(A 103)

Open Basic Education (Adult)

MATHEMATICS

Level - A (Equivalent to Class 3)

विद्याधनम् सर्वधनं प्रधानम्

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Message from Chairman

Dear learner,

We can not hypothesize of the progress of any class/society and nation without education. Those countries are developed and progressive whose literacy rate is higher. Due to illiteracy not only we remain away from the activities happening around the world but also we are not capable to understand, to change and to intervene in the social development process due to illiteracy. The change in the society is only possible when the whole society is educated. Literacy does not mean only to read and write but to join people in the larger part of the society and it's activities and thereby bringing them in the main stream of the nation.

After independence many plans/schemes were launched to bring reforms in the field of education. As a result of these plans/schemes upward trend was observed in the level of education but at the same time numbers of illiterates have risen. To meet this challenge, "National Literacy mission" was launched on 5th may, 1988 throughout the country. A "complete literacy Abhiyan" was started but the number of illiterates could not be reduced.

In the next phase, on 8th September, 2009, under the National Literacy Mission, "Saakshar Bharat" programme was launched. Under this scheme along with formed education-vocational education, skill development/practical knowledge and the education related to moral value was also included.

The main objective of this mission is to continue the education of neo-literates. To achieve this objective, National Institute of Open Schooling has joined hand with "Saakshar Bharat". Under this scheme, NIOS will develop curriculum, Self Learning Material for the equivalency programme and after evaluation certificates to the neo-literates will also be issued. The passed out of Basic Literacy Assessment or those who could not continue their education due to any reason are covered under this programme. The provision has been made to upgrade the level of learning of the passed out of the Basic Literacy Assessment upto the Class 3.

Mathematics has been regarded as a dull subject but if this is made functional to real life then it could be made interesting. Keeping this in view, the content in this book has been developed in such a way that it is related to life situations such as knowledge of numbers understanding their pattern, writing them in numbers and understanding the process of addition, subtraction, multiplication and division are dealt in a practical way. Knowledge of fraction, metric system all has been dealt in a way relating to life situations. Knowledge of counting for money, dealing with kilogram, litre, meter etc are taught by relating to practical life situations

While developing this book- it has been kept in mind that age level experiences of adult learners is more than the learners from the formal system. Many things they learn through social and family activities, for example keeping the records of income-expenditure of labour, selling and purchasing the things, exchange of commodity, addition, subtraction of kilometers, litre, kilogram etc but they to not know formal writing and reading.

In the development of this book, it has been kept in mind the level of competencies and learners abilities, so that whatever knowledge transferred/transacted it is used by the learner immediately.

In this book, some questions under section "Let's see what you have learnt" have been given. At the end of the lesson an exercise is given. After every two lesson an assessment sheet is given. In the end a model question paper is given. The neo-literates can make their self assessment by doing these questions

A special thank to every intellectual who has helped in making this book interesting and useful. I fully believe that learners will like this book and will learn a lot from it. I wish for their bright future ahead. Any suggestions for improvement in the book are welcome.

Chairman
National Institute of Open Schooling

Contents

1

READING, UNDERSTANDING, FORMING AND WRITING NUMBERS

We will learn in this lesson

- Reading, understanding and writing numbers from 1 to 9, 10 to 99, 100 to 999 and upto 1000 in digits and words.

- Reading, understanding and writing place values of digits of numbers.

    (i)   Place value of digits of two digit numbers.

    (ii)   Place value of digits of three digits numbers.

    (iii)   Knowledge of least and greatest numbers of four digits.

- Comparing three digit numbers and reading, understanding and writing these numbers in descending & ascending orders.
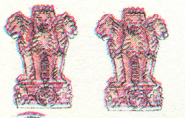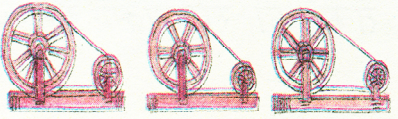
1.1   At first, lets us know the importance and usage of numbers

We buy and sell our goods. We keep our house hold income-expenditure records. Everyday, we make use of different units of measure in our homes.

Similarly government also keeps the income-expenditure records of it's plans. Companies also keep and maintan their records, all this is done with the helps of numbers. In simple language, maintaining records in terms of numbers is called Mathematics.

In this way, mathematics is used everywhere in our day to day activities.

Let us now read and understand numbers from 1 to 9 in digits and words:

Pictures	Number in digits	Number in words
	1	One
	2	Two
	3	Three
	4	Four
	5	Five
	6	Six
	7	Seven
	8	Eight
	9	Nine

From the above table you have learnt and understood numbers from 1 to 9 in digits and words. All these are one digit numbers. One digit numbers are called ones or units. First one digit number is 1 and so it is the least one digit number. The last digit of ones or units is 9 so it is the greatest one digit or unit number.

Remember

- A one digit number is called ones or unit.
- 1 is the least number of one digit numbers.
- 9 is the greatest number of one digit numbers.

We may also write these numbers as written below-

1	2	3	4	5	6	7	8	9

or

1, 2, 3, 4, 5, 6, 7, 8, 9

Let us see, what you have learnt   1.1

(i)   Count the pictures drawn below and write the numbers from 1 to 9 in digits and words:

Pictures	In digits	In words

(ii)   Write the digits in the below given blanks:

1					6			9

(iii)   Fill in the blanks:

a)   One digit numbers is called _____.

b)   1 is the _____ number of one digit numbers.

c)   9 is the _____ number of one digit numbers.

1.2   Now, you will read and understand numbers from 10 to 20 in digits and words or number names

Till now, you have learnt that 9 is the greatest of unit numbers. If we add one more in 9 (9 objects) then there are 10 objects and this number Nine (9) becomes Ten (10). Given below 9 mangoes, we add one (1) more mango making a total of ten (10) mangoes.
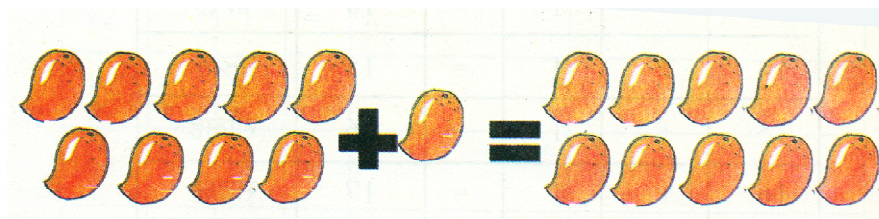
$$9 + 1 = 10$$

+	This is addition sign.
=	This is equal to sign.

You see, there are two digits in 10. Right side digit is 0. This is called zero. This is at ones place. Two digit number is called a number with tens. Second digits from right is 1. This is called tens digit or digit at tens place.

Tens	Ones
1	0

Now read and understand numbers from 10 to 20 in digits and words.

			In digits	In words
9	+	1	10	Ten
10	+	1	11	Eleven
11	+	1	12	Twelve
12	+	1	13	Thirteen
13	+	1	14	Fourteen
14	+	1	15	Fifteen
15	+	1	16	Sixteen
16	+	1	17	Seventeen
17	+	1	18	Eighteen
18	+	1	19	Nineteen
19	+	1	20	Twenty

Here the first number of two digits is 10, so this is the least number of two digits.

Remeber

10 is the least number of two digits.

These numbers can also be written as

10	11	12	13	14	15	16	17	18	19	20

or

10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20

Let us see, what you have learnt 1.2

(i)   **Write in digits and words by adding 1 in the given numbers in the table below:**

				In digits	In words
9	+	1	=		
10	+	1	=		
11	+	1	=		
12	+	1	=		
13	+	1	=		
14	+	1	=		
15	+	1	=		
16	+	1	=		
17	+	1	=		
18	+	1	=		
19	+	1	=		

9				13				17			20

(iii) **Fill in the blanks:**

a) The least number of two digits is _____.

b) There are _____ digits in a tens number.

c) 1 is _____ digit in the number 10.

(iv) **Join the same number written in digits and words:**

Digits	In digits	In words
3	8	Three
5	10	Five
8	11	Eight
9	3	Nine
10	19	Ten
11	20	Eleven
15	9	Fifteen
17	5	Seventeen
19	15	Nineteen
	17	Twenty

(v) **Fill in the blanks with correct numeral:**

1			4					8	10
11				15					20

7

(vi)   **Write the following numerals in words:**

5 _____	4 _____
7 _____	12 _____
9 _____	17 _____
11 _____	19 _____
15 _____	20 _____

(vii)   **Write the correct numeral in the ☐ box.**

i)   The least number of one digit.   ☐

ii)   The greatest number of two digits.   ☐

iii)   The least number of two digits.   ☐

iv)   There is ☐ digit in ones/unit number.

v)   There are ☐ digit in a Tens number.

1.3   Now, read and understand the numbers from 21 to 50 in terms of digits and words

Till now, you have learnt writing numbers, upto 20, in digits and words. Similarly by adding 1 in the number 20 and onward will make numbers from 21 to 50.

Let us read and understand the numbers from 21 to 50 in digits and words/number names:

21 to 30	31 to 40	41 to 50
20+1=21 Twenty One	30+1=31 Thirty One	40+1=41 Forty One
21+1=22 Twenty Two	31+1=32 Thirty Two	41+1=42 Forty Two
22+1=23 Twenty Three	32+1=33 Thirty Three	42+1=43 Forty Three
23+1=24 Twenty Four	33+1=34 Thirty Four	43+1=44 Forty Four
24+1=25 Twenty Five	34+1=35 Thirty Five	44+1=45 Forty Five
25+1=26 Twenty Six	35+1=36 Thirty Six	45+1=46 Forty Six
26+1=27 Twenty Seven	36+1=37 Thirty Seven	46+1=47 Forty Seven
27+1=28 Twenty Eight	37+1=38 Thirty Eight	47+1=48 Forty Eight
28+1=29 Twenty Nine	38+1=39 Thirty Nine	48+1=49 Forty Nine
29+1=30 Thirty	39+1=40 Forty	49+1=50 Fifty

1.4 Let us now read and understand numbers from 51 to 99 in terms of digits and words

Similarly by adding 1 in the numbers 50 onwards, numbers from 51 to 99 are formed.

51 Fifty one	61 Sixty One	71 Seventy One	81 Eighty One	91 Ninety one
52 Fifty Two	62 Sixty Two	72 Seventy Two	82 Eighty Two	92 Ninety Two
53 Fifty Three	63 Sixty Three	73 Seventy Three	83 Eighty Three	93 Ninety Three
54 Fifty Four	64 Sixty Four	74 Seventy Four	84 Eighty Four	94 Ninety Four
55 Fifty Five	65 Sixty Five	75 Seventy Five	85 Eighty Five	95 Ninety Five
56 Fifty Six	66 Sixty Six	76 Seventy Six	86 Eighty Six	96 Ninety Six
57 Fifty Seven	67 Sixty Seven	77 Seventy Seven	87 Eighty Seven	97 Ninety Seven
58 Fifty Eight	68 Sixty Eight	78 Seventy Eight	88 Eighty Eight	98 Ninety Eight
59 Fifty Nine	69 Sixty Nine	79 Seventy Nine	89 Eighty Nine	99 Ninety Nine
60 Sixty	70 Seventy	80 Eighty	90 Ninety	

1 to 99 numbers can also be written as shown below:

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	

The last number of two digit number is 99, so this is greatest two digit number.

