of ones (unit).

In the initial numbers, to show the tenth place which comes immediately right to the unit place, a point (.) is put between the unit place and the tenth place which is called the decimal point.

Thousands	Hundreds	Tens	Ones	Decimal	(Tenths)	(Hundredths)	(Thousandths)
2	4	3	1	-	4	4	6
	5	2	2	-	4	5	2
		3	4	-	7	7	3
			5	-	1	5	6
				-	0	2	5

The digits after the decimal point are read separately one by one. For example :

1. 2431.446 is read as two thousand four hundred thirty one point four four six.

- 2. 522.452 is read as five hundred twenty two point four five two.
- 3. 34.773 is read as thirty four point seven seven three.

- 4. 5.156 is read as five point one five six.
- 5. 0.025 is read as zero point zero two five.

Conversion of Fraction to Decimal Value

$$\frac{5}{10}$$
, $\frac{7}{10}$, $\frac{12}{10}$, $\frac{68}{10}$, $\frac{125}{10}$

The denominator of all the above given fractions is 10, *i.e.*, all the factors have tenth value. In a decimal number the place of tenth is immediately right of the decimal point. On this basis the above given factors can be expressed in decimal numbers as follows :

1.
$$\frac{5}{10} = 0.5$$

2. $\frac{7}{10} = 0.7$
3. $\frac{12}{10} = 1\frac{2}{10} = 1 + \frac{2}{10} = 1.2$
4. $\frac{68}{10} = 6\frac{8}{10} = 6 + \frac{8}{10} = 6.8$
5. $\frac{125}{10} = 12\frac{5}{10} = 12 + \frac{5}{10} = 12.5$

The above given examples show, "Every fraction with the denominator 10 can be changed in decimal number by putting the decimal point after leaving one digit from the right in the numerator." Some more examples are given below :

Examples :

1.
$$\frac{4}{10} = 0.4$$
 2. $\frac{73}{10} = 7.3$ 3. $\frac{834}{10} = 82.4$ 4. $\frac{2358}{10} = 235.8$

Similarly "every fraction with 100 as denominator can be changed in decimal number by placing a decimal point after leaving two digits from the right of the numerator."

Examples :

$$1.\frac{38}{100} = 0.38 \qquad 2.\frac{158}{100} = 1.58 \qquad 3.\frac{3428}{100} = 34.28 \qquad 4.\frac{5}{100} = 0.05$$

Likewise "a fraction with denominator 1000 can be converted to a decimal value by placing a decimal point leaving three digits from the right of the numerator".

1.
$$\frac{1245}{1000} = 1.245$$
 2. $\frac{328}{1000} = 0.328$ 3. $\frac{66}{1000} = 0.066$ 4. $\frac{8}{1000} = 0.008$

Above examples clarify that while changing the fractions into decimal numbers with denominators 100 and 1000, put as many zeros which are less while counting the digits from the right of the numerator to put a decimal point."

Let's change the following fractions into decimal numbers :
$$\frac{4}{5}$$
, $\frac{6}{2}$, $\frac{3}{4}$, $\frac{15}{25}$, $\frac{25}{8}$, $\frac{52}{20}$

If the denominators of the fractions are 2, 5 or their multiples, then they can be easily converted to equivalent fractions with denominator 10,100 or 1000. Then these fractions can be converted to decimal numbers by the above mentioned methods.

Examples : 1.
$$\frac{4}{5} = \frac{4 \times 2}{5 \times 2} = \frac{8}{10} = 0.8$$
 2. $\frac{6}{2} = \frac{6 \times 5}{2 \times 5} = \frac{30}{10} = 3.0$ 3. $\frac{3}{4} = \frac{3 \times 25}{4 \times 25} = \frac{75}{100} = 0.75$
4. $\frac{15}{25} = \frac{15 \times 4}{25 \times 4} = \frac{60}{100} = 0.60$ 5. $\frac{25}{8} = \frac{25 \times 125}{8 \times 125} = \frac{3125}{1000} = 3.125$ 6. $\frac{52}{20} = \frac{52 \times 5}{20 \times 5} = \frac{260}{100} = 2.60$

Conversion of Decimal Numbers into Fractions

To convert a decimal number into a fraction we count the number of digits at the tenth, hundredth, or the thousandth place after decimal point and accordingly put the 10,100 or 1000 respectively in the denominator and remove the decimal point.

Examples :

(1)
$$2.5 = \frac{25}{10}$$
 (2) $12.3 = \frac{123}{10}$ (3) $6.68 = \frac{668}{100}$ (4) $14.81 = \frac{668}{100}$ (5) $2.565 = \frac{2565}{1000}$ (6) $0.025 = \frac{25}{1000}$

Exercise 6

1. See the following distributions and state the relation between both with the help of symbols >, <, =.

(i)
$$\frac{1}{4} \Box \frac{3}{4}$$
 (ii) $\frac{1}{2} \Box \frac{1}{2}$ (iii) $\frac{1}{3} \Box \frac{1}{2}$ (iv) $\frac{1}{4} \Box \frac{2}{3}$

2. Write the following fractions in the form of distribution.

(i)
$$\frac{1}{5}$$
 (ii) $\frac{13}{6}$ (iii) $\frac{3}{2}$ (iv) $\frac{7}{4}$

- **3**. Write the following in words.
 - (i) $\frac{3}{4}$ (ii) $1\frac{2}{5}$ (iii) $2\frac{3}{5}$

4. Shade $\frac{1}{2}$ portion of the following figures



5. Shade $\frac{1}{4}$ portion of the following figures



6. Look at the shaded part of each picture. Write in number and word how much a shaded part is?



7. Show the following fractions on number line.

(i) $4\frac{1}{2}$ (ii) $3\frac{3}{4}$ (iii) $\frac{2}{3}$

8. Fill number as fraction inside the balloon.



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Practice Corner

Understanding Fractions



11. Shade $\frac{1}{3}$ portion of the following figures :



12. Look at the shaded part of following picture given below. Write in number and word how much a shaded part is?



Equivalent Fractions



Hey kids, in this chapter you will learn about

- (i) Comparing fractions
- (ii) Concept of equivalent fractions
- (iii) Comparing fractions with equivalent fractions

Comparing Fraction

See the following figures, in which shading part of each figure, we have to compare,



Do Yourself

Example 2. Compare the fractions : $\frac{4}{9}$ and $\frac{7}{9}$, give figure in favour of your answer.

Concept of Equivalent Fractions

Equivalent fractions are those fractions which are equal to each other, when simplified. Now, we will understand this concept with the help of figures, as follows :



Mathematics (Class V)

divide by 3 4

divide by 2

Recognising Equivalent Fractions

We can recognise equivalent fractions by divide the same number to the numerator and denominator as follows.

Example 5. Show that the following fractions are equivalent fraction.

 $\frac{1}{2}, \frac{2}{4}, \frac{3}{6}, \frac{4}{8}, \frac{5}{10}, \frac{10}{20}$ divide by 2.30 $\frac{1\times 2}{2\times 2} = \frac{2}{4}$ $\frac{1\times 3}{2\times 3} = \frac{3}{6}$ $\frac{1\times 4}{2\times 4} = \frac{4}{8}$ Sol. divide by 3 $\frac{1\times5}{2\times5} = \frac{5}{10} \quad \frac{1\times10}{2\times10} = \frac{10}{20} \qquad \qquad \therefore \qquad \frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8} = \frac{5}{10} = \frac{10}{20}$ **Do Yourself Example 6.** Fill in the blanks. $\frac{1}{2} = \frac{2}{6} \qquad \frac{2}{3} = \frac{2}{6} \qquad \frac{3}{4} = \frac{3}{8} \qquad \frac{1}{5} = \frac{1}{10} \qquad \frac{4}{10} = \frac{2}{5} \qquad \frac{2}{4} = \frac{1}{12}$ **Example 7.** $\frac{1}{2}$ and $\frac{3}{4}$ are equivalent fractions or not? Here, in $\frac{1}{2}$ and $\frac{3}{4}$ $\frac{1}{2}$ <u>3</u> Sol. 4 $\frac{1}{2} \quad \frac{3}{4} \rightarrow \begin{array}{c} 2 \times 3 = 6 \\ 1 \times 4 = 4 \end{array}$ $1 \times 4 \neq 2 \times 3$

Hence, $\frac{1}{2}$ and $\frac{3}{4}$ are not equivalent fractions.

Do Yourself

Example 8. Check whether $\frac{1}{3}$ and $\frac{2}{6}$ are equivalent fractions or not.

Formation of Equivalent Fractions

To form equivalent fractions, we have to multiply or divide to numerator and denominator by the same number.

Example 9. Form the equivalent fractions of $\frac{1}{2}$ using multiplication operation.

Sol. Equivalent fractions of $\frac{1}{2}$: $\frac{1}{2} = \frac{1 \times 2}{2 \times 2} = \frac{2}{4}$ $\frac{1}{2} = \frac{1 \times 3}{2 \times 3} = \frac{3}{6}$; $\frac{1}{2} = \frac{1 \times 4}{2 \times 4} = \frac{4}{8}$ $\frac{1}{2} = \frac{1 \times 5}{2 \times 5} = \frac{5}{10}$ $\frac{2}{4}, \frac{3}{6}, \frac{4}{8}, \frac{5}{10}$ etc. are equivalent fractions of $\frac{1}{2}$.





1/2 = 2/4

Mathematics (Class V)

Do Yourself

Example 16. Shade the given figure as that can show the fraction given below each figure.



Exercise 7

- 1. Find the equivalent fractions of the following by multiplying 2 to numerator and denominator:
 - (i) $\frac{1}{2}$ (ii) $\frac{2}{3}$ (iii) $\frac{1}{5}$ (iv) $\frac{2}{5}$ (v) $\frac{2}{7}$
- 2. Write the answer by identifying whether each fractions below equivalent or not.

(a)
$$\frac{3}{4}$$
, $\frac{6}{8}$ (b) $\frac{4}{6}$, $\frac{1}{3}$ (c) $\frac{3}{6}$, $\frac{4}{8}$ (d) $\frac{1}{7}$, $\frac{2}{14}$ (e) $\frac{3}{6}$, $\frac{6}{12}$ (f) $\frac{2}{3}$, $\frac{3}{6}$

3. Find the equivalent fractions of the following by multiplying 3 to numerator and denomi- nator:

(i)
$$\frac{1}{4}$$
 (ii) $\frac{3}{5}$ (iii) $\frac{2}{5}$ (iv) $\frac{2}{7}$ (v) $\frac{1}{6}$

- **4.** Find the equivalent fractions of the following by multiplying 2, 3 and 4 to numerator and denominator:
 - (i) $\frac{1}{4}$ (ii) $\frac{2}{3}$ (iii) $\frac{2}{5}$ (iv) $\frac{3}{4}$
- 5. Write equivalent fractions of the following: $\frac{1}{3}$ and $\frac{2}{3}$.
- **6**. Show the given fractions by shading the figures.



(i) $\frac{1\times3}{3\times3} = \frac{\Box}{9}$ (ii) $\frac{2}{5} = \frac{\Box}{15}$ (iii) $\frac{5}{\Box} = \frac{15}{9}$ (iv) $\frac{3}{4} = \frac{18}{\Box}$ (v) $\frac{14\div7}{21\div7} = \frac{\Box}{3}$ (vi) $\frac{12\div4}{16\div4} = \frac{3}{\Box}$

8. Find out 4 equivalent fractions of each of the following fractions:

(a)
$$\frac{2}{3}$$
 (b) $\frac{3}{4}$ (c) $\frac{3}{5}$ (d) $\frac{5}{6}$ (e) $\frac{2}{7}$

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Practice Corner

Equivalent Fractions

9. Give such examples in which $\frac{1}{4}$ part obtained by distributing equally:

$$\frac{1}{4} = \frac{2}{8} = \frac{3}{12} = \dots$$

- 10. Write any four equivalent fractions of $\frac{1}{5}$.
- **11.** Kumkum bought a ribbon of 6 m length from the market. She want to distribute it among her four friends, then find how long ribbon will each of her friend get?
- 12. Saraswati needs $1\frac{1}{4}$ m cloth to make a shirt. Find the length of cloth to make 2 such shirts.

- **1.** Write three equivalent fractions each of the following : $\frac{2}{3}$, $\frac{1}{7}$.
- 2. Multiplying by 3, form the equivalent fractions and fill in the blanks

(i) $\frac{1}{4} = \dots$	(ii) $\frac{3}{5} = \dots$	(iii) $\frac{2}{5} = \dots$
(iv) $\frac{2}{7} = \dots$	(v) $\frac{1}{6} = \dots$	

3. Fill in the blanks.

(i) $\frac{1 \times 3}{3 \times 3} = \frac{\Box}{9}$	(ii) $\frac{2}{5} = \frac{\Box}{15}$	(iii) $\frac{5}{\Box} = \frac{15}{9}$	(iv) $\frac{3}{4} = \frac{18}{\Box}$
$(v) \frac{14 \div 7}{21 \div 7} = \frac{\Box}{3}$	(vi) $\frac{12 \div 4}{16 \div 4} = \frac{3}{\Box}$		

4. Find three equivalent fractions of the following : (i) $\frac{1}{4}$ (ii) $\frac{2}{3}$.



Pattern



Let us Learn

Hey kids, in this chapter you will learn about

- (i) Pictorial Patterns
- (ii) Number Patterns

A pattern constitutes a set of numbers or objects in which all the members are related with each other by a specific rule. Pattern is also known as sequence. There can be finite or infinite number of members in a pattern.

Example : The adjoining pattern contains 2 identical group with each group having 3 different images, a star followed by a bar, $\begin{bmatrix} & & & \\$

Example Find the next three terms of the following pattern, 81, 79, 77,

Sol. Step 1: The rule for the pattern is to count down by 2 repeatedly and continue the sequence to find the next 3 terms.Step 2: So, the next three terms in the sequence are 75, 73 and 71.

Pictorial Pattern

Example 1. Complete the following pattern and make an other pattern using these shapes.

Sol. Complete pattern is as follow :

Other pattern is as follow. We can make other patterns also.



Example 2. Complete the following pattern and maker an other pattern using these shapes.

Pattern

		$\land > \lor <$
		S co S
		$ \uparrow \rightarrow \downarrow \leftarrow $
Sol.	Pattern rotates 90° clockwise.	
		$\square \square $
	Pattern rotates 90° clockwise.	
	Pattern rotates 90° clockwise.	
	D	
	rattern rotates 90° clockwise.	$\infty \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$
	Pattern rotates 90° clockwise.	
		$\uparrow \rightarrow \downarrow \leftarrow \uparrow \rightarrow \downarrow \leftarrow \uparrow \rightarrow$
		De Veurgelf
		Do I oarsell

Example 3. Complete the table by generalising the pattern.

Example 4. Generalising the following pattern.



Number Patterns

Example 5. Write appropriate number in the blank boxes of the following number pattern.



Sol.



Example 6. Find the next two term of 3, 5, 7, 9.

Mathematics (Class V)

	2	5	8	11									
	145	125	105										
	2	4	8	16									
	7	14	21	28									
Add 3 to previous pattern,													
	2	5	5	8	1	1	14	-	17	20	23	26	29
Subtract 2	0 from	the pr	reviou	s numt	oer.			_					
	145	12	25	105	8	5	65	4	15	25	5	-15	-35
Twice the	previou	is num	ıber.										
	2	2	1	8	1	6	32		64	128	256	512	1024
Add 7 to p	reviou	s num	ber.										
	7	1	4	21	2	8	35	2	12	49	56	63	70

Example 7. Identify and generalise the number pattern.

Do Yourself

Example 8. Complete the table by understanding it and generalise the pattern.

3	9	12				
6			30	36		
15	25		35			

Example 9. Generalise the following pattern.

1×1=1 11×11=121 111×111=12321 1111×1111=..... 11111×11111=.... 11111×11111=.... 111111×111111=....