Remeber

- The least number of two digit is 10.
- The greatest number of two digits is 99.

1.5 Let us know the three digit numbers or hundreds numbers

By adding 1 more in 99 or adding 1 more object in 99 objects we get 100 and we call it in words as hundred or we also call it one hundred.

Look at, 99+1=100

There are three digits in 100, since this is the first number of three digits (after 99 the greatest number of two digits), hence this is the least number of three digits.

In a three digits number, the first digits in right is ones, second digits from right is tens and the third digit is hundreds.

Hundreds	Tens	Ones
1	0	0

By adding 1 in 100 and the numbers beyond 100, we can get number upto 999.

Hundreds	Tens	Ones
100+1=101	104+1=105	108+1=109
101+1=102	105+1=106	109+1=110
102+1=103	106+1=107	
103+1=104	107+1=108	

We can also write this as-

101	102	103	104	105	106	107	108	109	110

or

101, 102, 103, 104, 105, 106, 107, 108, 109, 110

Similarly, by adding 1 in the numbers from 110 and above, we can get numbers upto 999.

Number 999 is the last number of three digits, hence this is the greatest number of three digits.

Remeber

- **Least number of three digits is 100.**
- **Greatest number of three digits is 999.**

1.6 Let us know the number 1000 or Thousand or one Thousand

Adding 1 more to 999 we get next higher number 1000, we also call it one Thousand.

$$999+1=1000$$

There are four digits in number 1000. This is the first number after the greatest number of three digits (999). This is the first number of four digits, hence this is the least number of four digits.

In the number 1000, first digit from right is **ones** second digit from the right is **Tens**, Third digit from right is **Hundreds** and the fourth digits is **Thousands.**

Thousands	Hundreds	Tens	Ones
1	0	0	0

Remeber

- The least number of four digits is 1000.

Note

- One digit numbers are called ones or units.
- The least number of one digit is 1.
- The greatest number of one digit is 9.
- Adding 1 more to 9, we get 10.
- The right side digit of a two digit number is ones or unit and the other is tens digit.
- The least number of two digits is 10.
- The greatest number of two digits is 99.

- Adding 1 more to 99 we get 100.

- Three digit number is called hundreds.

- The least number of three digits is 100.

- The greatest number of three digits is 999.

- The right side digit in a three digit number is ones or unit, second from right is tens and third from right is hundreds.

- Adding 1 more to 999 we get 1000.

- The least number of four digits is 1000.

- The right side digit is a four digit number is ones or unit, second is tens, third is hundreds and fourth is thousands.

Now, look at the following and understand:

9	+ 1	=	10	
99	+ 1	=	100	
199	+ 1	=	200	
299	+ 1	=	300	
399	+ 1	=	400	
499	+ 1	=	500	

599	+ 1	=	600
699	+ 1	=	700
799	+ 1	=	800
899	+ 1	=	900
999	+ 1	=	1000

Let us see, what you have learnt 1.3

(i)   Write the following numerals in words:

21	....	67	....
25	....	71	....
28	....	79	....
38	....	83	....
40	....	85	....
49	....	89	....
50	....	90	....

56	....	94	....
58	....	98	....
59	....	99	....

(ii)   Write the numerals in right order in blanks given under in the box:

121			124				128		130
171		173			176				180
191			194			197		199	

(iii)   Fill the blank box with right numeral:

- The least number of one digit is ☐
- The greatest number of one digit is ☐
- The least number of two digits is ☐
- The greatest number of two digits is ☐
- The least number of three digits is ☐
- The greatest number of three digits is ☐
- The least number of four digits is ☐

(iv)   Fill the blanks box with right numeral:

9 + 1 = ☐   599 + 1 = ☐

99 + 1 = ☐   799 + 1 = ☐

299 + 1 = ☐   999 + 1 = ☐

399 + 1 = ☐   499 + 1 = ☐

1.7   Let us know the place value of digits in numbers

From 1 to 9 are one digit numbers. We call them unit numbers or ones.

1.8   Let us know the plae value of digits in two digit numbers

Till now, you have learnt that there are two digits in numbers from 10 to 99. In these numbers the right digit is unit or ones and the second digit is tens. Example, in the number 18, 8 is a unit/ones digit and 1 is tens digit.

Now, let us know:

Tens	Ones
	8
1	0

8
+10
‾‾‾‾
18

Tens ones

I   8 ──────────→ 8

└──────────→ 10
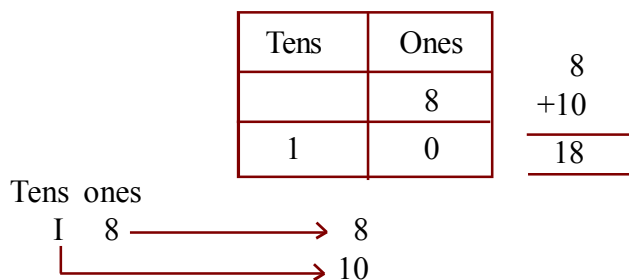
In the number 18, the digit 8 is at ones place, so, it's place value is 8 ones or 8. Digit 1 is at tens place, it's place value is one ten or 10.

Similarly,   25 = 2 Tens + 5 Ones = 20 + 5

38 = 3 Tens + 8 Ones = 30 + 8

49 = 4 Tens + 9 Ones = 40 + 9

92 = 9 Tens + 2 Ones = 90 + 2

1.9 Let us know the place value of digits in 9 three digits numbers

You know that adding 1 more to 99, you get 100. This is a three digit number. First digit from right is one, second is tens and the third is hundreds. As shown in the example given below:

In the number 325

Hundreds	Tens	Ones
3	2	5

5
20
Place value of digits   30
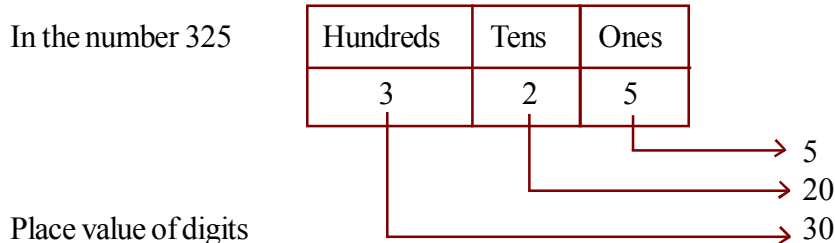
Now, let us know

In the number 325,   Place value of 5 is 5

Place value of 2 is 20

Place value of 3 is 300

H	T	O
		5
	2	0
3	0	0

In the number 405,   Place value of 5 is 5

Place value of 0 is 0

Place value of 4 is 400

H	T	O
		5
	0	0
4	0	0

Remeber

- The place value of zero (0) is always '0' in all the places.

1.10 Let us know the expended form of numbers

In the number 65, place value of 6 is 60 and the place value of 5 is 5. In the expended form we write as:

65 = 60 + 5

In 248, place value of 2 is 200, place value of 4 is 40 and place value of 8 is 8 and we write as:

248 = 200 + 40 + 8

Similarly,

86 = 80 + 6
40 = 40 + 0
105 = 100 + 0 + 5
492 = 400 + 90 + 2
1000 = 1000 + 0 + 0
609 = 600 + 0 + 9

Note

For knowing the place value of digits of a number, we look at the number of digits on the right side of that digit and put the same number of zeros to the right of that digit.

For example:

In 537, the place value of 5 is 500, as there are two digits on it's right side. Hence, we place two zeros on it's right side, similarly place value of 4 in 840 is 40.

Remember

- The place value of a digit at ones place is the same as the digit as there is no digit on it's right.

Similarly, for the digits at tens and hudreds place we put one zero and two zeros after the digit on right side to know the place value

Let us see, what you have learnt 1.4

(i) **In the below given boxes write the place value of digits as shown for the number 68.**

68

T	O
	8
6	0

Place Value of 8 is 8

Place Value of 6 is 60

H	T	O
		0
	5	0
4	0	0

450 ....

Th.	H	T	O
			0
		0	0
	0	0	0
1	0	0	0

1000 ....

(ii) **Given below numbers, write the digits at correct place as shown in the first case for 56:**

In short we write as:

O for ones

T for Tens

H for Hundreds

56

T	O
5	0
	6

450

H	T	O

970

H	T	O

(iii) **In the given box, write the place of the digit as indicated below:**

of 6 in 65 [   ]   of 0 in 702 [   ]

of 0 in 70 [   ]   of 9 in 892 [   ]

of 5 in 85 [   ]   of 5 in 725 [   ]

of 8 in 285 [   ]   of 1 in 1000 [   ]

of 6 in 698 [   ]   of 8 in 686 [   ]

(iv)   Write the correct numbers in the blanks given below, as shown in the first case:

236   =   200   +   30   +   6

540   = _____   + _____   + _____

478   = _____   + _____   + _____

666   = _____   + _____   + _____

805   = _____   + _____   + _____

(v)   Fill in the blanks as done in the first case.

347   =   3 Hundreds   +   4 Tens   +   7 Ones

592   = _____   + _____   + _____

706   = _____   + _____   + _____

299   = _____   + _____   + _____

800   = _____   + _____   + _____

(vi)   Write the place value of digits of numbers given below, in the table.

	Hundred	Tens	Ones
727 =			
232 =			
670 =			
103 =			

1.11 Let us now know the smaller, bigger, equal numbers and the symbols used for these

Among the one digit numbers, the number which is spoken first (1) is known as the least number and the number spoken last (9) is known as greatest number.

Note

- Among the one digit numbers, the number spoken first is known as least number (1). The last spoken one digit number is known as nine (9). This is the greatest one digit number.

Now, let us know this:

We use the following symbols for Comparing the numbers:

For equal numbers, we use the symbol $\boxed{=}$

For a bigger number, we use the symbol $\boxed{>}$

For a smaller number, we use the symbol $\boxed{<}$

> For unequal numbers, that number is bigger towords which the mouth of symbols open i.e. >, other is smaller.

For example

Comparing equal numbers such as 5 and 5 we wrtie 5 $\boxed{=}$ 5 or 5 is equal to 5.

Also comparing 6 and 9, we write 6 $\boxed{<}$ 9 or 6 is smaller than 9.

Comparing 7 and 5, we write 7 $\boxed{>}$ 5 or 7 is bigger than 5.

Comparing 6 and 6, we write 6 $\boxed{=}$ 6, or 6 is equal to 6.

Comparing 5 and 4, we write 5 $\boxed{>}$ 4, or 5 is bigger than 4.

Let us know this also:

- If the number of digits, in two numbers, are not equal. Then the number with more digits is greater.

For example:

Comparing 15 and 5, you see there are two digits in 15 and 5 is a single digit number, hence 15 is greater than 5.

Comparing numbers when both numbers are of two digits, the number with greater digit at tens place is greater than the other number.

For example:

Comparing 45 and 51, we can see.

Tens digit in 45 is 4.

Tens digit in 51 is 5, as 5 is greater than 4 hence 51 will be greater 45, and we write $\boxed{51}$ > 45. You can also say like this that 45 is smaller than 51 and we write as $\boxed{45}$ < 51

For example:

42	$\boxed{>}$	24
38	$\boxed{>}$	18
57	$\boxed{<}$	62
89	$\boxed{<}$	98

For example:

Comparing 65 and 68, you see the digit at tens place is same in both the numbers, so you will compare the digit at ones place.

In the number 65, digit at ones place is 5 and in the number 68, digit at ones place is 8. You know that 8 is greater than 5, hence the number 68 is greater than 65

<div align="center">

or | 68 > 65 |

</div>

You may also say that 65 is smaller than 68

<div align="center">

or | 65 < 68 |

</div>

Some other examples:

75	<	76		70	<	74
92	<	96		22	<	26
72	>	71		28	>	22

1.12 Let us now know the comparison of three digit numbers

To know the smaller or greater three digit numbers.

- First you compare the digit at hundreds place.

  The number whose digit is greater, will be greater, other number will be smaller.

- When digits at the hundreds place are equal then you compare the digits at tens place.

- If digits at hundreds and tens place are equal in two numbers, then you compare the digit at ones place and accordingly the number will be smaller or greater.

For example:

- Comparing 385 and 428, we can see

  In the first number the digit at hundreds place is smaller than the digit of number 428 at hundreds place and so the number 385 < 428 or 428 > 385

- Comparing 465 and 483, the digit at hundreds place is same, digit at tens place in number 465 is 6 and the digit at tens place in number 483, is 8 and 6 < 8, tens place digit of second numbers is greater, so 465 < 483

In numbers, 553 and 559, digits at hundreds and ten place are same digit at ones place in second number is greater i.e 559 > 553 or 553 < 559. If all the digits in two numbers are same then numbers are equal as shown:

8 = 8, 27 = 27 and 567 = 567

(i)   **Put the right symbol > < = in blank box:**

442 ☐ 565   542 ☐ 524

775 ☐ 772   968 ☐ 968

695 ☐ 691   192 ☐ 291

760 ☐ 790   456 ☐ 456

(ii)   **Which in the following is greater smaller or equal put the right symbol:**

9 ☐ 8   77 ☐ 77

7 ☐ 0   425 ☐ 370

17 ☐ 12   970 ☐ 969

25 ☐ 28   695 ☐ 690

40 ☐ 67   455 ☐ 455

96 ☐ 55   700 ☐ 790

1.13 Let us now understand to read and write numbers in descending - ascending order

1.13.1 Let us know number before and after a number:

Till now, you have learnt number upto 1000.

From a given number to know the numbers before this we subtract 1 from the number and to know the number after this number we add 1 to the given number.

For example

The number before and after are shown below.

Number before ☐7☐8☐9☐ Number after

No. Before	Number	No. After	No. Before	Number	No. After
8	9	10	9	10	11
15	16	17	99	100	101
18	19	20	199	200	201
29	30	31	299	300	301
39	40	41	499	500	501
49	50	51	599	600	601

479	480	481
684	685	686
998	999	1000

699	700	701
799	800	801
899	900	901

Let us see, what you have learnt 1.6

Write the numbers before and after the below given numbers:

No. Before	Number	No. After	No. Before	Number	No. After
	10			800	
	25			880	
	30			700	
	70			900	
	100			999	
	420			990	
	570			690	

1.13.2 Let us know about the ascending and descending order

If we add 1-1 to the given number this will give the ascending order and if we subtract 1-1, we get the decending order of numbers.

**As shown below the descending order of some numbers:**

9	70	80	168	600	900
8	69	79	167	599	899
7	68	78	166	598	898
6	67	77	165	597	897
5	66	76	164	596	896
4	65	75	163	595	895
3	64	74	162	594	894
2	63	73	161	593	893
1	62	72	160	592	892
	61	71	159	591	891
	60	70	158	590	890

By ascending order means adding 1-1 to the given number as shown below.

1	25	200
2	26	201
3	27	202
4	28	203
5	29	204
6	30	205
7	31	206
8	32	207
9	33	208
10	34	209

You can also understand the ascending and descending order as shown below.
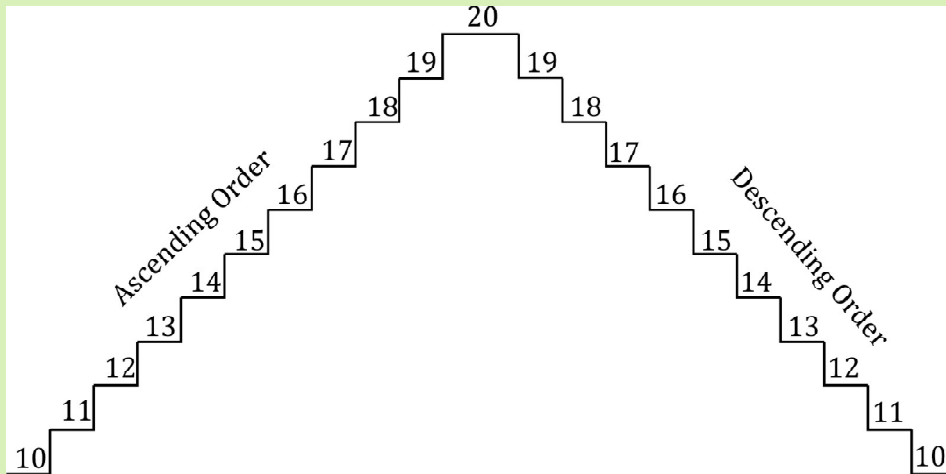
Let us see, what you have learnt 1.7

(i)   **Write the numbers in ascending order as shown in numbers from 20 to 28:**

20 to 28	20	21	22	23	24	25	26	27	28
40 to 48									
270 to 280										
990 to 999										

(ii)   **Write the below numbers in descending numbers in descending order:**

70 to 60											
500 to 490											
600 to 595							

1. A one digit numbers called a unit or ones

2. In a one digit number 1 is the least number and 9 is the greatest number.

3. A two digit number has one of it is digit it as tens.

4. In a two digit number, first digit from right is of ones and the second is of tens.

5. A three digit number is called a hundreds numbers. The least number of three digit gets is 100 and the greatest number of three digits is 999.

6. In a three digit number, first digit from right is ones, second digit of tens and third digit is hundreds.

7. A four digit number is a thousands number. Least number of four digit is 1000.

8. In a four digit number, first digit from right is ones, second is tens, third is hundreds and fourth is thousands. For Example:-

Th.	H	T	0
1	0	0	0

9. While writing a four digit number, first digit on right is of ones, second to the left is of tens, third hundreds and fourth is of thousands.

10. Two equal numbers are shown with the symbol "=".

11. The greater number is shown by > symbol before smaller.

12. The smaller number is shown by < symbol before greater numbers.

13. Comparing two digit numbers first we see the tens digit of two numbers. The number with greater tens digit of two numbers. The number with greater tens digit is greater number.

14. When the tens digit of two numbers is same and then we see the ones digit of two numbers and the number with greater ones digit is greater number.

15. Comparing three digit numbers, first we see the hundreds digit and number with greater hundred digit is greater, then compare seconds digit and the number with greater seconds digit is greater, when hundreds digits are same, when seconds digits one also some then we see the digits at ones place of two numbers and the number with greater ones digit is greater.

16. The place value of zero (0) is always '0' at all the places in a number.

17. The place value of a digit depends upon it's position i.e when the digit is at ones place, place value will be as the ones digit, it seconds place the place value will be adding '0' zero to the right of the digit and similarly putting as many number of zeros to the right of digit as the number of digits on it's right side.

1. Add the numbers and write the number as shown below:

   9 + 1 = 10   699 + 1 = ☐

   199 + 1 = ☐   899 + 1 = ☐

   399 + 1 = ☐   999 + 1 = ☐

2. Write the number in the middle of given numbers:

18	☐	20		457	☐	459
69	☐	71		778	☐	780
299	☐	301		656	☐	658

3. Write the number before and after in the following boxes:

   ☐ 9 ☐   ☐ 21 ☐

   ☐ 50 ☐   ☐ 125 ☐

   ☐ 289 ☐   ☐ 296 ☐

   ☐ 399 ☐   ☐ 401 ☐

   ☐ 800 ☐   ☐ 929

4. Fill in the blanks:

78 =	☐ Tens	☐ Ones		
96 =	☐ Tens	☐ Ones		
44 =	☐ Tens	☐ Ones		
20 =	☐ Tens	☐ Ones		
724 =	☐ Hundreds	☐ Tens	☐ Ones	
907 =	☐ Hundreds	☐ Tens	☐ Ones	
800 =	☐ Hundreds	☐ Tens	☐ Ones	
699 =	☐ Hundreds	☐ Tens	☐ Ones	

5. Fill in the blanks:

4 Hundreds 9 Tens 9 Ones = ☐

5 Hundreds 5 Tens 5 Ones = ☐

9 Hundreds 4 Tens 0 Ones = ☐

7 Hundreds 6 Tens 6 Ones = ☐

6. Write the given numbers in expanded form:

792 = ☐ + ☐ + ☐

684 = ☐ + ☐ + ☐

430 = ☐ + ☐ + ☐

7. For the below given numbers write the digits of the numbers under the corresponding place for their place value:

Number	Hundreds	Tens	Ones
450	4 (400)	5 (50)	0 (0)
76			
237			
999			
678			

8. In the following numbers, write the place value in the box, for the digits encircled:

(a)   4   ⑦   4   = ☐   (b)   ⑤   9   6   = ☐

(c)   6   9   ⓪ = ☐   (d)   9   7   ② = ☐

25

Let us see, what have you learnt

1.2 (ii)

9	10	11	12	13	14	15	16	17	18	19	20

(iii) (a) 10 (b) 2 or Two (c) Tens

(v)

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

(vi) Five   Four
      Seven   Twelve
      Nine   Seventeen
      Eleven   Nineteen
      Fifteen   Twenty

(vii) (I) 1,   (II) 9,   (III) 10,   (IV) 1 or   (V) 2 or Two

1.3 (i) Twenty One   Sixty Seven
             Twenty Five   Seventy
             Twenty Eight   Nineteen
             Thirty Eight   Eighty Three
             Forty   Eighty Five
             Forty Nine   Eighty Nine
             Fifty   Ninety
             Fifty Six   Ninety Four
             Fifty Eight   Ninety Eight
             Fifty Nine   Ninety Nine

(ii)

121	122	123	124	125	126	127	128	129	130
171	172	173	174	175	176	177	178	179	180
191	192	193	194	195	196	197	198	199	200

(iii) 1,   9,   10,   99,   100   999,   1000

(iv) 10,   100,   300,   400,   600,   800,   1000,   500

1.4 (i) Place Value of 0 is 0   Place Value of 0 is 0

Place Value of 5 is 50

Place Value of 4 is 400

Place Value of 0 is 0

Place Value of 0 is 0

Place Value of 1 is 1000

(ii)

507

H	T	O
		7
	0	0
5	0	0

970

H	T	O
		0
	7	0
9	0	0

(iii)   60,   0,   5,   80,   600,   0,   90,   5,   1000, 80

(iv)   187 = 100 + 80 + 7

540 = 500 + 40 + 0

478 = 400 + 70 + 8

666 = 600 + 60 + 6

805 = 800 + 0 + 5

(v)

	H	T	O
592 =	5	9	2
706 =	7	0	6
299 =	2	9	9
800 =	8	0	0

(vi)

	H	T	O
727 =	7	2	7
232 =	2	3	2
670 =	6	7	0
103 =	1	0	3

1.5   (i)   442   <   565   542   >   524

775   >   772   968   =   968

695   >   691   192   <   291

760   <   790   456   =   456

(ii)   9   >   8   40   <   67

7	>	0	96	>	55
17	>	12	77	=	77
25	<	28	425	>	370
			970	>	969
			695	>	690
			455	=	455
			700	<	790

1.6 (i)

9	10	11		799	800	801
24	25	26		879	880	881
29	30	31		699	700	701
69	70	71		899	900	901
99	100	101		998	999	1000
419	420	421		989	990	991
569	570	571		689	690	691

1.7 (i)

40	41	42	43	44	45	46	47	48		
270	271	272	273	274	275	276	277	278	279	280
990	991	992	993	994	995	996	997	998	999	

(ii)

70	69	68	67	66	65	64	63	62	61	60
500	499	498	497	496	495	494	493	492	491	490
600	599	598	597	596	595					

1.   199 + 1 = 200

       399 + 1 = 400

       699 + 1 = 700

       899 + 1 = 900

       999 + 1 = 1000

2.