Sol. Product is repeatition of digits in increasing order upto same number of digits as in Ist number then in decreasing order. For example,

$$\underbrace{111}_{3 \text{ digit}} \times 111 = \underbrace{123}_{3 \text{ digit}} \underbrace{21}_{3 \text{ digit}} \underbrace{\text{Reverse}}_{\text{order}}$$

$$1111 \times 1111 = 1234321$$

$$11111 \times 11111 = 123454321$$

$$111111 \times 111111 = 12345654321$$

$$1111111 \times 1111111 = 1234567654321$$

Do Yourself

Example 10. Study the pattern given below and generalise it. Also write the next three steps of the pattern.

 $1 \times 9 + 2 = 11$ $12 \times 9 + 3 = 111$ $123 \times 9 + 4 = 1111$ $1234 \times 9 + 5 = 11111$

Number Game (Think and Play Yourself)

- 1. Think a number, then
- 2. Add 5 to this number, then
- 3. Multiply by 2 then
- 4. Subtract 10 from it, then
- 5. Divide it by 2, then

Find the obtained number.



Sol.

Pattern



Example 11. Observe the pattern and generalise it to complete the boxes.





Sol.
$$5+8=13$$
, $8+7=15$, $7+6=13$,
 $13 \times 15 = 28$, $15+13 = 28$
 $28 \times 28 = 56$
 58
 76

Do Yourself





[Ans. 105]

Patterns on a Calendar

November 2017						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

We can find a lot of patterns on a calendar.

Rena, Sonu, Ajay, Karuna and Sanjay discussing on patterns on a calendar. Their discussion is as follow.



Reena : [The dark-gray box] I noticed that the sum of any two adjacent dates is always odd (19 + 26 = 45).



Sonu : [The three-box light-gray rectangle] I noticed that the sum of any three dates in a row is always even (29 + 30 + 31 = 90).

Pattern



Practice Corner

Ajay: [The L shape] I noticed that the sum of the 4 dates in an L shape is 48 (6+13+14+15=48). The sum is 8 times as large as the smallest date in the shape $(8 \times 6 = 48)$.



Karuna : [The stripped boxes] I noticed that the products of the diagonals of any 2×2 square are always 7 apart ($3 \times 11 = 33$, 4×10 and 40 - 33 = 7).



Sanjay : [The diagonal stair steps] I noticed that the sum of three dates in a diagonal is a multiple of $3(1+9+17=27=3\times 9)$.

Do and Learn

See the following calendar of Dec. 2015 and answer the following questions.

Sun.	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.
		1	2	3	4	5
6.	77	.8	9	10	11	12
13 ``	``. 1 <u>4</u>	15	16	17	18	19
20	21``\.	22	23	24	25	26
27	2'8	29	<u>30</u>	31		

- 1. Which pattern can be seen in the block in calendar ?
- 2. Generalise the pattern 2, 9, 16, 16, 23, 30,
- 3. Add the numbers written in squared block in all possible patterns.
- 4. Write the sum of all 9 numbers in the block. Is it equal to 9×14 ?
- 5. Identify the patterns in squared block and generalise these.
- 6. Make a block of 4×4 in calendar. Now identify and generalise the pattern.

Exercise 8

1. Observe and generalise the pattern.



- 2. Observe and generalise the pattern.
 - (i) 7, 12, 17, 22,
 - (ii) 10, 20, 30, 40,
- (iii) 29, 24, 19, 14,

3. Identify the pattern and complete the block.



4. Complete the next block in same pattern.



5. Fill the blank box using approximate number.



6. What will be come in the missing character.



- 7. By observing the given patterns, write the next three patterns.
 - 9+7=1616+9=2525+11=36

Pattern



1. Observe and generalise the following pattern.



- 2. Observe and generalise the following number pattern upto two terms.
 (i) 6, 10, 14, 18,, (ii) 35, 29, 23, 17,,
- 3. Observe and generalise the following pattern.



- 4. Generalise the following number pattern upto two terms.
 (i) 15, 12, 9, 6,, (ii) 7, 9, 11, 13,
- 5. Observe and generalise the figure-pattern.



6. Fill in the blanks.

 $1+3 = 4 = 2 \times 2$ $1+3+5 = 9 = 3 \times 3$ $1+3+5+7 = 16 = 4 \times 4$ $1+3+5+7+9 = \Box = 5 \times 5$...+..+..+..+..= \\Box = ... \times ...

7. Observe and generalise the pattern



8. Fill in the blanks

(i) 7, 12, 17, 22,, (ii) 10, 20, 30, 40,,

9. Observe and generalise the pattern.



10. Observe and generalise the pattern using suitable numbers.







Hey kids, in this chapter you will learn about

- (i) Use of tally marks to prepare a table of collected data
- (ii) Representation of data by bar graph.
- (iii) Representation of data by picto graph.

Data is a collection of information in the form of numerical figures.

Tabular Form of Data

Fruits are given to the students every monday in a school. Teacher wants to known the choices of students of class 5.

Teacher make a table for the number of students with their choices, which is as follow:

Fruit	Mark	Number of students who like this fruit
Banana	~~~~	10
Guava	~~~~~~~~~~~~~	5
Sapodilla	$\checkmark\checkmark\checkmark$	3
Orange	~~~	8

See the following questions and their answer.

- **1**. State the total number of students, whose choice is noted to the teacher. **Sol.** 10+5+3+8=26
- Which fruits is liked mostly by the students?
 Sol. Banana
- 3. Which fruit is liked least by the students? **Sol.** Sapodilla

Data

Fruit	Tally Mark	Number of students who liked this fruit
Banana	W W	10
Guava	Ш	5
Sapodilla		3
Orange		8

Now, we will learn to make a table using tally mark.

Activity

Do the same as above for the choices of games of your classmates.

Example 1. Neha and Ashu want to know number of vechicles passing through their house between 5 to 6 pm.

There may have a ta	bla far tha mumb	or of workiglog	gounted by them
τηρν πακρ ατα	DIP IOF INP NIIMO	PEOL VPCINCIPS	соптеа ву тет
incy mane a ra	Sic for the manne		counted by mem

Vehicle	Tally Mark	Number of Vehicles
Motor Cycle		14
Jeep	L II	7
Bus		3
Car		11

Answer the following questions :

- 1. Find the number of motor cycles passing through their house between 5 to 6 pm.
- 2. Due to this time, find the total number of vehicles, passed through their house.
- 3. Which vechicle passed least?

Sol. 1. 14, 2. 14 + 7 + 3 + 11 = 35

3. Bus

Do Yourself

Example 2. See the following pictorial data and answer the questions :

The number of animals of different types in a park is shown :

Animals	Pictorial Data
Elephant	AR AR AR AR
Tiger	And that that the the seast that the
Lion	al al al

1 symbol respresents 50 animals.

(i) Which animal is highest in number?

(ii) Which animal is least in number?

(iii) What is the number of elephants in the park?

[*Ans.* (i) Tiger, (ii) Lion, (iii) 4]

Activity

72

Make a table, that shows the number of members in the family of your friends. Use tally marks to show the same as follow in the table given below:

Member	Tally Mark	Number of friends
3 Members		
4 Members		
5 or more than 5 Members		

Also answer the following:

- 1. Find the number of friends in which there are only 3 members.
- 2. Find the number of friends in which there are 4 members.
- 3. Which category has the maximum tally marks ?
- 4. Find the number of friends in which there are 5 or more than 5 members.

Exercise 9.1

- 1. Which game is like most by all the studetns of your class. To know this make a tally mark table and find it.
- 2. How many siblings have each of the student of your class? To find this, fill the table given below by asking to your classmates.

Brother/Sister	Tally mark	Number
No any		
1 Brother/Sister		
2 Brothers/Sisters		
3 or more than 3		

Answer the following questions :

- (i) How many children does not have no any siblings?
- (ii) How many children does have only one siblings?
- (iii) Write the number of siblings, in front of them the largest tally marks are marked.
- (iv) How many children have 3 or more than 3 siblings?

Bar Graph

A bar graph is a pictorial representation of numerical data by drawing a number of bars (rectangles) of uniform width with equal spacing between them.

To draw a bar graph we draw two lines perpendicular to each other on a paper. The horizontal line is called X-axis and the vertical line is called Y-axis. The bars drawn on X-axis and Y-axis will represent the scale of height of the bars. The bars can be shaded, hatched or coloured.

Practice Corner
Data

Example 3. The table given below shows the number of students in 4 sections of class V. Draw a bar graph by selecting suitable scale.

Class V Ganga		Kaveri	Yamuna	Saraswati	
Number of Students	65	50	45	58	

Sol. First choose the scale i.e. 1 cm = 5 students.

Step 1: Draw 2 lines OX and OY, perpendicular to each other. (horizontal OX and vertical OY)

Step 2: On *Y* axis mark equal distance of 1 cm each as 5, 10, 15, 20 65.

Step 3: On X axis draw points for all sections at the distance of 2 cm each.

Step 4: Starting from section Ganga, draw a vertical block on X axis till 65 in the direction of Y axis. Then another block for section Kaveri till 50, section Yamuna till 45 and section Saraswati till 58.



Do Yourself

Example 4. The following table represents the number of toys sold by a shop in first six months.

Months	July	August	September	October	November
No. of toys	150	200	350	300	400

Draw the bar graph of the above data and answer the following.

(a) How many toys were produced in September?

(b) How many toys were produced in July?

(c) In which month maximum number of toys sold by the shop?

Activity

Draw a bar graph for the holidays from july to december of this year and answer the following:

- 1. In which month, there are maximum holidays?
- 2. In which month, there are minimum holidays?
- 3. In which month, there are more holidays: August or December?

Pictograph

To represent the data in a shorter and convenient way, we show them by picture.

To represent a data pictorially, we use a picture as a symbol. The symbol shows a certain number of any particular object.

Example 5. If there are 50 animals in a farmhouse, then let ✓ shows 10 animals. So, we will draw 5 symbols (✓) to show 50 animals.

50 Animals	~~~~
------------	------

Now see another example:

The marks obtained by a student in different subjects are given below:

Subject	Hindi	English	Maths	Science
Marks	50	60	90	80

See the pictorial representation:

Sol. Let \bigstar represent 10 marks

Subject	Marks obtained
Hindi	****
English	****
Maths	****
Science	****

Example 6. See the following pictograph and answer the questions given below:



(i) Which sport children like the most?

(ii) How many students play cricket?

(iii) Which game is not much popular in the school ?

(iv) How many more children play basketball than hockey?

Sol. (i) Cricket (ii) 60 Children (iii) Baseball (iv) 10

Do Yourself

Example 7. Study the given pictures in which number of trees in a garden are given and answer the questions.

Trees	Number of trees
Apple	
Mango	* * *
Guava	* * * * * * * * *
Orange	* * * * * *

- (i) Which trees are least in number?
- (ii) Which trees are highest in number?
- (iii) What is the number of apple trees in the garden?
- (iv) What is number of orange trees in the garden?
- (v) Write the number of Guava trees in the garden. (If one symbol represents 10 trees).

Example 8. The following pictograph shows the number of students using various modes of transportation for going to their schools.



If each picture represents 50 students using that mode, answer the questions given below:

- (i) How many students go to school on foot?
- (ii) How many students use school bus?
- (iii) How many students use cycles to go to their school?
- (iv) How many students are there in all in the school?
- (v) What mode is adopted by maximum number of students?

Sol. (i) 350 students, (ii) 150 students, (iv) 800 students, (v) On foot.

Do Yourself

(iii) 200 students,

Example 9. Given below is a pictograph showing boys of a class and months in which they born.

Months	Number of boys born 🕑 = 25 boys
January	
February	
March	
April	
Мау	

Now, answer the following questions:

(i) How many boys were born in April?

(ii) In which month were the maximum number of boys born?

(iii) In which month were the minimum number of boys born?

(iv) How many boys were born from January to May?

Activity

Collect the number of presents in class 5 of your school for a week. Represent this information with the help of a bar graph and pictograph.

Example 10. See the following attendance table of a school.



Answer the following question

- (i) Draw a table for number of students present in the class.
- (ii) In which class, maximum number of students are present?



33

13

Sol. (i) Required table is following

(ii) Class IV.

Do Yourself

Class

Class I

Class II

Class III

Class IV

Class V

Example 11. The number of student from Class-I to V is shown in the picture.

Class	Number of Students (� = 5 students)
I	~~~~~~~
Ш	*****

IV	****
V	* * * *

Now answer the given questions:

- (i) In which class the number of students is maximum?
- (ii) In which class the number of students is minimum?
- (iii) What are the number of students in class II?
- (iv) Which two classes have the equal number of students ?
- (v) What is the number of students in class V ?

Exercise 9.2

- 1. Make a bar chart, which shows the number of holidays coming in the months from July to December of this year. See the calender and make carefully. Answer the following questions :
 - (i) In which month, most holidays falls?
 - (ii) In which month, least holiday falls?
 - (iii) Out of August or December, which month have more holidays?

Triangular Numbers and Patterns



Pattern of Square Numbers

•	•••	• • • • • •		
1 ²	$2^2 = 4$	$3^2 = 9$	4 ² = 16	$5^2 = 25$

You can also practice to find patterns of numbers that make various shapes.

2. A group of women make papad at a particular place. Here a pictograph given below showing the number of papad made per day, which as follows:

Day	● = 10 Papad
Monday	$\textcircled{\belowdelta}{\belowdelta} \textcircled{\belowdelta}{\belowdelta} \textcircled{\belowdelta}{\belowdelta} \textcircled{\belowdelta}{\belowdelta} \textcircled{\belowdelta}{\belowdelta} \textcircled{\belowdelta}{\belowdelta} \textcircled{\belowdelta}{\belowdelta} \textcircled{\belowdelta}{\belowdelta} \textcircled{\belowdelta}{\belowdelta} \genfrac{\belowdelta}{\belowdelta} \genfrac{\belowdelta}{\belowdelta} \genfrac{\belowdelta}{\belowdelta} \genfrac{\belowdelta}{\belowdelta} \genfrac{\belowdelta}{\belowdelta} \genfrac{\belowdelta}{\belowdelta} \end{array}{\belowdelta} \end{array}{\belowdelta} \genfrac{\belowdelta}{\belowdelta} \genfrac{\belowdelta}{\belowdelta} \end{array}{\belowdelta} \end{array} \end{array}{\belowdelta} \end{array} \end{array}{\belowdelta} \end{array}{\belowdelta} \end{array} \end{array}{\belowdelta} \end{array}{\belowdelta} \end{array}{\belowdelta} \end{array}{\belowdelta} \end{array}{\belowdelta} \end{array} \end{array}{\belowdelta} \end{array} \end{array}{\belowdelta} \end{array} \end{array}$ \\\blowdelta} \end{array} \end{array} \\ \belowdelta} \end{array} \end{array} \\ \blowdelta \end{array} \end{array} \end{array} \\ \blowdelta \end{array} \end{array} \\ \blowdelta} \begin{split} \end{array} \\ \blowdelta \end{array} \\ \blowdelta \end{array} \end{array} \\ \blowdelta \end{array} \\ \blowdelta \end{array} \\ \lebbelta \end{array} \\ \blowdelta \end{array} \\ \blowdelta \end{array} \\ \lebbelta \end{array} \\ \blowdelta \end{array} \ \blowdelta \end{array} \ \blowdelta \\ \blowdelta \end{array} \ \blowdelta \\ \blowdelta \end{array} \ \blowdelta \\ \blowdelta \end{array} \ \blowdelta \end{array} \ \blowdelta \\ \blowdelta \end{array} \ \blowdelta \\ \ \b
Tuesday	$\odot \odot \odot \odot \odot \odot$
Wednesday	O O O O O
Thursday	$\odot \odot \odot \odot \odot \odot \odot$
Friday	
Saturday	$\odot \odot \odot $
Sunday	

Answer the following questions.

- (i) Find the number of maximum papad made. Also state the day on which maximum papad were made.
- (ii) On which day out of Monday and Friday more papad were made and how much?
- 3. If $(\circ \circ) = 5$ children and tally mark | = 1, then make a table for the presence of students in one week and answer the following questions :
 - (i) On which day, most of the student were present?
 - (ii) What is the sum of presences of the students in one complete week?
- (iii) On which day, least students were present in the school?
- 4. The following table shows the number of match-boxes produced by a factory during the following six month of the year 2016. Show it by a pictograph and answer the question that follow :

Month	March	April	Мау	June	July	August
No. of match-boxes	2000	3000	5000	4000	6000	7000

- (a) How many match-boxes were produced in July?
- (b) How many more or less match-boxes were produced in April than August?
- (c) How many match-boxes were produced in May?
- (d) How many more match-boxes were produced in May than June?
- 5. A bar graph shows the temperatures of various cities of Rajasthan in 1st June. Study the bar graph and answer the following questions :
 - (i) Which city has the highest temperature?
 - (ii) Which two cities have equal temperature?
- (iii) What is the temperature of Jaipur?