18	**19**	20
69	**70**	71
299	**300**	301
457	**458**	459
778	**779**	780
656	**657**	658

3.

8	9	**10**	**20**	21	**22**
49	50	**51**	**124**	125	**126**
288	289	**290**	**295**	296	**297**
398	399	**400**	**400**	401	**402**
799	800	**801**	**928**	929	**930**

4.   78 = 7 Tens 8 Ones

       96 = 9 Tens 6 Ones

       44 = 4 Tens 4 Ones

       20 = 2 Tens 0 Ones

       724 = 7 Hundreds 2 Tens 4 Ones

       907 = 9 Hundreds 0 Tens 7 Ones

       800 = 8 Hundreds 0 Tens 0 Ones

       699 = 6 Hundreds 9 Tens 9 Ones

5.   499, 555, 940, 766

6.

792	=	700	+	90	+	2
684	=	600	+	80	+	4
430	=	400	+	30	+	0

7.		Hundreds	Tens	Ones
	76	0	7	6
		(0)	(70)	(6)
	237	2	3	7
		(200)	(30)	(7)
	999	9	9	9
		(900)	(90)	(9)
	678	6	7	8
		(600)	(70)	(8)

8.   (a)   70   (b)   500   (c)   0   (d)   2

ADDITION AND SUBTRACTION OF NUMBERS

🎯 We will learn in this lesson

- Importance and usage of addition and subtraction of numbers in daily life.

- Addition and subtraction of one digit numbers.

- Addition and subtraction of numbers of two and three digits with and without carryover and borrowing in case of subtraction of two and three digit numbers.

- Estimate the addition and subtraction of two numbers.

- Simple addition and subtraction of rupees and paisa.

2.1 Let us know the importance and usage of addition and subtraction in daily life

We buy and sell goods. Keep records of income expenditure, be it an agriculture work, any business, house hold work or any labour activity. Every work requires addition and subtraction for income expenditure records. Each work of our daily life needs addition & subtraction. Mathematical work can't be completed without addition & subtraction. Four foundamental operations are required to solve mathematical problems. Using addition we solve multiplication problems and using subtraction we solve division problems.

Let us know about addition

Combining different objects or groups of same type is called addition.

When we combine two numbers to form a third number then we call it addition of numbers. We use the symbol $+$ for addition. We put the symbol $=$ before the number obtained by adding numbers. For example

$4+5 = 9$

2.2 Let us now learn addition of one digit numbers

Example : Ram has four geats. He purchased three more goats. How many goats he has now?
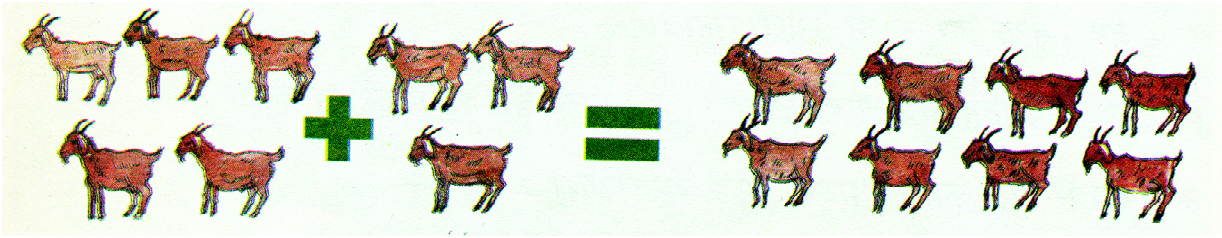
5 goats	+	3 goats	=	8 goats
5	+	3	=	8

You can also write this as shown below

```
    5
+   3
    8
```

Let us know the following

When we add '0' in a number, we get the same number.

Example : $2 + 0 = 2$ or
```
      2
    + 0
      2
```

$5 + 0 = 5$ or
```
      2
    + 0
      5
```

$0 + 7 = 7$ or
```
      0
    + 7
      7
```

2.3 Let us learn the addition of two numbers without carryover

There are 35 boys and 22 girls in a class. How many children are there in the class? Let us solve:

```
    T    O
    3    5   boys
+   2    2   girls
    5    7   childrens
```

Similarly

12 + 4 = 16

T	O
1	2
+	4
1	6

16 + 12 = 28

T	O
1	6
+ 1	2
2	8

Remeber

For addition of two number of two digits, we write ones below the ones of first number and tens below the tens of first numbers. We add ones of both numbers and tens of both numbers.

For example

T	O
2	8
+ 1	1
3	9

28 + 11 = 39

T	O
1	2
+ 1	5
2	7

12 + 15 = 27

T	O
1	8
+	0
1	8

18 + 0 = 18

T	O
1	5
+ 1	0
2	5

15 + 10 = 25

Let us know this also

Adding '0' zero in '0' zero, we get '0' zero.

Let us understand the following

	1	0
+	2	0
	3	0

	2	0
+	3	0
	5	0

	4	0
	2	0
	6	0

	2	5
+	3	2
	5	7

	6	5
+	3	3
	9	8

	9	9
+		0
	9	9

	3	7
+	5	2
	8	9

	0	0
+	3	5
	3	5

	4	8
	5	0
	9	8

(i)
```
    3   2              3   7              6   8
+       6          +   5   2          +   3   0
_____        _____        _____
_____        _____        _____
```

```
    7   4              7   0              4   2
+   2   5          +   5   0              5   4
_____        _____        _____
_____        _____        _____
```

(ii) There are 12 members in a family. 3 more people joined. How many members are there in the family now?

(iii) There are 56 houses in a village. 10 more houses constructed. How many houses are now in the village?

2.4 Let us now learn the addition of two numbers of three digits without carryover

For adding two numbers of three digits, we write ones digit under ones digit, tens digit under tens digit and hundreds digit under the hundreds digit of the first number.

There are 512 voters in a villages. 237 voters in the another village. How many total voters are there in the two villages?

```
  H   T   O
  5   1   2   voters in first village
+ 2   3   7   voters in another village
_____
  7   4   9   total voters in two villages
```

Similarly:

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

	H	T	O			H	T	O
	4	2	7			4	3	7
+	3	6	1		+	3	6	2
	7	8	8			7	9	9

	H	T	O			H	T	O
	4	3	0			6	0	7
+	3	6	2		+	2	3	0
	7	9	2			8	3	7

Let us see what you have learnt 2.2

(i)
	H	T	O
	6	1	0
+	3	0	7

(ii)
	H	T	O
	6	7	8
+	3	1	0

(iii)
	H	T	O
	6	7	8
+	3	1	0

(iv) 207 cows and 312 buffaloes are grazing in a grazing field? How many animals are grazing in the grazing field?

(v) Population of Zakon village is 412 and of Fatehpur village is 502. What is the total population of two villages?

2.5 Let us learn the addition of two numbers with carryover

When in the addition of numbers the sum of two digits at the ones place is 10 or more than 10, then one tens is carried over to the tens place and is added in the tens digit already there.

Let us understand the addition in the following example:

While adding 75 and 18, we add ones at first i.e. 5+8 = 13.
Now the ones digit 3 is written below the addition of 5 & 8.
The tens digit in 13 is carried over and 1 is written above the tens digit i.e. 7. Now add the tens digits and also the carried over digit is added in the tens digits. In this way 1+7+1 becomes 9. And the sum of 75+18 = 93.

carried over
	T	O
	1	
	7	5
+	1	8
	9	3
		5
+		8
	1	3

Similarly

(1)
	T	O		carryover	
	1				5
	6	5		+	9
+	2	9		①	④
	9	④			

(2)
	T	O		carryover	
	1				5
	7	5		+	7
+	1	7		①	②
	9	②			

3. 29 buffaloes and 37 cows are grazing in a shepherd. How many animals are there in the shepherd.

```
    T   O
    1           9
    2   9 buffaloes + 7
+   3   7 cows       ①⑥
    6   ⑥              Total animals
```

2.6 Let us now learn how to add two three digit numbers with carryover

For adding 796 and 156, we add ones first i.e. 6+6 = 12, 2 is written under the ones place. In 12, 1 is tens and carryover to tens place. Now you add the two digits 9 and 5 at tens place and also 1 the carry over i.e. 9+5+1=15 tens. In 15 tens, 5 tens is written under tens place and 1 is carryover as hundreds and is added in the hundreds digits i.e. 1+7+1=9. Hence the sum of 796 and 156 is 952.

```
        H   T   O
        ①   ①
        7   9   6
    +   1   5   6
        9   5   2
                6
              + 6
              12
    1 + 9 + 5 = ① 5
```

carried over

Similarly

1. In a village, 546 are mud houses and 384 are pacca houses. How many total houses are in the village?

```
                +1  +1
        H       T       O        5   4   6   mud houses
        6       1       1      + 3   8   4   pacca houses
    +   4     + 4     + 5        9   3   0   Total houses
    ① ⓪     + 8     + 3
            ① ③     ⑨
```

```
        1 carryover                 1 carryover                 1 carryover
2.  H   T   O           3.  H   T   O           4.  H   T   O
    8   3                   9   3                   8   5
+   1   7               +   1   7           3   +   3   8
1   0   0               1   1   0          +7       1   2   3
                                         ① ⓪
```

```
    1   1 carryover          1   1 carryover             1 carryover
2.  H   T   O           3.  H   T   O           4.  H   T   O
    8   3                   9   3                   8   5
+   1   7               +   1   7               +   3   8
1   0   0               1   1   0               1   2   3
```

```
    1   1 carryover              1 carryover                 1 carryover
5.  4   3   5           6.  3   0   4           7.  6   0   3
    2   8   6           + 3   3   8               2   0   8
+ 7   2   1           + 6   4   2               + 8   1   1
```

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2.7 Let us learn to solve word problems based on addition

Radha purchased oil for ₹18 and flour for ₹75. How much money Radha has to pay?

Let us see the procedure:

```
                              1 carryover
      5                        ₹ 7 5
    + 8                      + ₹ 1 8
    ─────                     ───────
    1 3                        ₹ 9 3
```

Hence Radha has to pay ₹93.

Similarly

Let us see the procedure for solution of the following problem.

Ram purchased a sewing machine for ₹588 and the cloth for ₹ 255. How much Ram has spent in total?

```
carryover → 1    1 ←         carryover
   1       ₹5  8   8              8
   8       ₹2  5   5            + 5
   5       ₹ 8  4   3          ① ③
  ① ④
```

Total ₹843 spent by Ram for sewing machine and the cloth.

Let us see, what you have learnt   2.3

(i) Vijay has ₹685. He received ₹258 more in the form of two days labour. How much money has he got now?

(ii) Radha purchased cloth for ₹302 and wheat flour for ₹ 108. In total how many rupees Radha spent?

(iii)
```
    3 7 2          2 4 6          3 7 9
  + 4 0 9        + 2 7 0        + 2 7 5
  ───────        ───────        ───────

  ───────        ───────        ───────
```

(iv)
```
    6 0 8          4 0 1          5 0 0
  + 2 0 7        + 3 0 9        + 7 0 0
  ───────        ───────        ───────

  ───────        ───────        ───────
```

(v)   2 6 5   4 0 9   6 0 8

         + 6 3 9   + 2 0 1   + 1 1 5

_____   _____   _____

_____   _____   _____

2.8 Let us know about subtraction

When we remove some or all the objects from a group of same objects, this process is called subtraction. Similarly, when from a number we remove the some number or a number less than this number is called subtraction.

Note

- What is left after subtraction is called difference.
- $-$ is the symbol of subtraction.
- The difference of two numbers or the two group of objects is written after the symbol $-$. For example:

$5 - 3 = 2$

Let us understand the subtraction of one digit numbers

Six sparrows are sitting on the branch of a tree. 4 out of these have flown away. How many sparrows are left on the branch of the tree?

| 6 sparrows on the branch | $-$ | 4 have flown away | $=$ | Two are left on the branch |

6 Sparrows   **4 Sparrows**   **2 Sparrows**

We can also solve this like shown below:

Total sparrows   = 6

No. of sparrows flown away = 4

Left on the branch   = 2

Remember:

While subtracting we always subtract the digit below from the above digit:

      8   9   7

   $-$ 3 $-$ 3 $-$ 1

      5   6   6

2.9 Let us understand the subtraction of '0'

When we subtract '0' from a number, the answer is the same number.

For example:

$$9 - 0 = 9 \quad \text{or} \quad \begin{array}{r} 9 \\ -\ 0 \\ \hline 9 \end{array} \qquad\qquad 1 - 0 = 1 \quad \text{or} \quad \begin{array}{r} 1 \\ -\ 0 \\ \hline 1 \end{array}$$

$$5 - 0 = 5 \quad \text{or} \quad \begin{array}{r} 5 \\ -\ 0 \\ \hline 5 \end{array}$$

Let us see, what you have learnt 2.4

(i) $1 - 1 = $ _____
 $8 - 2 = $ _____
 $4 - 4 = $ _____
 $6 - 0 = $ _____
 $5 - 1 = $ _____

(ii)
$$\begin{array}{r} 9 \\ -3 \\ \hline \end{array} \qquad \begin{array}{r} 7 \\ -0 \\ \hline \end{array} \qquad \begin{array}{r} 5 \\ -3 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ -9 \\ \hline \end{array} \qquad \begin{array}{r} 3 \\ -3 \\ \hline \end{array} \qquad \begin{array}{r} 7 \\ -4 \\ \hline \end{array}$$

2.10 Let us now learn to subtract a one digit and a two digit number from another two digit number

When we subtract a one digit number from a two digit number then we subtract the ones digit from the ones digit and write the tens digit down as it is written in the two digit number.

For example:

T	O		T	O		T	O		T	O
2	7		3	5		4	6		2	8
–	6		–	2		–	4		–	5
2	1		3	3		4	2		2	3

Let us know this also

I have ₹25 in my pocket. I purchased groundnuts of ₹13. How many ₹ left in my pocket?

Let us know,

Total money = ₹ 2 5
Spent for groundnuts = ₹ 1 3
Money left = ₹ 1 2

Solution
$$\begin{array}{r} ₹\ 2\ 5 \\ -₹\ 1\ 3 \\ \hline ₹\ 1\ 2 \end{array}$$

Similarly:

$45 - 15 = 30$ Solution
$$\begin{array}{r} 4\ 5 \\ -\ 1\ 5 \\ \hline 3\ 0 \end{array}$$

$38 - 15 = 23$ Solution
$$\begin{array}{r} 3\ 8 \\ -\ 1\ 5 \\ \hline 2\ 3 \end{array}$$

```
  5 7          8 0          5 7
- 3 5        - 1 0        - 3 0
  2 2          7 0          2 7
```

2.11 Let us now understand the subtraction of two number with borrowing

Suppose a farmer has 25 cows. He sold 7 cows. How many cows are left with the farmer?

You know that first we subtract ones from ones of the greater number. In this case, the greater number 25 has a smaller ones digit we can not subtract 7 ones from 5 ones. We borrow one tens from the two tens. We also know that one tens has 10 ones. Now you have 15 ones you can easily subtract 7 ones from 15 ones i.e you get 8 tens, this one tens and 8 ones make 18.

T	O
1	10+5
2̶	5
–	7
1	8

1 T 1	O(10+5)
2̶	5
–	7
1	8

Similarly

While subtracting 17 from 36, you can not subtract 7 from 6 ones in the greater number. You borrow one tens i.e. 10 ones and 6 ones make 16 ones now you can subtract 7 ones from 16 ones i.e 9 ones. In the greater number now you have 2 tens and in the smaller number you have one tens that gives you one tens. One tens and 9 ones make 19. Hence subtracting 17 from 36, you get 19.

2 T 1	O (10+6)
3̶	6
–1	7
1	9

Similarly:

4 T	O (10+4)
5̶	4
– 1	8
3	6

8 T	O (10+4)
9̶	4
– 2	9
6	5

6 T	O (10+3)
7̶	3
– 3	8
3	5

6 T	O (10+3)
7̶	3
– 4	9
2	4

2.12 Let us now understand subtraction of three digit numbers with borrowing

You know that 7 ones cannot be subtracted from 5 ones of the greater number. You borrow one tens i.e. 10 ones from 4 tens to make 15 ones in the greater number. You can easily subtract 7 ones from 15 ones i.e 8 ones. You also see that 8 tens cannot be subtracted from 2 tens. You borrow one hundred that has 10 tens. You have now 12 tens at the tens place in greater number subtract 4 tens from 12 tens you get 8 tens. Now you see there

4 H	T(10+3)	O(10+3)
4̶	3̶	5
– 2	4	7
2	8	8

are 4 hundreds in the greater number and subtract 2 hundreds, you have now ②hundreds. In this way 288 is left after subtracting 247 from 535.

2.13 Let us know the subtraction with at the ones place

In the greater number '0' is at the ones place and 5 at the ones place in the smaller number. You borrow 1 tens from 3 and this makes 10 ones at ones place you can subtract 5 ones from 10 ones, left with ⑤ones. Now, you have 2 tens at the tens place. You cannot subtract 8 tens in the smaller number from 2 tens. You borrow one from hundreds place gives you 10 tens and 2 tens make 12 tens. Now you can subtract 8 tens from 12 tens and you are left with ⑧tens. You have 8 hundreds and you can subtract 2 hundred left with ⑥hundreds. Now you see 3 encircled digits 6 hundred 4 tens and 5 ones. Hence 930–285=645

8 H	T 2(10+2)	O(10+0)
9̶	3̶	0
− 2	8	5
6	4	5

Similarly

6 H	4 T (10+0)	4 O (10+0)
7̶	5̶	0
− 2	6	5
4	8	5

8 H	4 T	O (10+0)
6̶	5̶	0
− 3	7	5
2	7	5

Let us see what you have learnt 2.5

(i)	2 3 0	(ii)	3 5 0	(iii)	7 2 0
	− 1 7 5		− 2 8 5		3 5 7
	_____		_____		_____
	_____		_____		_____

2.14 Let us now learn to subtract when there is zero '0' in the middle of the greater number

For subtracting 128 from 605, you first try to subtract 8 ones from 5 ones, you can not subtract. Now, you borrow from tens place but there is zero '0' you can't borrow. Now you borrow from the hundreds place. You will get 10 tens (1 hundred = 10 tens) at the tens place. Now you can borrow one ten (10 ones) from 10 tens.

5 H	9 T (10+1)	O (10+5)
6̶	0̶	5
− 1	2	8
4	7	7

This will make 10 ones at ones place and 9 tens at tens place in the greater number. You can subtract 8 ones from 15 ones, you are left with 7 ones. Subtract 2 tens from 9 tens you are left with ⑦tens. Subtract 1 hundred from 5 hundreds, left with ④hundreds. Hence 605 – 128 = 477

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Similarly:

8 ~~9~~	9 ~~0~~ (10–1)	5 (10+5)		6 ~~7~~	9 ~~0~~ (10–1)	2 (10+2)
– 4	7	6		2	5	5
4	2	9		4	4	7

Let us see what you have learnt 2.6

(i)   6 0 2
     – 3 4 7
   _____
   _____

(ii)   5 0 2
     – 1 7 7
   _____
   _____

(iii)   3 0 2
      – 2 7 5
    _____
    _____

(iv) 3 0 2
     – 1 7 5
   _____
   _____

(v)   5 0 5
     – 2 1 2
   _____
   _____

(vi)   8 0 5
      – 2 1 7
    _____
    _____

2.15 Let us now learn to subtract when there are zeros at both ones & tens place in the greater number

For subtracting 242 from 500, you first try to subtract 2 ones from '0' you cannot. Now you barrow one tens from the tens digits, there is also '0' Now you borrow form hundreds place. This will give you ten tens (One hundered = 10 tens) Now you can borrow one tens from 10 tens to give you 10 ones at ones place and left 9 tens at tens place. 5 ones subtracted from 10 ones left with (5) ones subtracted 4 tens from 9 tens left with (5) tens. Subtract 2 hundreds from 4 hundreds left with (2) hundreds. Now 500 – 242 = 258

Similarly:

7 H	9 T (10–1)	O (10+0)
~~8~~	0	0
– 3	4	5
4	5	5

(i)   7 0 0
     – 2 2 9
   _____
   _____

(ii) 7 0 0
     – 3 5 7
   _____
   _____

(iii) 9 0 0
      – 2 7 5
    _____
    _____

(iv)   6 0 0
      – 3 4 5
    _____
    _____

Addition

1.   Combining two or more than two numbers is called addition. Similarly putting together same things from two or more group of things and counting them to is called addition.

2.   The symbol for addition is $+$ and the number obtained after addition is written after the symbol $=$ on right side.