Data



1 . If $\bullet = 3$ then $\bullet \bullet \bullet \bullet$ represents	
(a) 12	(b) 15
(c) 18	(d) 21
2. Tally mark for 5 will be	
(a)	(b) ₩
(c)	(d) ∭
3. Tally mark for 12 will be	
(a) ∭	(b) <u> </u>
(c) / /	(d) ∦ ∦
4. Tally mark [∦] [∦] IIII represents	
(a) 12	(b) 13
(c) 14	(d) 10
5. Tally mark for 9 will be	
(a) ∭1	(b) <u> </u>
(c)	(d)

6. Table given below shows the number of absentees in a school during first 5 days of the week :

Day	lst	llnd	Illrd	IVth	Vth
Number of Absentee	40	50	30	40	60

Draw a bar graph for the given data.

7. Make a bar graph to show the following information regarding the favourite snack of children in a school:

Snack	Sandwiches	Cakes	Apples	Waffers	lcecreams
No. of children	450	800	900	600	500

8. Make a pictograph to show the following information regarding the number of students absentees 5 days of the week.

Days	Monday	Tuesday	Wednesday	Thursday	Friday
No. of children	45	10	20	9	25

9. Rajesh scored the following marks in the annual exam in different subjects. Read carefully the bar graph and answer the given questions :

Practice Corner



(i) How many marks did he get in English?

- (ii) How many marks did he get in Science?
- (iii) In which subject he got the maximum marks?
- (iv) In which subject he got the minimum marks?

10. The marks that Kumkum got in various subjects in annual exam are given :

History	35
Civics	40
English	30
Maths	25

Show the given data with the help of a bar graph.

Practice Corner



Currency

Let us Learn

Hey kids, in this chapter you will learn about

- (i) Currency
- (ii) Algebraic operation of money
- (iii) How to make a bill
- (iv) Indian numerals, used for algebraic operation of money and also used for making a bill.

Currency

A currency in the most specific use of the word refers to money in any form when in actual use or circulation as a medium of exchange, especially circulating bank notes and coins,

Hence, a currency is a system of money.

Indian Currency

Indian currency is rupee (₹). Symbol ₹ was adopted in 2010.

Banknotes Used



Mathematics (Class V)



₹ 50



₹ 100



₹ 500



₹ 2000

Coins Used



Money Conversion of Money

We know that

1 rupee = 100 paise

Currency

Example 1. Convert 7 rupees and 35 paise into paise.

Sol. 7 rupees and 35 paise = 7.35 $= 7 \times 100$ paise + 35 paise = 700 p + 35 p = 735 p Hence, 7 rupees and 35 paise = 735 paise.

Do Yourself

Example 2. (i) Convert ₹ 33.51 in paise. (ii) Convert 74 rupees and 50 paise into paise.

Example 3. Convert 5437 paise into rupees.

5437 p = 5400 p + 37 p Sol. $= 54 \times 100 \text{ p} + 37 \text{ p}$ = 54 rupees + 37 p =₹54.37 Hence,

5437 paise =₹ 54.37.

Do Yourself

Example 4. Convert 2689 paise into rupees.

Addition of Money

Example 5. *Add* ₹ 9.50 *and* ₹ 12.75.

₹ Paise 9 50 Sol. +12 75 22 25

Add the paise

=50+75=125

Convert the paise into rupees

125÷100 = ₹1 and 25 paise

Add the rupees

=9+12+1=₹22 ₹9.50 + ₹12.75 = ₹22.25

Hence,

Do Yourself

Example 6. Add ₹ 25.75 and ₹ 13.69.

Subtraction of Money

Example 7. Subtract ₹ 9.90 from ₹ 12.40.

	₹	Paise
Sal	12	40
501.	- 9	90
	2	50

When we subtract 90 paise from 40 paise, convert ₹1 into paise add with 40 paise and then subtract.

12 -1 = ₹ 11 ₹ 1 = 100 paise 100 + 40 = 140 paise 140 - 90 = 50 paise

Subtract the rupees

Hence,

Do Yourself

₹12.40 - ₹9.90 = ₹2.50

₹11-₹9=₹2

Example 8. Subtract ₹ 36.87 from ₹ 52.95.

Multiplication of Money

Example 9. *Multiply* ₹ 7.25 by 5.

₹ Paise

25

Sol.

× 5

7

36 25

Multiply the paise

 $25 \times 5 = 125$

Convert into rupees

125÷100 = ₹ 1 and 25 paise

Multiply the rupees Add the rupees

=35+1=36

 $7 \times 5 = 35$

Do Yourself

Example 10. Multiply ₹ 32.05 by 6.

Division of Money

Example 11. Solve the following : ₹ 47.32÷7



Currency

Sol.	Divide the rupees		6
		₹47÷7 =₹6	7)47
	Convert the remainder		$\frac{12}{5}$
	₹ 5 into paise and add with 32 paise		<u> </u>
		$5 \times 100 = 500$ paise	76
		500 + 32 = 532 paise	7)532
	Divide the paise		$\frac{1}{42}$
		paise $552 \div 7 = 76$ paise	42
	∴.	₹ 47.32÷7 =₹ 6.76	×
		Do Yourself	

Do Toarse

Example 12. Solve the following :

₹87.58÷8

Our Daily Activities

Example 13. A student bought books for ₹ १३४.६० and copies for ₹ २८०.५०. Find the total amount he paid.

Sol. $\begin{array}{c} \overline{\xi} & \text{Paise} \\ \text{Expense on books} = \overline{\xi} \overline{\xi} & \overline{\xi} \circ \\ \text{Expense on copies} = \overline{\xi} & \overline{\xi} \circ \\ \hline & \overline{\xi} \overline{\xi} & \overline{\xi} \circ \\ \hline & \overline{\xi} \overline{\xi} & \overline{\xi} \circ \\ \hline & \overline{\xi} \overline{\xi} & \overline{\xi} & \overline{\xi} \circ \\ \hline & \text{Total expense} & \overline{\xi} \overline{\xi} & \overline{\xi} & \overline{\xi} \circ \\ \hline & \text{Hence, he paid } \overline{\xi} & \overline{\xi} \overline{\xi} & \overline{\xi} \circ . \end{array}$

Do Yourself

Example 14. In a bus, the collection made for three days are ₹ ४७७५.५० ₹ ५३५०.५० and ₹ ४७८५.५० respectively. Find the total collection for three days?
[Ans. ₹ १४९११.५0]

Example 15. Ram went to market to purchase vegitables carrying ₹५३७.६०. He purchased potato for ₹१५८.८० and tomato for ₹ २४६.९०. Find the amount he hade now.

Sol. ₹ Paise 846 60 Potato = Tomato = २४६ 90 Total expense = 804 ७० Amount he had = 439६० Total expense = - 80490 Balance amount = 23290 Hence, he had ₹ १३१.९०.

Do Yourself

Example 16. A person bought a television set worth of ₹ २५०००. He paid ₹ १२३६५. Find the balance amount he has to pay.

[Ans. ₹१२६३५]

Example 17. Cost of a table is $\overline{\xi} \subset 2\xi$. So and a chair $\overline{\xi} \leq 3\psi$. Find the cost of 4 tables and ξ chairs.

Sol. Cost of a table = ₹ ८ ? ξ

×	4
Cost of ५ tables =₹ ४१३२	00
Cost of one chair = ₹ ५४५	60
	× ६
Cost of ६ chairs = ₹ ३२७४	२०
Cost of 4 tables =₹ ४१३२	00
Cost of ६ chairs =₹ ३२७४	२०
Total amount =₹ ७४०६	२०

Do Yourself

Example 18. The cost of one packet of toffee is ₹ १२५.४० and one packet of ice-creame is ₹ ८५.५०. Riya Prchased ३ packets of toffees and २ packets of ice-creame. How much she paid?
[Ans. ₹ ५४७.२०]

Example 19. Cost of *१*× packets of pen is ₹ *९*८३.२२. Find the cost of one packet.

Sol.

Hence, cost of one packets is ₹ ७०.२३.

Do Yourself

Example 20. Cost of १६ books is ₹ १४६२.५२. Find the cost of one book. [Ans. ₹ ९१.४०]

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Currency

Exercise 10.1

(iii) ₹ 899 and 50 Paise × 17

- 1. A farmer sold wheat for 2058 rupees and 25 paise and Maize for 1154 rupees and 50 paise. Find the total amount for which he sold wheat and maize.
- 2. A vendor went to city carrying 8575 rupees and 75 paise. He purchase cloth for 5052 rupees and 25 paise and grocery for 2070 rupees and 25 paise. Find the amount of remains with him now.
- **3.** Solve:
- (i) ₹ 525 and 25 Paise × 13 (ii) ₹ 507
 - (ii) ₹ 507 and 75 Paise × 16
 (iv) ₹ 726 and 72 Paise × 19
- 4. An amount of ₹ 35755.20 is given to the 13 women of gorela vallage under the planning of Prime Minister Self Employment Scheme. State the amount given to each women.
- 5. Sujal purchase 4 kg rice @ ₹ ४4.4° and 3 kg sugar @ ₹ २८.६°. If balance amount with him is ₹ २४4.6° then find the total amount with him.
- 6. Cost of a shirt is ₹ ३२६.५० and a trouser ₹ ७८०.६० then find the cost of ३ shirt and ५ trouser.
- 7. A fruit merchant went to fruit market carrying ₹ 35916. He purchase apples for ₹ 12763.30, grapes for ₹ 13243.30 and fruit bananas for ₹ 947. State the amount remains with him.
- 8. Meera had ₹ 20974.80 with her. She invested ₹ 10544.40 and balanced amount is distributed between her both children. Find the amount obtained by both children.
- 9. Cost of one cycle is ₹ 1075.50, then find the cost of such 52 cycles.
- **10.** Add : ₹ 25081.75, ₹ 70860.60 and ₹ 9876.42.

How to Make a Bill

What is a Bill?

Whenever we purchase any thing from the market the shopkeeper gives us a slip. On it the shopkeeper note down the items, quantity of each item and the price of each item. The page on which the entries of the items with their quantity and the total cost of the items is known as a **bill**.

Steps to Make a Bill

Step-1. Write the name and address of shop.

Step-2. Write the date.

Step-3. Make five columns for

Serial number, Description, Quantity, Rate per unit, Amount.

Step-4. Enter each item carefully, taking note of quantity and rate per item.

Step-5. Fill the amount carefully.

Step-6. Do the total correctly.

Step-7. Mention discount if any.

Example 1. Mr. Ajay went to Big Bazar and bought.

10 kg flour @ ₹ 20, 5 kg rice @ ₹ 35, 3 kg sugar @ ₹ 22, 500 gm butter @ ₹ 86, 6 pieces soap (Nirma) @ ₹ 30 and 2 tubes tooth paste class up @ ₹ 50. Prepare the bill for Mr. Ajay.



Sol.

Big Bazar Jaipur, Phone No. 123456

Bill No. 1150 Customer Name : Mr. Ajay

Date : Phone Number : xxxxxxxxx

S. No.	Description	Quantity	Cost per unit	Total cost
1.	Flour	10 kg	₹ 20	₹ 200
2.	Rice	5 kg	₹ 35	₹ 155
3.	Sugar	3 kg	₹ 22	₹ 66
4.	Butter	500 gm	₹ 86	₹ 43
5.	Soap Nirma	6 pieces	₹ 30	₹ 180
6.	Tooth paste Closeup	2 tubes	₹ 50	₹ 100
				Total ₹744

Do Yourself

Example 2. Puneet went to a toy shop and bought following things :

- (i) 9 toys at 45.50 each.
- (ii) 16 packets of balloons at @₹7.50 each.
- (iii) 5 packets of noodles at @ ₹ 14 each.
- (iv) 3 bottles of juice at @ ₹ 20 each, and
- (v) 12 packets of coffee at @₹45 each.

Make a bill for Puneet.

Example 3. Roopchand purchase some stationary from Rajasthan stationers, Krishan ganj, Ajmer.

- 1. १८ copies @ ₹ ४.७५
- 2. *१* Geometry box @ ₹ ३२
- 3. १० pencils @ ₹ १.२५

Practice Corner

Currency

- 4. १ litre gum @ ₹ ९०.२५
- 5. १२ register @ ₹ ३०
- 6. 4 pen @ ₹ १८
- 7. 4 diary @ ₹ ξο

Prepare a bill for the same.

Sol.

Bill No. १२४		Date- २९/१०/१५		
Name and	d Address : Roopchand,	Ajmer		
S.No.	Description	Rate	Quantity	Amount
1.	Сору	₹ ૪.૭५	१८	₹ ८५.५०
2.	Geometry box	₹ ३२	१	₹ ३२
З.	Pencil	₹ १.२५	१०	₹१२.५०
4.	Gum	₹ ९०.२५	१ litre	₹ ९०.२५
5.	Register	₹ ३०	१२	₹ ३६०
6.	Pen	₹ १८	પ	₹ ९०
7.	Diary	₹ ६०	પ	₹ ३००
Nine hundred seventy and twenty five Total				₹ ૬७०.૨५
Errors and	Sign.			

Activity

Prapare a list of grocery items and make a bill for previous month with the help of your mummy.

Exercise 10.2

- 1. Hemant purchase the following items from Vasudeva Milk dairy as per bill number 428 on dated 29/1/15.
 - 1. 8 litre Milk @ ₹ 40.25
 - 2. 3 kg Curd @ ₹ 60.00
 - 3. 2 kg Ghee @ ₹ 450.00
 - 4. 5 litre Butter milk @ ₹ 20.75
 - Make a bill for the same.
- 2. Bheemraj purchase the following items from Unnat Beej Bjandar, Kanvas on date 30/10/15 as per bill no.108.
 - 1. 5 kg Maize seeds @ ₹ 37.25
 - 2. 35 kg Urea @ ₹ 45
 - 3. 1 litre Insecticide @ ₹ 235

Make a bill for the same. Find the amount paid by Bheemraj.

Practice Corner

3. Manu purchase some items from Mamta General Store, Mahaveer Nagar, Karauli. But there are some mistakes in the bill given to Manu. Identify and rectify the errors.

Bill No	Bill No568 Date-25/10					
	Mamta General S	tore,				
Name a	nd Address-Manu, Karauli	alauli				
S.N.	Item	Quantity	Rate	Amount		
1.	Candle	3 Packet	₹ 20.25	₹ 60.75		
2.	Soap	5 Packet	₹ 40.15	₹ 210.75		
3.	Sugar	4 kg	₹ 33	₹ 132.00		
4.	Gram Flour	2 kg	₹ 55.50	₹ 111.00		
Five hur	Five hundred fourteen and fifty only. Total ₹ 514.50					
1. Errors and Omissions accepted.						
2. Good	2. Goods once sold not be taken back.					
	Sign					

Bill/Cash Memo

4. Check the following bill and correct it :

Bill/Cash Memo

Bill No	[Date-22/10/15			
Name a	Kanvas, nd Address-Smt. Meera				
S.N.	Items	Quantity	Rate	Amount	
1.	Washing Powder	2 kg	₹ 77.25	₹ 150.50	
2.	Namkeen	3 kg	₹ 140.00	₹ 140.00	
3.	Salt	5 kg	₹ 25.20	₹ 126.00	
4.	Oil	2 litre	₹ 75.40	₹ 140.80	
Five hur	Total	₹ 557.60			
1. Errors and Omissions accepted.					
2. Good	2. Goods once sold not be taken back.				

Currency



1. Subham purchase the following items from Raj Kirana Store, Badgaon, Udaipur.

1. Flour 10 kg @ ₹ 15 3. Maize 5 kg @ ₹ 12

5. Salt 3 kg @ ₹ 12

- 2. Rice 2 kg @ ₹ 30
 4. Wheat 8 kg @ ₹ 16
- 6. Sugar 4 kg @ ₹ 35
- 6. Sugar 4 k

Make a bill for the following and state the amount paid by Subham.

2. Meera purchase the following items from Raj Provision Store, Jaipur.

- 1. Washing powder 12 kg @ ₹ 77.25 2. Namkeen 13 kg @ ₹ 25.20
- 3. Salt 25 kg @ ₹ 25.20
 4. Oil 20 litre @ ₹ 75.40

Make a bill for the following and state the amount paid by Meera.

3. Find the error and correct them, in the given bill.

Bill No	38			Date-17/7/17		
	Meera Grocery	-Store				
	Khetri					
Name	and Address-Mohit Saxena, Khetri					
S.N.	Items	Quantity	Rate	Amount		
1.	Kedney-bean	2 kg	₹ 30	₹ 60		
2.	Worse- bean	1 kg	₹ 20	₹ 20		
3.	Green- Grams	2 kg	₹17	₹ 34		
4.	Cumin Seed	1 kg	₹ 100	₹ 100		
5.	Soap	3 bars	₹6	₹11		
6.	Butter (500 gm)	2 Packet	₹ 32	₹ 32		
Three	Three hundred seventeen. Total ₹ 327					
1. Erro	1. Errors and Omissions accepted.					
2. Goo	ods once sold not be taken back.			Sign		

4. Rajesh purchase some items from sab-kuch Kirana Store. A bill is given to Rajesh in which he found some mistakes. Find these mistakes and correct them.

Bill No	038			Date-17/4/16		
	Sab-kuch Corner					
	Name and Address-Ra	jesh, Bharatpur				
S.N.	Items	Quantity	Rate	Amount		
1.	Washing powder	2 kg	₹ 30	₹ 60		
2.	Butter milk	21	₹ 32.50	₹ 32.50		
З.	Soap	3 bars	₹8	₹ 81		
4.	Flour	5 kg	₹ 30	₹ 150		
5.	Chilli souce	2 kg	₹110	₹ 110		
Four h	₹ 427.50					
1. Errors and Omissions accepted.						
2. Goods once sold not be taken back.				Sign		





Let us Learn

Hey kids, in this chapter you will learn about

- (i) Units of Time Measurement,
- (ii) Relation between Hour, Minute and Second,
- (iii) Addition and subtraction of Hour, Minutes and Seconds.

Introduction

All of us have seen the clock mounted on a wall. Before going to school, office or in any party we see the clock. Have you observe that your parents by seeing the clock they send you to school. What that clock tell us? That is time, let us discuss about the time.

Units of Time Measurement

Have your observe the digits written on the clock and have you observe the motion of hands of clock. When the position of these clock hands are changed, then time is also changed.



We know that the dial of clock or watch is divided into twelve (12) parts which are represented by numbers 1, 2, 3, 4,12, these numbers are written on the dial of clock or watch. Every big part is divided into five (5) small parts. So, we can say that the dial of clock or watch is divided into sixty (60) small parts. On this dial there are three hands which represent hour, minutes and seconds.

Time

By the above conclusion we can say that time has three units Hour, minute and second. Let us discuss about the relation between these three.

Relation between Hour, Minute and Second

Carefully observe the motion of second hand and minute hand of clock. When second hand of clock covers 60 (sixty) small division then minute hand moves one division. This one division is measurement of sixty second or one minute.

On the basis of this we can say that

1 Minute = 60 seconds

Similarly if you observe the minute hand and hour hand of clock carefully then you will observe that the time duration in which minute hand of clock covers 60 (sixty) small divisions in the same time hour hand covers one big division.

Hence one big division is measurement for hour hand of clock.

On the basis of this we can say

1 Hour = 60 minutes

Let us understand this

...

1 Hour = 60 minutes

1 Hour = $60 \times 60 = 3600$ seconds

Conversion of Hour into Minutes

4 Hour = 1 Hour + 1 Hour + 1 Hour + 1 Hour

= 60 minutes + 60 minutes + 60 minutes + 60 minutes

 $= 240 \text{ minutes} = 4 \times 60 \text{ minutes}$

Hence to convert hour into minute we multiply by 60.

Example 1. How many minutes in 3 Hour.

Sol. 1 Hour = 60 minutes

 \therefore 3 Hour = 3 × 60

=180 minutes

Do Yourself

Example 2. Convert 540 minutes into hour.

Example 3. Convert $3\frac{1}{2}$ hour into minutes.

Sol.
$$3\frac{1}{2}$$
 Hour $=\frac{7}{2} \times 60$ minutes
 $= 7 \times 30$ minutes $= 210$ minutes

Mathematics (Class V)

Do Yourself

Example 4. Convert 390 minutes into hours.

Exercise 11.1

1. Convert hour in to minutes in	the following question :
(i) $1\frac{1}{4}$ Hour = minutes	(ii) $2\frac{1}{2}$ Hour = minutes
(iii) $5\frac{3}{4}$ Hour = minutes	(iv) $3\frac{1}{5}$ Hour = minute
(v) $4\frac{1}{2}$ Hour = minutes	(vi) $6\frac{1}{2}$ Hour = minutes
(vii) 490 minutes = hour	(viii) 280 Minutes = hour
(\mathbf{IX}) 1/5 minutes = nour	(\mathbf{x}) ooo minutes = nou

Conversion of Minutes into Seconds

3 minute = 1 minute + 1 minute + 1 minute

- = 60 seconds + 60 seconds + 60 seconds
- = 180 seconds
- $= 3 \times 60$ seconds

Hence to convert minute in to seconds multiply by 60.

Example 1. How many seconds in 7 minutes.

Sol. :: 1 minute = 60 seconds

 \therefore 7 minutes = 7 × 60 seconds

 \Rightarrow In 7 minutes = 7 × 60 seconds = 420 seconds

Do Yourself

Example 2. Convert the following in seconds 1. 9 minutes 2. 11 minutes 3. 12 minutes

Conversion of Hour into Seconds

1 Hour = 60 minutes

- $= 60 \times 1$ minutes
- $= 60 \times 60$ seconds
- = 3600 seconds

Hence to convert 1 hour in to seconds we multiply by 3600.

Practice Corner

Time

Example 3. Convert 3 hour into seconds

Sol. 1 hour = 3600 seconds 3 hours = 3 × 3600 = 10800 seconds

Do Yourself

Example 4. Convert following into seconds :

1. 2 Hour

2. $2\frac{1}{2}$ Hour

Exercise 11.2

1. Convert the following time units	
(i) 20 minutes = seconds	(ii) $6\frac{1}{2}$ minutes = seconds
(iii) $15\frac{1}{4}$ minutes = seconds	(iv) 4 Hour = seconds
(v) $2\frac{3}{4}$ Hour = seconds	(vi) $7\frac{1}{2}$ Hour = seconds
(vii) 29500 Seconds = hour	(viii) 26200 Seconds = hour
(ix) 1255 Seconds = minutes	(x) 2478 Seconds = minutes
(ix) 1255 Seconds = minutes	(x) 2478 Seconds = minutes

Addition of Time

We have learned the addition of numbers where we add unit digit in unit digit and if total in more than 10 then we add Ten in Tenth digit. Same process is used in Tenth and Hundredth digits. The same process is used in addition of time, second is added in seconds if total in exceeds more than 60 then convert this in minutes same process is also used for than 60 than convert this in hours and carry is added in Hour.

Let us understand this :

Example 1. Add 4 Hour 30 Minutes and 3 Hour 15 Minutes.

Sol.			4 Hour	30 Minutes
		+	3 Hour	15 Minutes
			7 Hour	45 Minutes
Exam	ple 2.	Add	d 7 Hour 50) Minutes and 5 Hour 40 Minutes
Sol.	(i)		7 Hour	50 Minutes
		+	5 Hour	40 Minutes
			12 Hour	90 Minutes
	(ii)		7 Hour	50 Minutes
		+	5 Hour	40Minutes
			13 Hour	30 Minutes

Mathematics (Class V)

Do Yourself

Example 3. (i) Add 4 Hour 37 minutes and 3 Hour 23 minutes(ii) Add 3 Hour 53 minutes and 2 Hour 17 minutes

Substraction of Time

In the subtraction of Time we subtract second and minute from minute. If subtracted seconds are more then we take borrow from the minutes means we add 60 seconds in seconds. By this upper seconds become more than lower second.

Similarly if minutes are less than we take borrow from hour and we add 60 in minute.

Let us understand this process

Example 4. Subtract 11 Minute 24 seconds from 15 Minute 38 seconds.

Minutes	Seconds
15	38
- 11	24
04	14

Hence answer is 4 minute 14 seconds.

Example 5. Subtract 1 minute 40 second from 3 minute 10 second.

Sol.

Sol.

 $\begin{array}{ccc} \text{Minutes Second} \\ 2 & 70 \\ \underline{-1 & 40} \\ 1 & 30 \end{array}$

Here we subtract 1 minute from 3 minutes and add 10 seconds (1 minute + 10 seconds = 60 + 10 = 70 seconds)

Now subtract 1 minute 40 seconds from 2 minute 70 seconds.

Example 6. Subtract 4 hour 55 minute from 9 hour 20 minutes.

Sol.	Hours	Minutes
	8	80
	Ŋ	.20
	_4	55
	_4	25

Here we add 1 hour in 20 minutes (1 Hour + 20 minute = 60 + 20 = 80 minutes) Now subtract 4 hour 55 minute from 8 hour 80 minute.

Do Yourself

Example 7. Subtract the following :

(i) Subtract 4 Hour 40 Minute from 7 Hour 20 Minutes.

(ii) Subtract 5 Hour 37 Minutes from 6 Hour 20 Minutes.

Time

Exercise 11.3

- 1. Convert the following time units
 - (i) $10\frac{3}{5}$ Hour = minutes (ii) $2\frac{1}{4}$ Hour = seconds
- (iii) $\frac{1}{5}$ Minutes = seconds
- (iv) $1\frac{2}{2}$ Minutes = seconds
- 2. Add the following
 - (i) 2 Hours 42 Minutes and 4 Hours 10 Minutes
 - (ii) 10 Minutes 50 seconds and 8 Minutes 20 Seconds
- (iii) Add 4 hours 25 minutes 45 seconds and 7 hours 12 minutes 5 seconds
- (iv) Add 9 hours 36 minutes 2 seconds and 5 hours 40 minutes 52 seconds
- **3**. Subtract the following
 - (i) 9 Hours 32 minutes from 12 Hours 18 minutes
 - (ii) Subtract 25 minutes 49 seconds from 29 minutes 39 seconds
- (iii) Subtract 7 hour 35 minutes from 14 hour 8 minute
- (iv) Subtract 10 hours 50 minutes from 20 hours 40 minutes
- 4. Yogesh study 5 hour 30 minutes in school and 3 hours 45 minutes at home. How much time yogesh study.
- 5. The distance between Bharatpur and Dholpur is 90 km. Rakesh covers this distance by car in 2 hours 12 minutes and Firoz travel this distance in 3 hours 8 minutes. Compare the time taken by both
- 6. Mohan runs for 3 hour 27 minutes and Rakesh runs 2 hour 45 minute who runs for more time and how much.
- 7. The distance between Jaipur and Bharatpur is 250 km and a bus travels this in 4 hour 20 minutes and another bus travels this distance in 2 hour 45 minutes. How much total time both buses takes to reach.
- 8. Add 2 hours 45 minutes and 3 hours 16 minutes.
- 9. State True or False

(i) To convert minute in to second we devide by 60.	[True/False]
(ii) There are 3600 seconds in one Hour.	[True/False]
(iii) Minute hand of clock covers 60 small division in same clock covers one big division.	duration hour hand of [True/False]
(iv) Half hour is equal to 15 minute.	[True/False]

Mathematics (Class V)



1. Objective Type Questions

(i)	How many hours i	n a day					
	(a) 12 hour	(b) 18 hour		(c) 24 hour		(d) 20 hours	S
(ii)	When we subtract	7 hour 59 m	ninutes fro	m 8 hours 1	0 minute	s then our	result is
	(a) 10 minutes	(b) 11 minute	es	(c) 15 minute	S	(d) 20 minu	tes
(iii)	Ramesh awake at	7 hour 30 m	inutes in t	the morning	f and goe	s to school	at 9 hours
	15 minutes in the	morning the	en what is	the differen	ce in the	se time int	ervals
	(a) 1 hour 10 minutes	6		(b) 1 hour 45	minutes		
(\cdot, \cdot)	(c) 2 hour 30 minutes	8		(d) None of t	nese		
(1V)	seconds 1	n 2 hours		(-) 7000		(-1) 4000	
0	(a) 3600	(b) 2400		(C) 7200		(a) 4000	
2. S	tate True or False	•					
(i)	There are 1440 mi	nutes in a d	ay.				[True/False]
(ii)	310 minutes = 5 ho	ours 10 minu	ites.				[True/False]
(iii)	2 hours 15 minute	s = 235 minu	ute.				[True/False]
(iv)	iv) $645 \text{ seconds} = 645 \div 60 \text{ minutes} = 10 \text{ minutes} 45 \text{ minutes}$ [The second sec					[True/False]	
(v)	v) 18 minutes = 18×60 seconds = 1080 seconds [True/Fa					[True/False]	
(vi)	vi) Midnight 12 : 00 in Railway is written as 00 : 00 [Tru					[True/False]	
(vii)	ii) There will be 3 minutes in 120 seconds. [True/F				[True/False]		
(viii)	i) 1 hour is having 36 minutes. [[True/False]	
(ix)	x) There are 60 seconds in one minutes. [[True/False]		
(x)	x) In one day there are 24 hours.				[True/False]		
(xi)	i) At 6 : 00 O' clock the minute hand of clock will be at 8.				[True/False]		
(xii)	$2\frac{1}{2}$ hour = 135 × 60	seconds					
(2011)	4	seconds					[True/False]
(xiii)	$10\frac{3}{-}$ hour = 630 min	nutes					
	5						[True/False]
(xiv)	There will be 4 ho	urs in 180 m	inutes.				[True/False]
(xv)	There will be 10 m	inutes in 36	50 seconds				[True/False]
3. F	ill in the Blanks :						
(i)	1 hour =	seconds	(ii) 24 ho	our =	second	ls	
(iii)	6 hour =	minutes	(iv) 24 hc	our =	minute	es	



Weight



Hey kids, in this chapter you will learn about

- (i) Introduction of weight,
- (ii) Relation between kilogram and gram,
- (iii) Addition and Subtraction of Weight

Introduction of Weight

In previous classes we have learned the weighing the things and studied their weight, one kilogram weight and its various parts such as quarter, half and three fourth of one kilogram.

1 kg = 1000 gram 1 Quarter kg = one fourth of an kilogram $= \frac{1}{4} \text{ kg} = \frac{1000}{4} \text{ gram}$ = 250 gram $\text{Half kg} = \frac{1}{2} \text{ kg} = \frac{1000}{2} \text{ gram} = 500 \text{ gm}$ Three fourth kilogram = $\frac{3}{4} \text{ kg} = \frac{3}{4} \times 1000 = 750 \text{ gm}$

In really quarter kg, three fourth kg is frequently used and standard units are not used. In international system kilogram is used for weighing.

Relation between Kilogram and Gram

Conversion of Kilogram in Gram

We have studied that 1 kilogram = 1000 gm

Many times we have to express the weight of two things in same units.

To express the weight of two things in same quantity. Let us understand this.

4 kilogram = gram

4 kilogram = 1 kilogram +1 kilogram +1 kilogram +1 kilogram

4 kilogram = 1000 gm +1000 gm +1000 gm +1000 gm

 $= 4000 \text{ gm} = 4 \times 1000 \text{ gm}$

To convert kilogram into gram we multiply the quantity by 1000.

Conversion of Gram into Kilogram

 $3000 \text{ gm} = \dots \text{ kilogram}$ 3000 gm = 1000 gm + 1000 gm + 1000 gm = 1 kg + 1 kg + 1 kg = 3 kilogram $= \frac{3000}{1000} = 3 \text{ kilogram}$ kilogram we divide the quantity by = 1000

To convert gram into kilogram we divide the quantity by = 1000.

In other words gram is one thousand part of kilogram $\left(\frac{1}{1000}\right)$.