3.   Addition of '0' in any number will give the same number.

4.   Addition of two numbers of 3 digits is done by adding ones with ones, tens with tens and hundreds with hundreds.

5.   Addition of two numbers of three digits is if these are zero at the tens place in both the numbers then if there is carryover from the ones place only that will be written at tens place.

Subtraction

1.   When we remove some of the things from a group of same things or all the things, this is called subtraction. When we reduce a given number to a smaller number or reduce it to zero '0' this is called subtraction.

2.   The symbol at of subtraction is $-$.

3.   In subtraction, we subtract ones from ones, tens from tens and hundreds from hundreds of the two numbers.

4.   When we subtract '0' from a given number, the number will remain the same.

5.   Subtracting '0' from '0' will give the answer '0'.

Add the following numbers

1.   1 + 0 = _____

   0 + 3 = _____

   5 + 3 = _____

   0 + 0 = _____

   0 + 4 = _____

2.   3   9   9 4
       + 6   − 3   + 5
    _____   _____   _____
    _____   _____   _____

      3 2   9 1   3 0
      + 6   − 1 5   + 1 6
    _____   _____   _____
    _____   _____   _____

3.   3 9   5 5   4 6
     + 2 0   − 2 4   + 7
    _____   _____   _____
    _____   _____   _____

      4 5   6 6   5 1
      + 6   − 2 4   + 2 9
    _____   _____   _____
    _____   _____   _____

4.   3 1 2   7 0 2   8 0 0
     + 2 1 9   + 1 8 5   + 1 0 9
    _____   _____   _____
    _____   _____   _____

```
    5 0 0          7 1 1          8 2 5
  + 2 7 0        + 2 0 0        +1 0 0
  _____      _____      _____

  _____      _____      _____
```

Subtract the following numbers

5.
```
      7            8 5            9 4            3 0
    − 2          − 2 2          − 2 0          −1 5
  _____      _____      _____      _____

  _____      _____      _____      _____
```

6.
```
    4 2            4 0            6 3 5          7 3 0
  − 1 9          − 1 5          − 2 4 8        − 2 4 9
  _____      _____      _____      _____

  _____      _____      _____      _____
```

7.
```
    6 4            5 0 4          8 0 3
  − 2 8          − 3 0 9        − 1 0 9
  _____      _____      _____

  _____      _____      _____
```

8.
```
    9 1 2          6 3 5          7 3 0
  − 2 2 7        − 2 4 8        − 2 4 9
  _____      _____      _____

  _____      _____      _____
```

9. For diging a pond, one labourer got ₹538 and another got ₹375. How much money both of them will get?

10. Sheela purchased some material for ₹675 from one shop and for ₹285 from the another shop. For how many ₹ in total Sheela purchased the material?

11. Meena had ₹700. She purchased some material for ₹ 255. How much money is left with Meena?

12. Mohan earned ₹585 in a month. In the second month he earned ₹ 275. How much total did he earn?

13. Radha earned ₹402 in a month for selling milk. She purchased material for ₹309 out of this. How many rupees are left with Radha?

14. Shashikala had ₹950. She purchased material for ₹475. How much money left with Shashikala a now?

Answers

Let see, what you have learnt

2.1 (i) 38,   89,   98

　　　 99,   120,   96

(ii) 15

(iii) 66

2.2 (i) 917   (ii)   988   (iii) 967   (iv) 519   (v)   914

2.3 (i) 943   (ii)   410   (iii) 781, 516, 654

(iv) 815, 710, 1200   (v) 904, 610, 723

2.4 (i) 0, 6, 0, 6, 4

(ii) 6, 7, 2, 0, 0, 3

2.5 (i) 55   (ii)   65   (iii) 363

2.6 (i) 255   (ii)   325   (iii) 27

(iv) 127   (v)   293   (vi) 588

Exercise

1. 1, 3, 8, 0, 4

2. 9, 6, 99, 35, 76, 46

3. 40, 79, 53, 51, 90, 80

4. 531, 887, 909, 770, 911, 925

5. 5, 63, 74, 15

6. 23, 25, 387, 481

7. 36, 195, 694

8. 685, 387, 481

9. ₹913   10.₹960

11.₹445   12.₹860

13.₹93   14.₹475

Assessment Sheet - 1
(Lesson 1-2)

1. Count the pictures drawn in the following sheet and write the numbers in digits and words in the two columns drawn along side.

Pictures	In digits	In words
(four birds)		
(five flags)		
(six tigers)		
(nine apples)		
(three hangers)		
(two peacocks)		
(one emblem)		
(eight hockey sticks)		

2. Write the following numbers in words in the blank

    (i)   19 _____   (iv)   595 _____

    (ii)   79 _____   (iv)   646 _____

    (iii) 99 _____

3. Given below the numbers are written in words, in the given space write these into digits.

    (i)   Nine   _____   (iv)   Six Hundred Ninety Two _____

    (ii)   Seventeen _____   (v)   Seven Hundred Seventy Two _____

    (iii) Nineteen _____

4. Write down the numbers in order in the blank boxes

1			4			7		9	
121				125					130
	192				196		198		

5. Fill in the blanks boxes with correct number

    (i)   The least number one digits is   ☐

    (ii) ☐ is the greatest one digit number.

    (iii) The greatest two digit number is   ☐

    (iv) The greatest three digit number is   ☐

    (v)   The least number of four digits is   ☐

6. Fill in the blank boxes

    (i)   9+1 = ☐

    (ii)   99 + 1 = ☐

    (iii) 699 + 1 = ☐

    (iv) 899 + 1 = ☐

    (v)   999 + 1 = ☐

7. Write the place value of digits, encircled (0) of the following numbers, in the blank opposite to these.

    (i) 5 6 9 _____   (ii)   8 4 0 _____

    (iii) 8 6 9 _____   (iv)   9 7 2 _____

(v)　9　9　8　_____

8.　Write the following numbers in expanded form

   (i)　105 =　　　　　　　　　(ii)　496　=

   (iii)　689 =　　　　　　　　(iv)　1000=

   (v)　269 =

9.　Put the right symbols (>, <, =) in the blank ☐ given below:

   (i)　449 ☐ 570

   (ii)　680 ☐ 392

   (iii)　968 ☐ 968

   (iv)　192 ☐ 291

   (v)　239 ☐ 240

10.　Write the numbers before and after the given number.

   (i)　☐ 10 ☐

   (ii)　☐ 70 ☐

   (iii)　☐ 129 ☐

   (iv)　☐ 683 ☐

   (v)　☐ 999 ☐

11.　Write in ascending order as indicated below

   (i)　From 20 To 35 _____

   (ii)　From 61 To 80 _____

   (iii)　From 265 To 280 _____

   (iv)　From 890 To 900 _____

12.　Write in descending order as indicated below

   (i)　From 19 To 10 _____

   (ii)　From 150 To 135 _____

   (iii)　From 789 To 774 _____

   (iv)　From 999 To 985 _____

13. Add the followings and write the answer

(i)   2 8
     + 1 1
    _____
    _____

(ii)   3 9
     + 1 0
    _____
    _____

(iii)   5 0
      + 1 9
    _____
    _____

(iv) 3 7
    + 5 2
    _____
    _____

(v)   4 2
     + 4 5
    _____
    _____

14. A family has 12 memebers, 5 new persons joined the family. How many people are there now?

15. Add the following

(i)   6 1 0
    + 3 0 7
    _____
    _____

(i)   5 7 8
     + 3 1 0
    _____
    _____

(i)   8 2 4
     + 1 4 5
    _____
    _____

16. In a village there are 412 female and 569 male. How many people are there in the village?

17. Solve the following questions

(i)   9
     − 3
    _____
    _____

(ii)   7
     − 0
    _____
    _____

(iii)   8
      − 3
    _____
    _____

(iv)   3
     − 3
    _____
    _____

(v)   9
     − 9
    _____
    _____

18. Solve

(i)   2 7
     − 5
    _____
    _____

(ii)   2 9
     − 6
    _____
    _____

(iii)   2 5
      − 1 2
    _____
    _____

(iv)   4 5
     − 1 5
    _____
    _____

(ii)   4 0
      − 1 0
    _____
    _____

19. Solve

(i)   2 3 0
     − 1 7 0
    _____
    _____

(ii)   5 3 5
     − 2 4 7
    _____
    _____

(iii)   6 0 2
      − 4 7 5
    _____
    _____

(iv)   5 0 5
     − 2 0 9
    _____
    _____

20. Radha sold milk for ₹670 in a month. She purchased material for ₹309. How much money is left with Radha?

21. Sheela purchased some material for ₹675 from one shop and for ₹180 from another shop. How many ₹ in total sheela spent?

Answers

1. 4 Four

    5 Five

    6 Six

    9 Nine

    3 Three

    2 Two

    1 One

    10 Ten

2. (i) Nineteen   (ii) Eighty nine   (iii) Ninety nine

    (iv) Five hundred ninety five   (v) Six hundred forty six

3. (i) 9;   (ii) 17;   (iii) 29;   (iv) 692;   (v) 772

4. 2,   3,   5,   6,   8,   10

    122   123   124   126   127   128   129

    191   193   194   195   197   199   200

5. (i) 1;   (ii) 9;   (iii) 99;   (iv) 999;   (v) 1000

6. (i) 10;   (ii) 100;   (iii) 700;   (iv) 900;   (v) 1000

7. (i) 9;   (ii) 800;   (iii) 60;   (iv) 900;   (v) 900, 90, 8

8. (i) 100 + 0 + 5

    (ii) 400 + 90 + 6

    (iii) 600 + 80 + 9

    (iv) 1000 + 0 + 0 + 0

    (v) 200 + 60 + 9

9. (i) <;   (ii) >;   (iii) =;   (iv) <;   (v) <

10. (i) 9 and 11; (ii) 69 and 71; (iii) 128 and 130; (iv) 682 and 684; (v) 998 and 1000

11. (i) 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35
    (ii) 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80
    (iii) 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280
    (iv) 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900

12. (i) 19, 18, 17, 16, 15, 14, 13, 12, 11, 10
    (ii) 150, 149, 148, 147, 146, 145, 144, 143, 142, 141, 140, 139, 138, 137, 136, 135
    (iii) 789, 788, 787, 786, 785, 784, 783, 782, 781, 780, 779, 778, 777, 776, 775, 774
    (iv) 999, 998, 997, 996, 995, 994, 993, 992, 991, 900, 989, 988, 987, 986, 985

13. (i) 39;   (ii) 49;   (iii) 69;   (iv) 89;   (v) 87

14. Total 17 people

15. (i) 917;   (ii) 888;   (iii) 969

16. 981 total people

17. (i) 6;   (ii) 7;   (iii) 5;   (iv) 0;   (v) 0

18. (i) 22;   (ii) 23;   (iii) 13;   (iv) 30;   (v) 30

19. (i) 60;   (ii) 288;   (iii) 327;   (iv) 296

20. Total ₹361 left with Radha

21. Total ₹855 Spent by Sheela

3

MULTIPLICATION

🎯 We will learn in this lesson

- The importance and application of multipication in daily life.

- To understand multiplication as repeated addition.

- Learning and writing tables from 1 to 10.

- Multiplication of one digit number by one digit number.