Example 1. Convert 1 kilogram 500 gm into kilogram.Sol. 1 kilogram 500 gm = 1 kilogram +500 gm

= 1 kilogram + $\frac{500}{1000}$ kilogram = 1 kilogram + $\frac{1}{2}$ kilogram = $1\frac{1}{2}$ kilogram

Do Yourself

Example 2. Express the following in kilogram (i) 2 kg 500 gm (iii) 3 kg 250 gm

(ii) 5 kg 750 gm

Exercise 12.1

o gram
o gram.



•••

Weight

Addition and Subtraction of Weight

When we goes to a grocery store, sweet store we find that there are following weights 10 kg, 5 kg, 2 kg, 1 kg, 500 gm, 200 gm, 100 gm and 50 gm.



1 kilogram 600 gm = 1 kilogram +500 gm +100 gm

Can you measure following weights.

Try these

Weight	Types of Weights
3 kg 600 gm	2 kg +1 kg +500 gm +100 gm
4 kg 750 gm	2 kg +2 kg +500 gm +200 gm +50 gm
2 kg 800 gm	
7 kg 450 gm	

Let Try Something New

Many times we do not have sufficient weights to measure the quantity if available weights are used carefully then we can measure the quantity. Let us see this.

Ramesh has a weight of 5 kg and a weight of 500 gm if we wants to measure 4 kg 500 gm. Carefully observe the position of balance is the sugar in bag is 4 kg 500 gm.



: Bag and 500 gm weight is equal to 5 kg weight. Hence sugar is 500 gm less than 5 kg. Hence, weight of sugar

Do Yourself

Example 1. (i) With the weight of 500 gm and 200 gm measure 300 gm.

(ii) With the help of weight of 1 kg, 200 gm and 100 gm measure 700 gm.

Exercise 12.2

- 1. Reena purchase 1 kg 400 gm tomato, 750 gm chilli and 2 kg 600 gm potato from the market and kept them in a bag. What is total weight in the bag.
- 2. Manoj purchase 10 kg sugar bag from market at the time of returning to home. A hole took place in the bag and sugar remaining in the bag is 8 kg 750 gm. How much sugar is shattered.
- 3. Sheela has a packet of 5 kg 470 gm and a box of weight 3 kg 690 gm. How much weight of packet is more than the weight of box.
- 4. A shop keeper milling 6 kg spices and pack them in 250 gm packets. Then find out the number of packets, if 4 packets are packed from 01 kg spices.
- 5. In the mid day meal for every student 150 gm wheat and 100 gm rice in given then how much wheat and rice is required for 60 students ?
- 6. Savita purchased 2 kg cauliflower and 4 kg cucumber, 3 kg 700 gm yam and 2 kg 900 gm other vegetables find out the weight in her beg.
- 7. Harish purchased 2 kg 500 gm turmeric, 5 kg 200 gm chilli, 4 kg 700 gm corinder and 10 kg salt. What is the weight of total items.
- 8. Find out the following in gram.

(i) $3\frac{1}{2}$ kg = gm	(ii) $3\frac{2}{5}$ kg = gm
(iii) $4\frac{3}{4}$ kg gm	(iv) $2\frac{1}{5}$ kg = gm
9. Find the value of following	
(i) 1500 gm = kg	(ii) 2250 gm = kg
(iii) 100 gm = kg	(iv) 4750 gm = kg

- 10. State True/False
 - (i) 1 gm is hundredth part of 1 kg.
 - (ii) To convert kilogram into the gram we multiply the quality by 1000.
 - (iii) From 1 kg salt 4 packet of 250 gm salt can be packed.
 - (iv) The weight of iron and wood piece is equal.
- 11. The weight of cement is 250 kg 500 gm and weight of sand is 150 kg 750 gm. Find out the total weight.
- 12. Reena purchased 2 kg 300 gm potato and 3 kg 500 gm wheat. How much weight she should buy to make it 9 kg.
- 13. Geeta's bag weight is 3 kg 500 gm and her brother's bag weight is 4 kg 750 gm, then find the total weight of both the bags.



1. Objective Type Questions

(i) 250 gm is equivale	ent to			
(a) $\frac{1}{2}$ kg	(b) $\frac{1}{4}$ kg	(c) 250 kg	(d) 1 kg	
(ii) 500 gm is equivale	ent to			
(a) half kilogram	(b) $\frac{3}{4}$ kg	(c) $\frac{5}{4}$ kg	(d) 5 kg	
(iii) $\frac{3}{4}$ kg is equivalent	to			
(a) 500 gm	(b) 750 gm	(c) 900 gm	(d) 850 gm	
(iv) $1\frac{1}{2}$ kg is equivalent	t to			
(a) 1000 gm	(b) 1250 gm	(c) 1500 gm	(d) 2000 gr	n
(v) $1\frac{3}{4}$ kg is equivalent	t to			
(a) 1750 gm	(b) 1850 gm	(c) 1250 gm	(d) None of	the above
2. Fill in the Blanks :				
(i) 1 kilogram =	gm			
(ii) 2500 gm =	kilogram			
(iii) 1500 gm =	kilogram			
(iv) $2\frac{1}{5}$ kg =	. gram			
(v) 3100 gm =	kilogram			
(vi) 7 kg 450 gm =	gm			
3. State True or False :	:			
(i) 10 kg 800 gm is eq	ual to 1080 gm.			[True/False]
(ii) 1 gram is thousand	lth part of kilogram.			[True/False]
(iii) 0.070 kg is equava	lent to 700 gm.			[True/False]
(iv) 1000 gm is equival	lent to one kilogram.			[True/False]
(v) 0.5 kg is equivalen	it to $\frac{1}{2}$ kg.			[True/False]

Practice Corner



Measurement (Length)

Let us Learn

Hey kids, in this chapter you will learn about

- (i) Introduction of length measurement,
- (ii) Relation in meter and centimeter,
- (iii) Measurement of length,
- (iv) Conversion of units.

Introduction

In the previous class we are already familiar with the scale, With the help of scale we can measure the length of lines of short length. We can draw the line with the help of scale. At the cloth store you have, seen that the shopkeeper measure clothes from an Iron scale. At the time of construction of house and road, measurement of length is done by Tape.



Have you ever think that how much long length can be measured by Iron scale and Tape? If we want to measure more distance such as distance between two cities. Does the Iron scale meter or Tape can be used to measure long distance. Some units can be used to measure more lengths.

1 kilometer = 1000 meter

1 meter = 100 cm

1 centimeter = 10 millimeter

Let us understand the above relationship with a problem.

Measurement of long jump of class 5 students are following.

Laxmi = 1 meter 20 cm Ankita = 1 meter 10 cm Chanchal = 1 meter 70 cm Gurupreet = 1 meter 50 cm Suhani = 1 meter 30 cm

Who jumped more distance?

Who jumped less distance?

By seeing the problem you can judge that Chanchal jumped more distance where Ankita jumped less.

Conversion of Units

(i) Conversion of meter into centimeter

3 meter = centimeter ... 3 meter = 1 meter + 1 meter + 1 meter= 100 cm + 100 cm + 100 cm=300 centimeter $=3 \times 100$ centimeter Hence to convert meter into centimeter, we multiply the given quantity by 100. (ii) Conversion of centimeter into millimeter 4 centimeter = millimeter 4 cm = 1 cm + 1 cm + 1 cm••• = 10 mm + 10 mm + 10 mm + 10 mm $=40 \text{ mm} = 4 \times 10 \text{ mm}$ Hence, to convert centimeter into millimeter we have to multiply the quantity by 10. (iii) Conversion of kilometer into meter. 5 kilometer = meter ... 5 kilomerter = 1 km + 1 km + 1 km + 1 km + 1 km = 1000 meter + 1000 meter + 1000 meter + 1000 meter + 1000 meter $= 5000 \text{ meter} = 5 \times 1000 \text{ meter}$ Therefore, to convert kilometer into meter, we have to multiply the quantity by 1000. **Example 1.** How many meter are in 8 kilometer?

Sol. :: 1 km = 1000 meter

Therefore, $8 \text{ km} = 8 \times 1000 \text{ meter} = 8000 \text{ meter}$



Example 2. How many meter are in $2\frac{1}{2}$ km?

Sol.

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$$2^{2}$$

$$2\frac{1}{2} \text{ kilometer} = 2 \text{ km} + \frac{1}{2} \text{ km}$$

$$= 2 \times 1000 \text{ meter} + \frac{1}{2} \times 1000 \text{ meter}$$

$$= 2000 \text{ meter} + 500 \text{ meter} = 2500 \text{ meter}$$

Example 3. How many centimeter are in $\frac{1}{4}$ meter?

 \therefore 1 meter = 100 centimeter Sol.

Therefore,
$$\frac{1}{4}$$
 meter = $\frac{1}{4} \times 100 = 25$ centimeter

Example 4. How many meter are in $1\frac{1}{2}$ kilometer?

 $1\frac{1}{2}$ km = 1 km + $\frac{1}{2}$ km = 1×1000 meter + $\frac{1}{2}$ ×1000 meter Sol. =1000 meter + 500 meter = 1500 meter

Do Yourself

- **1.** Convert $7\frac{1}{2}$ km into meter and centimeters
- 2. Convert 950 meter into km and millimeters

Exercise 13

- 1. Change the units of following measurements.
- (ii) $10\frac{1}{2}$ km = meter (i) 12 km = meter (iv) $15\frac{3}{4}$ meter = centimeter (iii) $25\frac{1}{4}$ meter = centimeter (v) $4\frac{1}{5}$ cm = millimeter (vi) $1\frac{4}{5}$ cm = millimeter
- 2. Change the units of following measurements.
 - (i) 120 centimeter = meter
 - (iii) 50 millimeter = centimeter
- (ii) 2250 meter = kilometer (iv) 9500 meter = kilometer
- (v) 150 centimeter = meter
- (vi) 175 millimeter = centimeter 3. The distance of school from Kavita's home is 7 kilometer 300 meter. How much distance, she covers to go to school and return to home?
- 4. Manju's village is 46 km far away from city. After travelling a distance of 32 km 600 meter, her bus is out of order. How much distance is remaining to travel?

Practice Corner

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- 5. Kavita travels 32 km 400 meter on first day and after that she travels 35 km 700 meter on second day. How much that total distance traveled by Kavita?
- 6. Raman's school is 4 km 600 meter away from home and after goining and returning to home, he goes to coaching classes which is 3 km 200 meter away from home. He goes to coaching classes and return to home. How much distance travelled by Raman?

Examination Ture

			ype	
\mathbf{t}	uestions			
1 . Objective Type Qu	lestions			
(i) 1 centimeter is e	qual to			
(a) 1 meter	(b) 10 mm	(c) 100 mm	(d) 1 km	
(ii) 1 km is equal to				
(a) 100 meter	(b) 1000 meter	(c) 1500 meter	(d) None	
(iii) 1500 meter is eq	ual to	()		
(a) 1500 mm 1	(b) 1.5 km	(c) 1800 cm	(d) None	
(iv) $2\frac{1}{2}$ km is equival	ent to			
(a) 1500 meter	(b) 200 meter	(c) 2500 meter	(d) 3500 m	neter
2 . Fill in the blanks :				
(i) 15 kilometer =	meter	(ii) 100 centimeter =	meter	ſ
(iii) 12 centimeter = $.$	millimeter	(iv) 2250 meter =	kilometer	ſ
(v) 12 kilometer =	centimeter			
3. State True or False)			
(i) 1 kilometer is equal to 1000 meter.				[True/False]
(ii) 10 cm is equal to 1 mm.				[True/False]
(iii) 10 millimeter is equal to 1 centimeter.				[True/False]
(iv) 1 millimeter is bigger unit of measurement than one centimeter.				[True/False]
(v) 100 meter is equivalent to 100000 centimeter. [Irue/False]				
4. Gopal purchased 3 How much cloth h	3 meter 400 cm clo e has purchased?	th for shirts and 1 me	eter 750 cm fo	or trousers.
5. Rishi walked 2 km How much distance	750 cm distance a they have walked	and Bhavya walked 1 d?	km 150 mete	er distance.
6. Mohan's height is height?	1 m 350 mm and 1	Ravi's height is 1 m 50	0 cm. What is	their total
7. Prakash purchased of 1 m 50 mm. Wh	l a inch tap of 3 m at is total length of	50 cm long and Roha their tapes.	n purchased a	a inch tape
8. Geeta purchased 4	4 m 750 cm cloth f	rom market. To make	e it 15 meter	how much

cloth she should buy more?



Perimeter and Area

Let us Learn

Hey kids, in this chapter you will learn about

- (i) Introduction of perimeter and area.
- (ii) Concept of perimeter and area.
- (iii) Relation between perimeter and area.
- (iv) To find out area and perimeter of rectangle.

Introduction

In the previous class we have understand the concept of length and breadth. Let us see this with an example.

Rahul's plot in 30 meter long and 20 meter wide his father want to make fencing with wire.



How much wire is required to fence it?

Concept of Perimeter

To find out the length of wire to fence, we need perimeter of plot. Perimeter is the total length of all sides.

 \therefore Perimeter = sum of all side

=30 + 20 + 30 + 20 = 100 meter

Hence, 100 meter wire is required to hence.

Similary you have seen the people to measure the all sides of photo frame, field and many more.

Think around you where you feel that there is necessity to measure all sides.
From the above observation it is clear in a closed figure measurement of all sides is known as perimeter. In Nirmal's math's book there are few questions to find out perimeter.



Can you find the perimeter of all three figures.

We know that perimeter is only of a closed figure. Figure (B) and (C) are not closed figures. Therefore perimeter of figure (B) and (C) can not be find such figures are known as open figures.

Activity

Find out the perimeter of figure given here.

As you have seen that such figures can not be measured by scale therefore Nirmal kept a thread on side of figure and after that measure the thread by scale. This way we can measure the perimeter of given figure.

Perimeter of Regular Shapes

Few figures are given below



To find out the perimeter of above figures. We can use the following methods.

Perimeter of figure (A) = 10 cm + 10 cm + 10 cm = 30 cm

Because all three sides are equal therefore this can be solved this way also.

Perimeter = $3 \times 10 = 30$ cm

Such shapes whose sides are equal in measurement and their all angles are same is known as regular shapes.

For all regular shapes

perimeter of regular shapes = Number of sides \times measurement of a side

On the basis of this perimeter of shape (B) and (C)

Number of sides = 4, Measurement of a side = 12 cm

Therefore, perimeter of figure (B) = $4 \times 12 = 48$ cm

Number of sides = 5, measurement of a side = 7 cm

Perimeter of figure (C) = $5 \times 7 = 35$ cm

Perimeter of Rectangle



This is a rectangle (regular shape) we want to make a formula for its perimeter.

Perimeter rectangle	= 15 m + 5 m + 15 m + 5 m
Which means perimeter of rectangle	= length + width + length + width
	$= 2 \times \text{length} + 2 \times \text{width}$
	= 2(length + width)
Therefore, perimeter of rectangle	= 2 (length + width)

Concept of Area

You have learned to find out the area of closed figures of certain portion. Let us Recall that Rajani and Jyoti think to find out area of their pam of their hand by keeping the pam on graph paper.



- (i) Full covered blocks in number :
- (ii) Half or more covered blocks in number :Hence, the area of pam is : (i) + (ii)



Acitivity

On grid paper draw the cover line of pam and find out the area.

Some rectangles and square shapes are given below on graph paper :

Α			В		Α				В		
					D			(ii)	С		
D		(i)	С								
		Α							В		
		D							С		
	(iii)										

For figure, (i) Let length of each sqaure is 1 cm.

Then the length of rectangle is 5 cm.

Breadth = 2 cm

Then the covered block by ABCD = 10 blocks

Hence area of rectangle ABCD = 10 sqcm

Are you able to find any rule between the length, breadth and area

Yes, we recognised well $Length \times Breadth = Area$

 $5 \,\mathrm{cm} \times 2 \,\mathrm{cm} = 10 \,\mathrm{cm}^2$

Similarly we can find the area of figure (ii) and (iii). Area calculated by both method is equal. Hence we can say that area of rectangle is Length \times Breadth.

Do Yourself

Example 1.