- Multiplication of two or three digit numbers by one digit number.

- Multiplication of two or three digit numbers by two digit numbers (where the product should be less than 1000).

3.1 Let us know the importance and application of mutiplication in daily life

Sometimes while buying and selling of things and maintaining thr record, we need to add a number repeatedly for example, the cost of one packet of turmeric is ₹10, how much will have to pay for five such packets?

As the cost of one packet is ₹10, then we add 10, five times, then 10+10+10+10+10 = ₹50, we shall pay ₹50. Instead of adding 10, five times, if we multiply 10 by 5 then we shall get 10×5 = ₹50

If instead of five packets we want to purchase 100 packets then by adding 10, hundred times would have been time consuming and difficult with the help to multiplication, the process becomes simpler. In this way multiplication makes the processeasy insted of adding number of time we multiply to save time.

Note

- ₹ is the symbole of rupee.

- Adding a number repeatdly is called multiplication.

- Multiplication is the easy process of repeated addition.

- ⊠ is the symbol of multiplication.

3.2 Let us learn to multiply

3+3=6 or 3×2=6	In this process we multiply 3 by two instead of adding two times the multiplicand will be same.
3+3+3=9 or 3×3=9,	Similarly instead of adding 3, three times, are multiply 3 by 3 to get the same answer as multiplicand.
3+3+3+3=12 or 3×4=12,	Instead of adding 4 times, we multiply 3 by 4 to get the answer 6+6+6=18. Similarly instead of adding three times, we multiply 6 by 3 to get the answer 9+9+9=27 or 9×3=27, similarly instead of adding 9, three times, we multiply 9×3=27.

3.3 Note

- The number which is multiplied is called multiplicand the number by which we multiply is multiplier and the result after multiplication is called product.

As-

Multiplicand × Multiplied = Product

7×3=21   7 (Multiplicand) × 3 (Multiplier) = 21 (Product)

5×4=20   5 (Multiplicand) × 4 (Multiplier) = 20 (Product)

7×6=42   7 (Multiplicand) × 6 (Multiplier) = 42 (Product)

5×8=72   9 (Multiplicand) × 8 (Multiplier) = 72 (Product)

5+5+5+5=20, We an also write this 5×4=20 or

$$\begin{array}{rl} 5 & \text{Multiplicand} \\ \times 4 & \text{Multiplier} \\ \hline 20 & \text{Product} \end{array}$$

Similarly

6+6+6+6 = 24   6×4 = 24

$$\begin{array}{rl} 6 & \text{Multiplicand} \\ \times 4 & \text{Multiplier} \\ \hline 24 & \text{Product} \end{array}$$

3.4 Let us learn to consturct and write tables from 2 to 10

Adding a particular number repeatedly, this is called a table of that number.

Table of 2			
	Total	**Table**	**Speak**
2	2 one times = 2	2×1 = 2	two ones are two
2+2	2 two times = 4	2×2 = 4	two twos are four
2+2+2	2 three times = 6	2×3 = 6	two threes are six
2+2+2+2	2 four times = 8	2×4 = 8	two fours are eight
2+2+2+2+2	2 five times = 10	2×5 = 10	two fives are ten
2+2+2+2+2+2	2 six times = 12	2×6 = 12	two sixes are twelve
2+2+2+2+2+2+2	2 seven times = 14	2×7 = 14	two sevens are fourteen
2+2+2+2+2+2+2+2	2 eight times = 16	2×8 = 16	two eights are sixteen
2+2+2+2+2+2+2+2+2	2 nine times = 18	2×9 = 18	two nines are eighteen
2+2+2+2+2+2+2+2+2+2	2 ten times = 20	2×10 = 20	two tens are twenty

Table of 3			
	Total	**Table**	**Speak**
3	3 one times = 3	3×1 = 3	three ones are three
3+3	3 two times = 6	3×2 = 6	three twos are six
3+3+3	3 three times = 9	3×3 = 9	three threes are nine
3+3+3+3	3 four times = 12	3×4 = 12	three fours are twelve
3+3+3+3+3	3 five times = 15	3×5 = 15	three fives are fifteen
3+3+3+3+3+3	3 six times = 18	3×6 = 18	three sixs are eighteen
3+3+3+3+3+3+3	3 seven times = 21	3×7 = 21	three sevens are twenty one
3+3+3+3+3+3+3+3	3 eight times = 24	3×8 = 24	three eights are twenty four
3+3+3+3+3+3+3+3+3	3 nine times = 27	3×9 = 27	three nines are twenty seven
3+3+3+3+3+3+3+3+3+3	3 ten times = 30	3×10 = 30	three tens are thirty

Similarly

Table of 4			Table of 5		
(Speaking) Reading	Writing	How much	(Speaking) Reading	Writing	How much
Four ones are	4×1	4	Five ones are	5×1	5
Four twos are	4×2	8	Five twos are	5×2	10
Four threes are	4×3	12	Five threes are	5×3	15
Four fours are	4×4	16	Five fours are	5×4	20
Four fives are	4×5	20	Five fives are	5×5	25
Four sixs are	4×6	24	Five sixs are	5×6	30
Four sevens are	4×7	28	Five sevens are	5×7	35
Four eights are	4×8	32	Five eights are	5×8	40
Four nines are	4×9	36	Five nines are	5×9	45
Four tens are	4×10	40	Five tens are	5×10	50

Table of 6		
(Speaking) Reading	Writing	How much
Six ones are	6×1	6
Six twos are	6×2	12
Six threes are	6×3	18
Six fours are	6×4	24
Six fives are	6×5	30
Six sixs are	6×6	36
Six sevens are	6×7	42
Six eights are	6×8	48
Six nines are	6×9	54
Six tens are	6×10	60

Table of 7	Table of 8	Table of 9	Table of 9
7 × 1 = 7	8 × 1 = 8	9 × 1 = 9	10 × 1 = 10
7 × 2 = 14	8 × 2 = 16	9 × 2 = 18	10 × 2 = 20
7 × 3 = 21	8 × 3 = 24	9 × 3 = 27	10 × 3 = 30
7 × 4 = 28	8 × 4 = 32	9 × 4 = 36	10 × 4 = 40
7 × 5 = 35	8 × 5 = 40	9 × 5 = 45	10 × 5 = 50
7 × 6 = 42	8 × 6 = 48	9 × 6 = 54	10 × 6 = 60
7 × 7 = 49	8 × 7 = 56	9 × 7 = 63	10 × 7 = 70
7 × 8 = 56	8 × 8 = 64	9 × 8 = 72	10 × 8 = 80
7 × 9 = 63	8 × 9 = 72	9 × 9 = 81	10 × 9 = 90
7 × 10 = 70	8 × 10 = 80	9 × 10 = 90	10 × 10 = 100

3.5 Let us know some characteristics of multiplication

- Multiplication of two numbers gives the same reuslt even if we exchange the mulitplicand and multiplier as 5×3 or 3×5 = 15

$$\begin{array}{r} 3 \\ \times 5 \\ \hline 15 \end{array} \qquad \begin{array}{r} 5 \\ \times 3 \\ \hline 15 \end{array}$$

- Multiplying any number by 1 or 1 by any number, the product remains the same as the number. as 7×1 = 7 or 1×10 = 10

- Any number multiplied by zero or zero by any number, the product will be zero as 4×0 = 0 and 0×8 = 0

- Multiplying a number by 10 or 10 by any number the product is obtained by putting one zero to the right of the number.

  as 10 × 1=10,   10 × 2 = 20,   10 × 3 = 30,   10 × 9 = 90

- Multiplying 100 by any number or 100 by any number, The product is obtained by putting two zeros to the rights of the number.

  as 100 × 1 = 100,   100 × 2 = 200   100 × 3 = 300   100 × 9 = 900

  100 × 2 = 2 hundred = 200 = 2 × 100 = 2×2×2.....100 times = 200

  100 × 3 = 3 hundred = 300

Let us see what have you learnt   3.1

(a) Write the repeated addition in the the form of multiplication:

As- (i)   7+7+7+7 = 7×4   (ii)   2+2+2+2+2+2 = _____

(iii)   8+8 = _____   (iv)   6+6+6+6+6 = _____

(b) Write the multiplication in the form of repeated addition:

(i) $5\times2 = 5+5$

(ii) $2\times5 = 2+2+2+2+2 = $ _____

(iii) $8\times1 = $ _____

(iv) $1\times8 = $ _____

(c) Using tables, write the product:

(i) $6\times7 = $ _____

(ii) $8\times8 = $ _____

(iii) $9\times7 = $ _____

(iv) $10\times7 = $ _____

(v) $4\times9 = $ _____

(vi) $6\times8 = $ _____

(vii) $8\times7 = $ _____

(viii) $5\times9 = $ _____

(ix) $3\times9 = $ _____

3.6 Let us learn to multiply a two digit number by a one digit number

Multiply 21 by 3, this is done as shown below:

```
  2 1
× 3
  6 3      1×3 = 3
             2×3 = 6
```

First we multiply the ones digit of 21 by 3 and write it below ones place.

Then multiply the tens place digit by 3 and write below the tens place $3\times2 = 6$

In this way $21\times3 = 63$

Similarly:

```
  4 2                              5 0
× 4                              × 3
1 6 8      4×2 = 8               1 5 0
             4×4=16
```

3.7 Let us learn to multiply with carryover

```
As (+1)
   2 3
 × 4
   9 2        3×4 = (1)2,    2×4 = 8+1 carryover = 9
```

First multiply the ones digits 3 by 4 to get 12. Now 2 is written below ones place 1 is carryover. Now tens place digit 2 is multiplied by $4\times2 = 8$ add 1 carryover makes it 9.

In this may multiplying 23 by 4 gives 92.

Similarly

```
I.      +3
       4 6
     × 5              5×6 = (3)0
     2 3 0            5×4 = 20 add 3 carry over = (23)
```

58

II. 5 0
     × 6   6×0 = 0 (No carry over)
     3 0 0   6×5 = 30

(i)   1 2   (ii)   2 4   (iii)   3 3   (iv)   4 5
      × 4   × 2   × 3   × 5
  _____   _____   _____   _____

  _____   _____   _____   _____

(v)   6 0   (vi)   5 8   (vii)   3 4   (viii) 2 4
      × 4   × 3   × 6   × 4
  _____   _____   _____   _____

  _____   _____   _____   _____

(ix) 4 8
      × 5
  _____

  _____

3.8 Multiplying three digit numbers by a single digit number

+1 +2
 2 3 8   3×8 = 24
 × 3   3×3 = 9 + 2 carry over = 11
 7 1 4   3×2 = 6+1 carry over = 7

First multiply ones digit 8 by 3 to get 24. Write 4 below one's place and 2 as carry over at tens place and then multiply tens digit by 3×3=9 and add 2 to get 11. Write 1 below tens place 1 carry over to hundreds place. Now multiply hundred place digit by 3 to get 6 add 1 carryons to get 238×3 = 714.