- (i) Find the Area of rectangular, whose length is 4, and breadth is 4 m.
 - (ii) Find the perimeter of square whose side is 10m
 - (iii) Find the area of square whose side is 15 m.

Exercise 14





2. Find the perimeter of following rectangle shape.

(A) Lenght = 30 cm(B) Length = 20 cm(C) Length = 60 cm(D) Length = 30 cmBreadth = 48 cmBreadth = 34 cmBreadth = 20 cmBreadth = 12 cm

3. Find the perimeter of given regular shapes with the help of formula.



4. Vijay has drawn rectangle on the graph then find its perimeter and area.

	5	cm			
3 cm				3 cm	
	5	cm			

Can you increase or dicrease length and breadth so that its perimeter and area are same.

(113)

Perimeter and Area

- 5. Find the area of a rectangular field whose length and breadth are 25 meter and 30 metre respectively.
- 6. A rectangle shape towel has a length of 125 cm and breadth 60 cm. Find out the perimeter of towel.
- 7. A fencing has to be done outside of a field which is square shape. Length of wire used for fencing is 260 meter. Find the side of the field.
- 8. Length and breadth of floor of a room is 8 meter and 7 meter respectively. A carpet is laid down on the floor which cover all floor. Find the area of carpet.
- 9. Find the perimeter of a square shape stone whose side is 60 cm.
- **10**. To complete two rounds of a square shape field Dev walks 40 m. Then find the side of field.
- 11. Find the area and perimeter of a rectangle field whose length is 2.5 meter and breadth is 3.5 meter.
- **12**. Find the side of a square field whose area is 81 metre.
- 13. Find the area of a square field whose side is 1.5 meter.
- 14. Find the perimeter and area of a square field if Ramesh completes its two rounds after covering a distance of 60 meter.



- 1. To complete 2 rounds of a square shape field Ajay travells a distance of 360 meter. Then find out the area of field.
- 2. A square is shown in the figure given below. Find its area and perimeter. Is its area equal to box covered? If yes, then find the number of boxes.



- 3. Find the perimeter and area of rectangle park whose length and breadth are 25 metre and 35 metre respectively.
- 4. Find out the area of the following figure.





Holding Capacity

Let us Learn

Hey kids, in this chapter you will learn about

- (i) Introduction of holding capacity
- (ii) Concept of holding capacity
- (iii) Application of holding capacity
- (iv) Relation between holdings units
- (v) Addition and subtraction of liter and milliliter

Introduction of Holding Capacity

Today we purchase various items from market such as bread, milk, sugar, vegetable, oil, cloth etc. Generally these items are purchased. What is method of measurement of these? Let us understand this.



Mohan, when I purchase, sugar, vegetable, rice, then shopkeeper weight it from balance.



But Seema, when I purchase milk, oil from shopkeeper then he does not weight it but the measure if from special pot. Why does he do so?

Generally for solid objects shopkeeper weight it from balance, therefore when we purchase solid items he weight it from various weights. On provision store and vegetable shop we found various weights such as 5 kg, 2 kg, 1 kg, 500 gm, 200 gm, 100 gm, 50 gm, etc.

But when we purchase milk, oil or other liquid item he does not weight them. He measures them by fixed holding capacity pots. This method is used for measurement of liquids. What we have understood from this? We understood that liquids are measured by fixed holding pots. That is the reason liquids are not weight from balance. They are measured by fixed holding capacity pots.

Try These

Observe your nearby items and classify them in the following categoriy :

Things which are weighing by weights	Things which are measured by pots of fixed holding

Concept of Holdings

We have discussed that liquids are measured by fixed holding pots. Generally shopkeeper has which type capacity holding pots.



In the above figure you are able to see 1 liter, 500 ml, 200 ml, 100 ml and 50 ml capacity holdings pots.

These pot are generally available on milk shop or provisional stores. The amount of liquid which can be filled in a pot is known as holdings of that pot.

Different holdings pots have what relation between them.





Bhavya Ayushi what is in this. 1 Liter is two pot and one 500 ml pot you can take and pour in a pot. The milk will be 2.5 liter.

Hence,



Do Yourself





(ii) Which holdings capacity pots will be used for measuring the given quantity ?

- (i) 2 liter 750 ml =
- (ii) 1 liter 600 ml =
- (iii) 4 liter 250 ml =
- (iv) 3 liter 800 ml =

Holding Capacity

Applications of Holdings Capacity

We have learned that liquids are always measured in liter and milliliter. Generally, whatever items we use in our daily life are measured by 1 liter, 500 ml, 200 ml, 100 ml and 50 ml capacity holding pots.

When we measure more capacity such as petrol tanker, diesel tanker and big ponds, than big units of measurement will be used, which we will study in higher classes.

In our daily life we found defined holdings capacity pots such as water tank on our roof, having capacity from 500 liter to 2000 liter, Iron drum, oil container, milk tank, cold drinks bottle etc. All such holding capacity pots have defined holding capacity. Let us understand this with examples :

Example 1. From a water tank of capacity 3000 liter, how many drums of holding 200 liter can be filled?

Sol. Holding capacity of drum = 200 liter

Holding capacity of tank = 2000 liter

Number of drums = $\frac{\text{Capacity of tank}}{\text{Holdings of drum}} = \frac{3000}{200} = 15$

Hence 15 drums can be filled.

Example 2. A milkman in a street sells milk to 4 house. If he sells, 1 liter 500 ml, 2 liter 250 ml, 750 ml and 500 ml. How much milk has been sold by milk man?

Sol. To find out the total milk sold we have to add the all quantities

= (1 liter 500 ml) + (2 liter 250 ml) + (750 ml) + (500 ml) = 3 liter + 2000 ml = 3 liter + 2 liter = 5 liter

Do Yourself

Example 3. (i) Poonam purchased 1 liter 200 ml vegetable oil and the shopkeeper has a 200 ml holdings capacity pot. How many times of pots he has to pour to give oil ?

(ii) A tank of water is of 1000 liter and a drum of 2.5 liter is used to fill it. How many times of drums has to be poured to fill it ?

[Ans. (i) 6, (ii) 400]

Exercise 15.1

- 1. Radha poured 500 ml, 200 ml and 100 ml capacity holdings pots in a thermos. If the thermos is half filled, then what is the holdings of thermos?
- 2. In a small bottel of kerosine 3 liter kerosine can be filled. How much kerosine can be filled in 8 such bottles?
- 3. How many 250 ml packets can be packed from 10 liter milk?
- 4. In a drum of 200 liter holding capacity 5 liter 10 drums, 3 liter 20 bottles and 2 liter 15 bottles has been poured and remaining drum is filled by 1 liter holding capacity bottle, then how many 1 liter bottles has been poured?



- 5. Fill in the blanks
 - (i) In $1\frac{1}{2}$ liter ml holdings 3 pots can be filled.
 - (ii) By taking 500 ml times 1 liter pot can be filled.
- (iii) At the rate of ₹ 40 per liter, the value of 2 liter 250 ml milk is
- (iv) millimeter is equal to 1 liter.
- 6. A tank on roof is filled by a tap whereas a top in lower ground take it out. If the tank is filled by tape in 1 hour is 25 liter and lower take it out in 1 hour is 10 liter. After 4 hour how much water in tank at the time of starting tank is empty?
- 7. Ramesh has 600 liter tank on his roof and water expenses of his family in a day is 20 buckets. If the holdings of bucket is 10 liter, then how many days water can be used.?
- 8. A tank is filled by a tap in 2 hour and outlet tap empty it in 4 hour if both the tapes are operated for one hour what will be the position of tank?

Relation between Holding Units

We have seen if standard units are given in meter, kilograms or kilometer and question is asked in cm, mm, then unit conversion is necessary. Therefore, it is very essential to understand the relation between holdings unit.

$$Milli = Thousandth = \frac{1}{1000}$$
$$Centi = Hundredth = \frac{1}{100}$$
$$Deci = tenth = \frac{1}{10}$$
$$Deca = Ten times = 10$$
$$Hecta = Hundred Times = 100$$
$$Kilo = Thousand times = 1000$$
Example 1. Convert 4 kilometer in meter.

Sol. ∵ 1 kilometer = 1000 meter ∴

4 kilometer = 4×1000 meter = 4000 meter

Example 2. Convert 2000 ml into liter. **Sol.** :: In 1000 ml = 1 liter

In 2000 ml =
$$\frac{1}{1000} \times 2000$$

= 2 liter

Example 3. Convert 300 centimeter into meter.

Sol. :: 100 centimeter = 1 meter

...

...

300 centimeter = $\frac{1}{100} \times 300 = 3$ meter

Holding Capacity

Example 4. Convert 5000 gm into kilogram.

- **Sol.** : 1000 gm is equal to 1 kg.
 - :. 5000 gm is equal to

$$=\frac{1}{1000} \times 5000 = 5 \text{ kg}$$

Do Yourself

- **Example 5. (i)** Convert $7\frac{2}{5}$ kg into gram.
 - (ii) Convert $4\frac{3}{4}$ kg into gram.
 - (iii) Convert 4750 gm in kg.
 - (iv) Convert 4750 ml into liter.
 - (v) Convert $2\frac{1}{2}$ liter into milliliter.

Exercise 15.2

- 1. Convert $3\frac{1}{2}$ kilometer into meter.
- 2. Convert 6500 gm into kilogram.
- 3. Convert 2250 millimeter into liter.
- 4. Convert 18000 ml into liter.
- 5. Convert 75000 gm into kilogram.
- 6. Convert 2.5 liter in milliliter.
- 7. Convert $1\frac{1}{2}$ kilogram into gram.
- 8. Convert 3 meter into millimeter.
- 9. How many drum of 20 liter can be filled from tank of capacity 5000 liter?
- 10. The holdings capacity of a box is 15 liter. Then how many boxes can be filled from 3750 liter drum?
- 11. The holding capacity of a box is 13 kg 500 gm. How much oil can be stored in such 48 boxes?
- 12. Holding capacity of a container is 15 liter, then what is capacity of such 15 container?
- 13. The weight of 1 oil bottle is 1 kg 750 gm, then what is the capacity of such 20 bottles.
- 14. Convert 5 liter 750 ml into millimeter.
- 15. Convert $2\frac{3}{4}$ km into meter.

[True/False]

[True/False]

[True/False]

[True/False]



- 1. Convert $7\frac{2}{5}$ kg into gram.
- 2. Convert 7 kg 750 gm into gram.
- 3. Convert 10 kg into milligram.
- 4. The capacity of bucket is 10 liter 500 ml, then how many bucket is required to fill a tank of 651 liter?
- **5**. The holdings capacity of a tanker is 2000 liter. From the tanker 20 bucket of 20 liter and 10 bucket of 15 liter are taken from it, then how much water remains in the tanker?
- 6. There are two drum with holding capacity 25 liter and 45 liter. Find out the largest capacity by which both drum can be filled?
- 7. Which pots will be used by a shop keeper if he has 1 liter, 2 liter, 100 ml, 200 ml pots
 - (i) 2 liter 200 ml (ii) 5 liter 500 ml (iii) 3 liter 200 ml
- 8. Two cans are filled 20 and 30 liter milk. What is the measurement of largest pot by which it can be measured?
- 9. The holding capacity of a drum 220 liter. How much oil can be in such 340 drum?
- 10. Dheeraj has 864 bananas. Then how many dozen can be in these bananas if 12 pieces is equal to one dozen?
- **11**. Fill in the blank :
 - (i) 1000 ml = liter
 - (ii) 1 cm = mm
 - (iii) 100 cm = meter
 - (iv) 1000 meter = \dots km
 - (v) 1 meter = mm
- 12. State True/False.
 - (i) 5000 meter is equal to 5 km.
 - (ii) 4.5 millimeter is equal to 45 cm.
 - (iii) $2\frac{1}{2}$ km is equal to 2750 meter.
 - (iv) 1750 meter is equal to $1\frac{3}{4}$ km.

Practice Corner







Hey kids, in this chapter you will learn about

- (i) Introduction of angles
- (ii) Approximation process of angle measurement
- (iii) 90° angle, acute angles, and obtuse angles
- (iv) Types of angles
- (v) Measure of angles with protector

Introduction of Angles

See carefully the figures given below :



Few does not revolve from its position such as your school, roof of your home. Some things does not revolve a complete round but it revolves less such as door of room, hammock, handle of hand pump. Few things revolves a complete rounds such as hands of clock, ceiling fan, etc.

Approximation Process of Angle Measurement

When any things moves or revolves or changes its direction then an angle is created. Angle created such way tells us that how much the things has revolved.



Suppose that two pencils are in up or down position then in one fourth round, half round and one complete round above conditions/situations will be created. Discuss this situation with your friend.

Concept of Right angle (90°)

Have you seen the floor, walls and roof of any house. Have you seen the bending angle of walls from floor.



Carefully observe the clock at 3'o clock and 9'o clock the hands of clock are perpendicular (stands) on each other such we have seen between walls and floor.

Such angle between two lines is known as right angle which is represented by _____.

Let us understand the right angle with another simple experiment.

By the Folding of Papers

Take a square shape paper fold it such a way so that each position will cover itself fold it again in same manner.





Now open the paper lines intersect each other you will observe there are four angles are in the paper.

Generally corner of doors of room, book are in shape of right angle. You can use square shape sheet of paper or any square shape cartoon can be used for right angle measurement and you can judge the measurement of angle between things.

Concept of angles less than right angle and more than right angle

Think on following figure :



Carefully observe the figures of (1) and (2). Are these angle are same as right angle of figure (3)? No. All these are less than 90°. The angles which are less than 90° (Right angle) is known as Acute angle. Similarly, you can observe the angle in the figure (4), (5) are more than right angle. The angles which are more than right angle (90°) is known as obtuse angle.

Activity

Search around you such shapes and corners which has Acute, obtuse and right angle. List them.

When two lines are straight to each other, then such angle is known as straight angle whose measure is 180°.



Straight Line Angle

Now think on figure 6 where two lines are straight to each other such as hour hand and minute hand of clock.

Approximation of Angle Measurement (Right angle, Acute and Obtuse Angles)

Take a transparent paper and cut a circular shape.



Now as per figure fold it and divide it two part.



Now open it and cut with a line.



Out of these any one piece can be used for angle measurement of right angle, acute or obtuse angle.



Do Yourself

Example 1. Write and identify acute, obtuse and right angle.



Geometry

Measurement of Angles by Protector

See your Geometry box in which there is half circle shape apparatus. What is the name of this apparatus? It is protector.



The protector is used for angle measurement. Angle measured by protector is in Ansh or degree whose symbol is °. Let us understand the protector. Whole protector is in shape of half circle which has 0° to 180°. In the middle you find 90° angle on which a straight line is appeared. This is Right angle.

NOTE Right angle means is 90°.

Can you define the angles on the basis of their measurement.



Measurement of Angle by Protector

How any angle is measured with the help of protector. Let us discuss.

To measure an angle from protector we kept the protector in such a way that any edge of that angle should match with the lines of protector and start counting from there.



By seeing the angle the line is on 50° . Therefore the measurement of angle is 50° .



Geometry



1. Write the angle type which is between hands of clock.



2. Measure the angles with the help of protector.



3. What is the measurement of an angle by revolving a pencil half round.





4. Identify the angles and write acute, right and obtuse angles.



5. By revolving a pencil for a complete round. What is value of angle made in such way.



One complete round

6. Fill in the blanks :

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- (i) The value of Acute angle is from to
- (ii) The value of Right angle is
- (iii) The value of obtuse angle is from $\ldots\ldots$ to
- (iv) The value of obtuse angle is more than and less than
- (v) The value of straight line angle is

7. State True or False :

 (i) Right angle means (ii) Angle measured fr (iii) Protector is line dr (iv) The value of obtus 		[True/False] [True/False] [True/False]		
8. Multiple Choice Qu	estions			
(i) The value of angle	when the hour hand	of clock is on 6 and m	ninute hand	l of clock is
on 12.				
(a) 90°	(b) 120°	(c) 45°	(d) 180°	
(ii) Protector is having	g half circle shape wh	lich can measure ang	les from 0°	upto
(a) 0°	(b) 120°	(c) 180°	(d) None	
(iii) When the clock ha	nds is on 3 and 12 the	en what is the value o	f angle betv	ween them
(a) 60°	(b) 90°	(c) 180°	(d) None	
(iv) How many right a	ngle will make a stra	ight line angle.		
(a) 2	(b) 3	(c) 4	(d) 5	



Brain Teasers



Hey kids, in this chapter you will learn about

- (i) Introduction of brain teasers,
- (ii) Calculation of brain teasers.

Introduction of Brain Teasers

Teacher writes some exercise on the black board. He hides one digit and writes three possible answers student has to identify the write answer. Such as

72 +4□

Answer				
(a)	122			
(b)	115			
(c)	145			



Teacher writes another question and asked to write answer.

2		2
_	6	



(b) 613

(a) 572

In this the first number is either 750 or more than 750 and less than 760. By subtracting 205 or more from lesser number 760 we will not get result as 572 and also we will not get a result 613 there fore third option 512 is right answer.

(c) 512

Brain Teasers

Identify the words which will be blank boxs \Box .

$$(A) + 2 \square 6 \square 3 8 (B) - 3 \square 7 3 0 5 (B) - 3 \square 5 \\ ($$

In the (A) there will be number 5 in the blank box because by adding 8 to 5 we will get result as 5 therefore the total will be 13 in which 3 will be written in total one (1) will be carry forwarded and when we add 4 and 2 with carry (1) the total will be 7.

	4	8	2
+	2	5	6
	7	3	8

Now try the problem (B).

The some process can be used for subtraction when we subtract 7 from a number we get 5 as result therefore 7 + 5 = 12 which 2 will be in the one borrow from next digit therefore 2 will be in unit place 1 borrow will be borrow from next digit it will be 4 if we subtract a number we get result as 0

	6	5	2
_	3	4	7
	3	0	5

Exercise 17.1

1. Choose the correct 5 □ 3 (i) + 5 □	t option :		
$(A) 452 3 \Box 5 (ii) + 2 8 \Box$	(B) 800	(C) 582	
(A) 792 4 7 □ 3 (iii) + 3 □ 8 □	(B) 597	(C) 462	
(A) 7807 7 0 □ (iv) <u>- 3 □ 5</u>	(B) 6857	(C) 9803	
(A) 601	(B) 121	(C) 381	

$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		
$(A) 272 6 5 \Box 1 (vi) - 2 \Box 4 \Box$	(B) 392	(C) 202
(A) 5592	(B) 4242	(C) 2671

2. Find the number which will be in Blank Boxes.

(i)	$\begin{array}{c} 7 \\ + \square \\ \hline \square 3 \end{array}$	(ii) $\begin{array}{c} \square \\ + 4 \\ \hline \square 2 \end{array}$	(iii) $\begin{array}{c} 2 & 9 \\ + & 3 & \square \\ \hline \square & 4 \end{array}$	(iv) $\begin{array}{c} 2 \Box \\ + \Box 5 \\ \hline \Box 0 6 \end{array}$
(v)	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	(vi) $\begin{array}{c} 8 & 4 & \Box \\ + & 3 & 9 & 6 \\ \hline \Box & 2 & \Box & 8 \end{array}$	(vii) $\frac{1}{-6}$	(viii) $\frac{\begin{array}{c c} \Box & 8 \\ -2 & \Box \\ \hline 3 & 6 \end{array}$
(ix)	$ \begin{array}{c c} 3 & \square \\ - \square & 2 \\ \hline & 5 \\ \end{array} $	(x) $\begin{array}{cccc} 4 & 8 & \square \\ - \square & 5 & 1 \\ \hline 2 & \square & 4 \end{array}$	(xi) $\begin{array}{c cccc} 8 & \Box & 5 \\ - \Box & 2 & 4 \\ \hline 4 & 7 & \Box \end{array}$	(xii) $\begin{array}{cccc} 4 & 9 & 3 \\ - \Box & 5 & \Box \\ \hline 2 & \Box & 5 \end{array}$
(xiii)	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	(xiv) $\begin{array}{ccccccc} 3 & 2 & \Box & 0 \\ + 2 & \Box & 3 & 8 \\ \hline \Box & 6 & 9 & \Box \end{array}$	$(xv) \begin{array}{cccccccc} 9 & \Box & 9 & \Box \\ -8 & 9 & 2 & 7 \\ \hline 1 & 0 & \Box & 2 \end{array}$	
3. So	olve the following :	:		
	3 🛛 5	95 🗖		
(i)	+ 4 2 🗆	(ii) <u>- 4 □ 3</u>		
	8 2 2			

Exercise **17.2**

1. Choose the correct 5 2 \square 4 (i) $+$ 3 \square 6 \square	ect option :		
(A) 08004 $8 \Box 2 \Box$ (ii) + 4 1 $\Box 3$	(B) 10204	(C)08491	
(A) 12852	(B) 15852	(C) 10852	

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Practice Corner

Brain Teasers



- 2. 25 will be multiply by which number so that the unit place and tenth place digits should be zero.
- 3. To get ten times of a number a number should be multiplied by which number.
- 4. There are how many digits. If we multiply it by 5 the unit digit will be 5.
- 5. To make half of a number. The number is divided by which number.
- 6. Find out the number whose both digits are equal and divisible by 7.
- 7. What is that number by which all numbers are divisible.
- 8. What process in 9 and 6 has to be alone to obtained 54 as result.
- 9. What process should be used in 6 and 3 to get result 2.
- **10**. What is that number if we multiply a number by it result is always zero.
- **11**. What is the smallest two digits number which is divisible by 2 and 3.
- 12. What process should be used in numbers 12 and 7 to get result as 84.
- 13. What process should be used in numbers 15 and 45 to obtained result as 3.
- 45 should be multiplied by which two different numbers so that unit place digit will be 5.
- 15. Find out the smallest two digit number which is divisible by 4 and 6.



1. Write the digits in blanks :

	2	9
+	3	
		4

[True/False]

[True/False]

[True/False]

2. Write the digits in blanks:

$$\begin{array}{c}
4 & 7 \\
+ 2 & \square \\
\hline
\square & 2
\end{array}$$

3. If sum of two number is 7678 and one number is 4613 then find out second number.

4 .	Write	the	digits	in	blank
------------	-------	-----	--------	----	-------

		$\frac{5}{-2}$	9 □ 4
5.	Write the digits in blanks:	7 - □ 5	□ 3 4

6. State True or False :

- (i) If we multiply any number with zero, then result is always zero. [True/False]
- (ii) If we multiply any number with 1, then result always remains same. [True/False]
- (iii) If we divide 15 by a number 3, then the result is 5.
- (iv) When we subtract 0 from a number, then the result is changed.
- (v) To get four times of a number, we multiply a number by 4.

7. Objective Type Questions

- (i) The sum of two number is 6549 if one number is 3269, then the second number will be
 - (a) 2280 (b) 1880 (c) 3280 (d) 1492
- (ii) The product of two number is 24 if one number is 6, then second number will be (a) 6 (b) 4 (c) 5 (d) 2
- (iii) The product of two number is 15 if one number is 5, then second number would be (a) 5 (b) 3 (c) 12 (d) 18
- (iv) The number when divided by a number result remains same, then the number is multiplied by same number and result remains same.
 - (a) 0 (b) 1 (c) 2 (d) 3

8. Fill in the Blanks :

- (i) Brain teasers is used in during
- (ii) The number is when multiplied by 1 the result
- (iii) When a number is multiplied by zero, then the result is always
- (iv) The number is halved, then the number is divided by

Answer Key

Chapter 1 Numbers

Exercise-1

- **1.** (i) 1600 (ii) 5042 (iii) 7986 (iv) 80,930 (v) 97480 2. (i) Twenty Four Thousand Fifty Six (ii) Forty Thousand Nine (iii) Ninety Nine Thousand Nine Hundred Ninety Nine (iv) Eighty Thousand Five Hundred Eleven (v) Sixty Seven Thousand Seven Hundred Twenty Five. **3.** (i) 10000 + 2000 + 300 + 70 + 2(ii) 20000 + 3000 + 400 + 30 + 4 (iii) 40000 + 5000 + 300 + 00 + 2 (iv) 70000 + 5000 + 000 + 00 + 4(v) 60000 + 8000 + 800 + 70 + 7**4.** (i) 45772 (ii) 60026 (iii) 39908 (iv) 52811 (v) 80008 **5.** (i) 50000 (ii) 3000 (iii) 400 (iv) 50 (v) 2 (vi) 90000,20
- **6.** (i) 6; 20000 (ii) 6000, 60; 200 (iii) 60, 6; 2000, 200 (iv) 60000; 200, 2 (v) 60; 2000

- **7.** (i) > (ii) < (iii) = (iv) < (v) = (vi) >
- **8.** 10457, 75410
- **9.** (i) 25975, 26886, 30840, 37725, 40021 (ii) 53907, 57039, 57903, 59307, 59703
 - (iii) 74344, 74434, 74443, 77444, 77555
- **10.** (i) 51425, 50925, 42325, 41525, 34152 (ii) 86067, 85032, 82511, 81316, 81154 (iii) 76543, 76435, 74653, 74356, 73456

Examination Type Questions

- **1.** 10258, 85210
- **2.** (i) True, (ii) False (iii) True (iv) True
- **3.** 34678, 87643
- **4.** (i) False, (ii) False, (iii) True (iv) True
- **5.** 10457, 75410
- **6.** (i) False, (ii) True, (iii) True, (iv) False
- **7.** 12349, 94321
- 8. (i) True, (ii) False, (iii) False (iv) True
- **9.** (i) 41839, 41893, 43981
 - (ii) 1988, 19806, 19888, 19900
- **10.** (i) True (ii) False, (iii) False (iv) False

Chapter 2 Addition and Subtraction

Exercise-2

1.	(i) 3998	(ii)	9060	(iii)	9221	(iv)	7031
	(v) 2448	(vi)	3505	(vii)	1049	(viii)	1149
2.	(i) 9632	(ii)	9793	(iii)	7750	(iv)	10000
3.	(i) 3104	(ii)	2410	(iii)	1001	(iv)	358
4.	10998	5.	₹ 6500	6.	349		
7.	3065	8.	₹ 3900	9.	3271		
10.	(i) ह९२२	(ii)	७२१८	(iii)	१०४९९	(iv)	८२६९
	ξυυ (v)	(vi)	402	(vii)	१०७६	(viii)	१८९९
11.	₹ ९२०४	12.	४९०	13.	१०९९९	14.	७०
15.	५८८६३	16.	४११ m	17.	₹ 960	18.	₹210
19.	13423	20.	2436	21.	₹ 1099 co	ore	
22.	670	23.	₹13063	24.	3678		

Examination Type Questions

1				
-	-			

Column 'A'	Column 'B'
171 + 21	192
165 – 30	135
2086 – 6	2080
19 + 113	132

2. (i) 9288 (ii) 744

3.

Column 'A'	Column 'B'
144 + 15	159
125 + 25	150
216 + 118	334
2587 – 7	2580

4. (i) 6395 (ii) 3509

5. 602

6.		
	Column 'A'	Column 'B'
	१७,१४८	१ Hundred ४ tens, ८ ones, ७ thousands १ ten thousands
	६६,२६४	Six ten thousand, six thousand two hundred six tens four ones.
	८२,०००	Eighty two thousand
	३०४१	३००० + ४० + १

7. 70

8.

Column 'A'	Column 'B'
133 – 13	120
2018 + 18	2036
213 + 287	500
50 - 8	42

9. 1

10.

Column 'A'	Column 'B'
18 + 112	130
2072 – 12	2060
162 – 22	140
170 + 30	200

Chapter 3 Multiplication and Division

Exercise-3.1

1.	(i) 35750	(ii)	143524	(iii)	242060	(iv)	399600
	(v) 172494	(vi)	368445	(vii)	316827	(viii)	506155
	(ix) 507832	2 (x)	799200				
2.	(i) ૨१५८०८	c(ii)	१८५९००	(iii)	२१८०००	(iv)	३९०५४४
	(V) X0X688	ā,					
3.	10125	4.	₹90750	5.	74800 lit	re 6.	₹200688
7.	111825	8.	258672	9.	₹ 35000	10.	₹ 10,500
11.	27776 Tree	es		12.	21280		

Exercise-3.2

Т	

	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)
Q	17	26	40	54	17	27	28	47	28	27
R	0	0	0	0	0	14	0	1	12	0

2.					
	(i)	(ii)	(iii)	(iv)	(v)
Q	३६	२९	२६	२७	२४
R	0	0	0	ų	१७
3. ₹ 18		4	. 72 doze	en	
5. 26		6	. 13 m, ₹	10	
7. 27		8	. 78		
9. ₹12		10	. 22 oran	iges	

Examination Type Questions

1.	₹46,150		2.	1068
3.	9 m		4.	86400 seconds
5.	51840 beats	s in 12 hour.		
6.	₹125	7. 8		

Chapter 4 Vedic Mathematics

Exercis	e-4.1			Exercise	e-4.3		
1. 28	2. 18	3. 5	4. 199	1. (i) +4	(ii) +1	(iii) –2	(iv) -1
5. 257	6. 69	7. 1626	8. 3367	(v) +3	(vi) +9	(vii) –3	(vii) -4
9. 267	10 . 1192			Exercise	e-4.4		
Exercis	e- 4 .2			1. 108	2. 180	3. 221	4. 72
1. 68	2. 191	3. 197	4. 727	5. 154	6. 144	7. 156	8. 130
5. 3024	6. 1264	7. 4796	8. 146	9. 240	10. 216		
9. 5104	10. 715						



Answer Key

Examination Type Questions

1.	168	2.	197	3.	257
4.	(i) –5		(ii) –2	(iii)	+3

5. 7, 5, 1 6. 25	55 7. 176
--------------------------------	------------------

Chapter 5 Multiples and Factors

Exercise-5.1

1. (i) 8, 12, 16, 20	(ii)	14, 21, 28	3, 35	
(iii) 28, 42, 56, 70	(iv)	38, 57, 76	6, 95	
2. (i) 5, (9) , (3) , 13, (18)	(ii)	<u>(45)</u> , 11,	<u>(10</u>), 22,	(55)
(iii) (12) , (36) , 32 , (48) (iv) 25, 35, (15) , 40, (45)	, 18)			
3. 6, (12), 15, 18, (24), 30	4.	14, 21, 28	3	
5. 28, 32, 36 6. 10	7.	24.	8. 90	
9. 21, 24, 27, 30, 33	10.	30		
11. (i) 12, 18, 24, 30	(ii)	16, 24, 32	2, 40	
(iii) 30, 45, 60, 75	(iv)	38, 57, 76	6, 95	
12. Multiples of 9: 9, 18, 2	27, 36,	, 45, 54, 6	63, 72, 81	, 90,

12. Multiples of 9: 9, 18, 27, 36, 45, 54, 63, 72, 81, 90, 99, 108, 117, 126, 135, 144, 153, 162,
Multiples of 6: 6, 12, 18, 24, 30, 36, 42, 48, 54, 60, 66, 72, 78, 84, 90, 96, 102, 108
Common Multiples: 18, 36, 54, 72, 90.

Exercise-5.2

1.	(i) 1, 7	(ii)	1, 3, 9	(iii)	1, 2, 4, 8, 1	16	
	(iv) 1, 5, 25	(v)	1, 2, 4, 6,	8, 12	2, 16, 24, 48	8	
	(vi) 1, 3, 7,	9, 2	1,63				
2.	(i) 1, 2, 4	(ii)	1, 2, 5, 10)(iii)	1	(iv)	1, 2
3.	7			4.	15		
5.	6			6.	3		
7.	10 liter			8.	(i) 2	(ii)	6

Examination Type Questions

1. 5 liter	2. 6
3. 10	4. 10, 15, 20, 25, 30
5. 24, 27, 30	6. 5

Chapter 6 Understanding Fractions











8. (i)
$$1 + \frac{3}{5}$$
 (ii) $5 + \frac{7}{8}$ (iii) $8 + \frac{3}{7}$ (iv) $51 + \frac{3}{5}$
(v) $53 + \frac{2}{3}$

Examination Type Questions



12. Four-eighth (4/8) or shaded part is 1/2 of the whole.

Chapter 7 Equivalent Fractions

Ex	ercise-	7				
1.	(i) $\frac{2}{4}$	(ii)	$\frac{4}{6}$	(iii)	$\frac{2}{10}$	(iv) $\frac{4}{10}$
	(v) $\frac{4}{14}$					
2.	(a) Yes	(b)	No	(c)	No	(d) Yes
	(e) Yes	(f)	No			
3.	(i) $\frac{3}{12}$	(ii)	$\frac{9}{15}$	(iii)	$\frac{6}{15}$	(iv) $\frac{6}{21}$
	(v) $\frac{3}{18}$					
4.	(i) $\frac{2}{8}, \frac{3}{12}, \frac{3}{12}$	$\frac{4}{6}$		(ii)	$\frac{4}{6}, \frac{6}{9}, \frac{8}{12}$	
	(iii) $\frac{4}{10}, \frac{6}{15}$	$,\frac{8}{20}$		(iv)	$\frac{6}{8}, \frac{9}{12}, \frac{12}{16}$	
5.	(i) $\frac{3}{9}, \frac{4}{12}, \dots$. etc., 4	$\frac{4}{5}, \frac{6}{9}, \dots$	etc.	
6.	(i)	_		. r		
		$\frac{1}{2}$		=	$\frac{2}{c}$	
		3			0	



Examination Type Questions

1. $\frac{4}{6}, \frac{6}{9}, \frac{8}{12}; \frac{2}{14}, \frac{3}{21}, \frac{4}{28}$

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Answer Key

2. (i)
$$\frac{3}{12}$$
 (ii) $\frac{9}{15}$ (iii) $\frac{6}{15}$ (iv) $\frac{6}{21}$
(iv) $\frac{3}{18}$
3. (i) 3 (ii) 6 (iii) 3 (iv) 24
(v) $\frac{3}{18}$
4. (i) $\frac{2}{8}, \frac{3}{12}, \frac{4}{16}$ (ii) $\frac{4}{8}, \frac{6}{9}, \frac{8}{12}$

Chapter 8 Pattern

Exercise-8



2 6 12

1

4. (i)

(iii)

5.

2 3 4



- **6.** 36
- 7. 36 + 13 = 4949 + 15 = 64
- 64 + 17 = 81

Examination Type Questions



Chapter 9 Data

Exercise-9

1

2. (i) Sunday, 83

12

2 6

- nday, 83 (ii) Mon 52, Fri 52, Diff. 1
- **4.** Let 1000 match-box are represented by **S**.

Now, the required pictograph is given below :

Months	Number of match-boxes produced
March	0
April	8 8





Exercise 10.1

- **1.** ₹ 3212.75 **2.** ₹ 1453.25
- 3. (i) ₹ 6828.25
 (ii) ₹ 15291.50
 - (ii) ₹ 8124.00(iv) ₹ 13807.68

- **4.** ₹2750.40 **5.** ₹५५८.९० **6.** ₹४८८२.५० **7.** ₹8962.15
- **8.** ₹ 5215.20 **9.** ₹ 55926.00
- **10.** ₹ 105818.77

1.

Exercise 10.2

Bill/Cash Memo

Bill No	o428	Date-29/10/15					
	Vasudeva Milk Dairy						
		Kota					
Name	and address : He	ement, Kota	a				
S.N.	Items	Quantity	Rate	Amount			
1.	Milk	8 litre	₹ 40.25	₹ 322			
2.	Curd	3 kg	₹ 60	₹ 180			
З.	Ghee	2 kg	₹ 450	₹ 900			
4.	Buttermilk	5 kg	₹ 20.75	₹ 103.75			
One the and set	housand five hund eventy five only	Total	₹ 1505.75				
1. Errors and Omissions accepted.							

2. Goods once sold not be taken back.

Sign.

2. Bill/Cash Memo

Bill No	p108	Date-30/10/15			
		Kanpu	r		
Name	and address : Bh	neemraj			
S.N.	Items	Quantity	Rate	Amount	
1.	Maize seeds	5 kg	₹ 37.25	₹ 186.25	
2.	Urea	35 kg	₹ 45	₹ 1575.00	
З.	Insecticide	1 litre	₹ 235	₹ 235.00	
One the ninty s	₹ 1996.25				
1. Errors and Omissions accepted.					
2. Goods once sold not be taken back.					
				Sign	

3. Cost of soap calculated wrong. Correct bill is as following : Bill/Cash Memo

Bill No	p568	Date-25/10/15		
	Ma	amta Gener	al Store	
	Maha	aveen Naga	ar, Karauli	
Name	and address : M	anu, Karaul	i	
S.N.	Items	Quantity	Rate	Amount
1.	Candle	3 packet	₹ 20.25	₹ 60.75
2.	Soap	5 packet	₹ 40.15	₹ 200.75
З.	Sugar	4 kg	₹ 33	₹ 132.00
4.	Gram flour	2 kg	₹ 55.50	₹ 111.00
Five hundred four and fifty only. Total ₹ 504.50				
1. Errors and Omissions accepted.				
2. Goods once sold not be taken back.				
				Sign

4. Total of washing power, namkeen and oil is calculated wrongly.

Bill/Cash Memo							
Bill No	Bill No547 Date-22/10/15						
	Ma	anoj Provisio	on Store				
		Kanvas	S				
Name	: Smt. Meera						
S.N.	Items	Quantity	Rate	Amount			
1.	Washing Powder	2 kg	₹ 77.25	₹ 154.50			
2.	Namkeen	3 kg	₹ 140	₹ 420.00			
3.	Salt	5 kg	₹ 25.20	₹ 126.00			
4.	Oil	2 liter	₹ 75.40	₹ 150.80			
Eight hundred fifty one and thirty Total ₹851.30 only.							
1. Errors and Omissions accepted.							
2. Go	ods once sold not	t be taken b	back.				
	Sign.						

Examination Type Questions

1. **Bill/Cash Memo** Bill No.-170 Date-17/5/15 Raj Kirana Store Badgaon, Udaipur S.N. Items Quantity Rate Amount 10 kg ₹15 ₹150 Flour 1. 2. Rice 2 kg ₹30 ₹ 60 ₹ 60 3. Maize 5 kg ₹12 Wheat 8 kg ₹16 ₹128 4. Salt ₹12 ₹36 5. 3 kg 4 kg ₹ 35 6. Sugar ₹114 Five hundred forty eight only. Total ₹548 1. Errors and Omissions accepted. 2. Goods once sold not be taken back. Sign.

2.	Bill/Cash Memo					
Bill No	p126			Date-12/5/15		
	F	laj Provisior	n Store			
		Jaipur				
S.N.	Items	Quantity	Rate	Amount		
1.	Washing Powder	12 kg	₹ 77.25	₹ 927		
2.	Namkeen	13 kg	₹140	₹ 1820		
3.	Salt	25 kg	₹ 25.20	₹ 630		
4.	Oil	20 liter	₹ 75.40	₹ 1508		
Four t and e	housand eight hu ighty five only.	Total	₹ 4885			
1. Errors and Omissions accepted.						
2. Go	2. Goods once sold not be taken back.					
				Sign		



3. Amount calculated for soap and butter is wrong. For soap :

₹6×3=₹18

For Butter,

₹ 32×2 =₹ 64

4. Hint : Amount calculated for butter milk, soap and chilli souce is wrong.

Exercise-11.1

1.	(i) 75	(ii)	150	(iii)	345	(iv)	192
	(v) 270	(vi)	390	(vii)	$8\frac{1}{6}$	(viii)	$4\frac{2}{3}$
	(ix) $2\frac{11}{12}$	(x)	$14\frac{1}{3}$				

Exercise-11.2

1. (i) 1200 (ii) 390 (iii) 915 (iv) 14400 (v) 9900 (vi) 27000 (vii) $\frac{590}{72}$ (viii) $7\frac{5}{8}$ (ix) $20\frac{11}{12}$ (x) $41\frac{1}{4}$

Exercise-11.3

(i) 636 (ii) 8100 (iii) 12
 (i) 6 hour 52 min (ii) 19

(iii) 12 (iv) 100 (ii) 19 min, 10 sec For Buttermilk,

₹ $32.50 \times 2 = ₹ 65$ For Soap, ₹ $8 \times 3 = ₹ 24$ For Chilli Souce,

₹110×2 =₹220

Chapter 11 Time

	(iii) 11 hour 37 min 50 sec							
	(iv) 15 hour 16	min 54 s	sec					
3.	(i) 2 hour 46 m	in	(ii)	3 min 50	sec			
	(iii) 6 hour 33 n	(iv)	9 hour 50) min				
4.	9 hour 15 min		5.	56 min				
6.	Mohan, 42 mii	n	7.	7 hour 5	min			
8.	6 hour 1 min							
9.	(i) False (ii)	True	(iii)	True	(iv)	False		
Fxa	amination		e O	uestic	ons			
		ייאריי		acsin	5115			
1.	(i) (c) (ii) (b)	(iii) (b)	(iv)	(c)				
2.	(i) Ture (ii)	True	(iii)	False	(iv)	True		
	(v) True (vi)	True	(vii)	False	(viii)	False		
	(ix) True (x)	True	(xi)	False	(xii)	True		
	(xiii) False(xiv)	False	(xv)	False				
3.	(i) 3600 (ii)	86,400	(iii)	360	(iv)	1440		

Chapter 12 Weight

Exercise-12.1

1. (i) $\frac{1}{5}$	(ii) $\frac{2}{5}$	(iii) $1\frac{1}{4}$	(iv) $\frac{3}{4}$ (v) $1\frac{1}{2}$
2. 1250 gm	3. 1750 gm	4. 5500 gm	5. 1500 gm

Exercise-12.2

2. 1 kg 250 gm
4. 24 Packets
6. 12 kg 600 gm

8.	(i) 3500	(ii) 3400	(iii) 4750	(iv) 2200
9.	(i) $1\frac{1}{2}$	(ii) $2\frac{1}{4}$	(iii) $\frac{1}{10}$	(iv) $4\frac{3}{4}$

- **10.** (i) False (ii) True (iii) True (iv) False
- **11.** 401 kg 250 gm **12.** 3 kg 200 gm
- **13.** 8 kg 250 gm

Examination Type Questions

1.	(i) (b)	(ii)	(a)	(iii) (b)	(iv) (c)
(v)	(a)	2.	(i) 1000	(ii) $2\frac{1}{2}$	(iii) $1\frac{1}{2}$
	(iv) 2200	(v)	$3\frac{1}{10}$	(vi) 7450	
3.	(i) False	(ii)	True	(iii) False	(iv) True
	(v) True				



Chapter 13 Measurement (Length)

Exercise -	·13			Examina
1. (i) 12000	(ii) 10500	(iii) 2525	(iv) 1575	1. (i) (b)
(v) 42	(vi) 18			2. (i) 15000
2. (i) 1.2	(ii) 2.25	(iii) 5	(iv) 9.5	
(v) 1.5	(vi) 17.5			(v) 12000
3. 14 km 60	0 m			3. (i) True
4 . 13 km 40	0 m			(v) False
5 69 km 10	0 m			4. 5.15 m
J. 00 KIII 10	0 111			7 4 m 55 c

6. 15 km 600 m

Examination Type Questions

1.	(i) (b)	(ii)	(b)	(iii)	(b)	(iv)	(c)
2.	(i) 15000	(ii)	1	(iii)	120	(iv) $2\frac{1}{4}$	
	(v) 120000	0					
3.	(i) True	(ii)	False	(iii)	True	(iv)	False
	(v) False						

- **4.** 5.15 m **5.** 3.900 km **6.** 2 m 85 cm
- **7.** 4 m 55 cm **8.** 10 m 250 cm

Chapter 14 Perimeter and Area

Exercise-14

- **1.** (A) 65 cm (B) 38 cm (C) 28 cm
- **2.** (A) 156 cm (B) 108 cm (C) 160 cm (D) 84 cm
- **3.** (A) 42 cm (B) 24 cm (C) 36 cm (D) 45 cm
- **4.** Perimeter = 16 cm, Area = 15 cm^2
- **5.** 750 m^2 **6.** 370 cm **7.** 65 m **8.** 56 m^2
- **9.** 240 cm **10.** 5 m
- **11.** Perimeter = 12 m, Area = 8.75 m^2

- **12.** 9 m **13.** 2.25 m²
- **14.** Perimeter = 30 m, Area = 56.25 m^2

Examination Type Questions

- **1.** Area = 2025 m^2 **2.** Area = 25 m^2
- **3.** Area = 875 m^2 Perimeter = 120 m
- **4.** 32 sq. units.

Chapter 15 Holding Capacity

Exercise-15.1

- **1.** 1.6 liter or 1600 ml **2.** 24 liter
- **3.** 40 Packets **4.** 60 bottels
- **5.** (i) 500 (ii) two (iii) ₹ 90 (iv) 1000
- **6.** 60 liter **7.** 3 days **8.** $\frac{1}{4}$ filled

Exericse-15.2

1. 3500 m	2. $6\frac{1}{2}$ kg	3. 2.250 liter	4. 18 liter
5. 75 kg	6. 2500 ml	7. 1500 gm	8. 3000 ml
9. 250	10. 250	11. 648 kg	12. 225 liter
13. 35 liter	14. 5750 ml	15. 2750 m	

Examination Type Questions

- 1. 7400 gram2. 7750 gram3. 10000000 milligram4. 62
 - **4.** 02
- **5.** 1450 liter **6.** 5 liter
- **7.** (i) 2 liter + 200 ml
- (ii) 2 liter + 2 liter + 1 liter + 200 ml + 200 ml + 100 ml
- (iii) 2 liter + 1 liter + 200 ml

8.	5 liter	9.	74800 li	ter		10.	72
11.	(i) 1	(ii)	10		(iii) 1	(iv)	1
	(v) 1000						
12.	(i) True			(ii)	False		
	(iii) False			(iv)	True		



Chapter 16 Geometry

Exericse-16

- **1.** Do yourself.
- **2.** Do yourself.

Examination Type Questions

1. Obtuse

3. 180°

4. (i) All acute angles(ii) One right angle and two acute angles(iii) All right angles

5. 360°

6. (i) 0° to less than 90° (ii) 90°
(iii) more than 90° and less than 180° (iv) more than 90° and less than 180° (v) 180°
7. (i) True (ii) True (iii) True (iv) False
8. (i) (d) (ii) (c) (iii) (b) (iv) (a)

Chapter 17 Brain Teasers

Exercise-17.1

1.	(i) (c),	(ii) (b),	(iii) (a),	(iv)	(c), (v) (a	a) (vi	i) (b)
2.	$(i) + 6 \overline{13}$	(ii)		(iii)	$29 + 35 \overline{5} \overline{64}$	(iv)	21 +85 106
	6[(v) +2 9	2 3 84(vi) 07	8 42 + 3 9 6 12 3 8	(vii)	$\frac{10}{-6}$	(viii)	58 -22 36
	3 (ix) <u>–3</u>	$\frac{7}{5}$ (x)	485 -251 234	(xi)	895 -424 471	(xii)	493 -258 235
	(xiii) <u>+[</u>	521 <u>4</u> 4592 9806		(xiv)	3260 + 243 = 5698) 8]	
	(xv) _	9999 8927 1072					
3.	$(i) \frac{3[3]}{82}$	95 27 (ii) 22	952 -463 $\overline{489}$				

Exercise-17.2

1.	(i) (c),	(ii)	(a),	(iii)	(c)	(iv)	(b)
	(v) (c)	(vi)	(b)				
2.	4 or 8	3.	10	4.	5.(1, 3, 5,	7, 9)	
5.	2	6.	77	7.	1		
8.	Multiplica	ation		9.	Division		
10.	Zero (0)	11.	12	12.	Multiplica	ation	l
13.	Division	14.	3 and 5	15.	24		

Examination Type Questions

	29		47				59
1.	+35	2.	+25	3.	3065	4.	-25
	64		72				34
	77						
5.	-23						
	54						
6	(i) True	(ii)	True	(iii)	True	(iv)	False
0.	(I) IIUC	(11)	iiue	(111)	IIue	(1V)	1 4150
	(v) True						
7.	(i) (c)	(ii)	(b)	(iii)	(b)	(iv)	(b)
8.	(i) Calcula	tion	s	(ii)	Remains s	same	9
	(iii) Zero			(iv)	2		