Similarly:

(i)   1 1 2   (ii)   1 7 5   (iii)   1 7 0
         × 4   × 5   × 4
       _____   _____   _____
       4 4 8   8 7 5   6 8 0

(i)   1 1 8   (i)   1 0 9   (ii)   3 0 2
         × 7   × 6   × 3
       _____   _____   _____
       8 2 6   6 5 4   9 0 6

3.9 Solving daily life problems

1.   The cost of 1 kg. correct   = ₹70
     Cost of 3kg. correct   = ₹70×3
                                 = ₹210

₹ 7 0
  × 3
─────────
2 1 0

2. The cost of one kg. rice = ₹85
    cost of 5kg rice   = 85×5
                              = ₹425

```
  ₹8 5
  ×  5
  ₹4 2 5
```
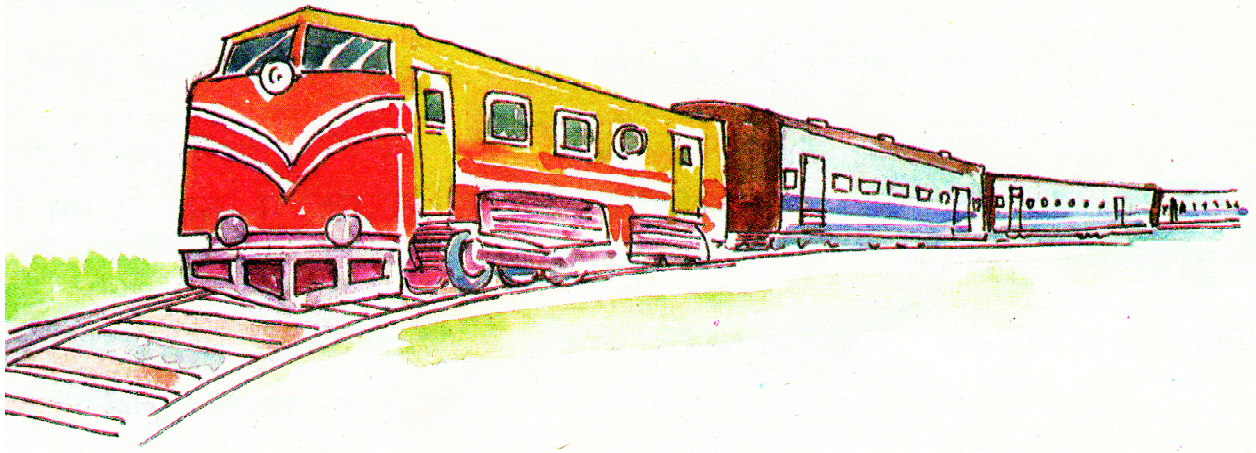

3. The train runs in one hour = 120 km
    In 5 hours it well run   = 120×5 = 600 km

```
  120
  × 5
  600 km
```

4. The saving of a person in are month = ₹170
    Total saving in 5 months   = ₹170×5

                                         = ₹850

```
  ₹1 7 0
  ×    5
  ₹8 5 0
```

5. In a hall these are 25 rows of chairs. There are 7 chairs in each how. How many chairs are there in the hall?

Sol. No. of rows in the hall = 25
      No. of chairs in each row = 7   25
      Total chairs in the hall = 25×7 or   × 7
                                                  175
                         = 175

      There are 175 chairs in the hall.

(i)   These are 9 rows of trees in a garden. 24 trees are there in each how. How many total trees are in the garden?

(ii)   These are 7 days in a week. How many days are there in 52 weeks?

(iii)   25 crackers in one packet. How many crackers will be in 5 such packet?

(iv)   54 flowers are needed to make a garland. How much flower will be required for making seven such garlands?

(v)   32 countries sent their teams for tennis world cup competetion. If each team was of 5 players, then how many players did participates in the competetion?

(vi)   There are 165 benches in a school. If 6 students can sit on each bench, then how many students can sit on these benches?

- Repeated addition of a number to itself is multiplication.

- Multiplication symbol is ⊠ .

- The multiplication of two numbers gives the same product when we change their order.

- Multiplying number by 1 or 1 by any number, product is the number itself.

- Multiplying '0' by any numeber or any number by '0' the product will be '0'.

- Multiplying a number by 10 or multiplying 10 by any number, the product will be by putting one '0' to the right of number.

- Multiplying 100 by a number or a number by 100. The product will be by putting two zeros to the right of the number.

- When the cost of one thing is given, then we use multiplication to find the cost of many things. We multiply the cost by number of things.

- When the cost price of one thing is given and to find the cost of many such things. We use multiplication.

Exercise

1.   Write repeated addition in the form of multiplication:

(i)   25+25+25+25 =   (ii)   30+30+30+30+30 =

2.   Fill in the blanks:

(i) $3 \times 7 =$ (ii) $9 \times 8 =$

(iii) $8 \times 6 =$ (iv) $10 \times 5 =$

(v) $8 \times 10 =$ (vi) $10 \times 0 =$

3.   Fill in the blanks

(i) $16 \times 7 = 7 \times$ _____   (ii) $10 \times 8 =$ _____

(iii) $9 \times 100 =$ _____   (iv) $68 \times$ _____ $= 68$

(v) $59 \times$ _____ $= 0$ (vi) $0 \times 0 =$ _____

4.   Fill in the blanks:

(i) $37 \times 7 =$ _____   (ii) 112×8 _____

(iii) $154 \times 6 =$ _____   (iv) $73 \times 9 =$ _____

(v) $39 \times 3 =$ _____   (vi) $41 \times 5 =$ _____

5.   Fill in the blanks:

(i) $23 \times 0 =$ _____   (ii) $100 \times 6 =$ _____

      (iii) 561×1 = _____   (iv) 100×8 = _____

6. Fill in the blanks

   10×2 =

7. Fill in the blanks:

   52×10 =

8. Fill in the blanks:

   108×8 = _____

9. Fill in the blanks:

   45×5 = _____

10. Fill in the blanks:

    5×49 = _____

Answers

Let see, what you have learnt

(a) (i) 7×4   (ii) 2×6

   (iii) 8×2   (iv) 6×6

(b) (iii) 8×1 = 8   (iv) 1×8 = 1+1+1+1+1+1+1+1

(c) (i) 42   (ii) 64   (iii) 63

   (iv) 70   (v) 36   (vi) 48

   (vii) 56   (viii) 45   (ix) 27

3.1 (i) 48   (ii) 48   (iii) 99

   (iv) 225   (vii) 225   (v) 240

   (vi) 174   (vii) 204   (viii) 96

   (ix) 240

3.2 (i) 216   (ii) 364   (iii) 125

   (iv) 378   (v) 160   (vi) 990

1. (i) 25×4 ☐ (ii) 30×5 ☐

2. (i) 21 ☐ (ii) 72 ☐ (iii) 48 ☐
   (iv) 50 ☐ (v) 80 ☐ (vi) 0 ☐

3. (i) 16 (ii) 80 (iii) 900 (iv) 1
   (v) 0 (vi) 0

4. (i) 259 (ii) 896 (iii) 924 (iv) 657
   (v) 117 (vi) 205

5. (i) 0 (ii) 600 (iii) 561 (iv) 800

6. 20

7. 520

8. 864

9. 225

10. 245

DIVISION

- To relate division as repeated subtraction
- To divide two or three digit number by one digit number
- To apply and use division in daily life

4.1 Let's understand the importance and usage of division in daily life

In our daily life, we need to divide objects, money or any other thing in equal parts. For example, what a farmer will do, if he wants to sow 12 kg seeds in 4 fields? If you want to distribute 12 mangoes equally among 4 children then what will you do? To distribute equally or to make equal portions is called division. If 12 mangoes need to be distributed among 4 children, then

- First, give one mango out of 12 mangoes to each child, 4 distributed out of 12 then balance is 8 mangoes i.e. 12-4=8

- Now, you will give one mango out of 8 mangoes to each child. 4 distributed out of 8 then balance is 4 i.e. 8-4=4

- Now, give one mango out of 4 mangoes to each child, 4 distributed out of 4 no mango will be left i.e. 4-4=0

- 12 Mangoes need to be divided among four children.

Sumit   Neeta   Gauri   Suman
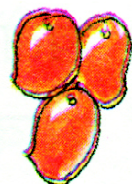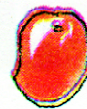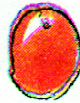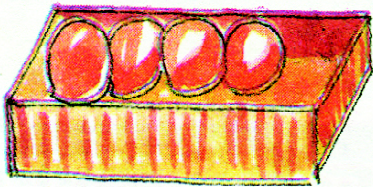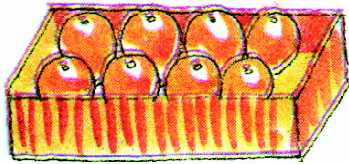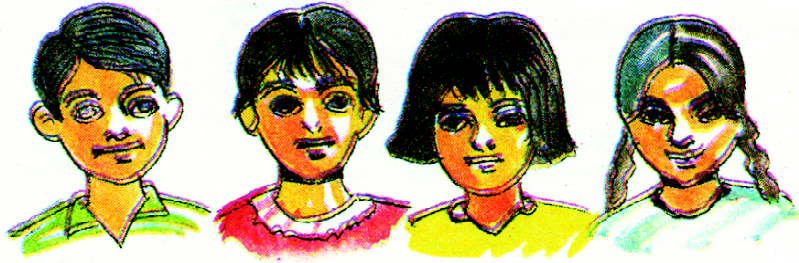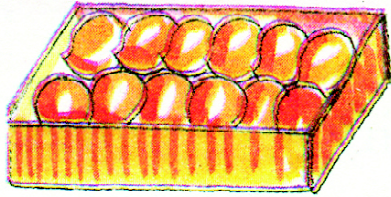
	Sumit	Neeta	Gauri	Suman
First Time	1	1	1	1
Second Time	1	1	1	1
Third Time	1	1	1	1
Each will get	3	3	3	3

In this way, we distributed 12 mangoes among 4 children i.e. 4 subtracted repeatedly from 12.

Remember

- To distribute equally of any object or money is called division. Symbol of division is $\div$.
- As repeated addition is called multiplication, similarly repeated subtraction is called division. Both are reverse process of each other.

4.2 Let's know to write and method of solution of division

Suppose, we need to distribute 12 mangoes among 4 children equally, then this distribution is the process of division.

To distribute 12 mangoes among 4 children we neet to divide 12 by 4.

We write it as $12 \div 4$ or $\dfrac{12}{4}$ and read it as 12 divided by 4.

Read the table of 4 untill you reach 12. 4x3=12, Now subtract 12 from 12 i.e. 12-12=0.

$$
\begin{array}{r}
4)\ \ 12\ \ (3 \\
\underline{-12} \\
0
\end{array}
$$

In this way each child will get 3 mangoes.

Note

- Process of equal distribution of any object, thing or money is called division.
- Repeated subtraction is called division.
- Division is the reverse process of multiplication. As the repeated addition is called multiplication, similarly repeated subtraction is called division.
- Symbol of division is $\div$.

Let's see, what you have learnt   4.1

(i) $12 \div 2$ $18 \div 3$

   $15 \div 5$ $25 \div 5$

   $30 \div 6$

- Division by zero to any number is not possible.
- If any number is being divided by itself, then result (Quotient) is always 1 and and remainder will be always zero (0).

For example

$8 \div 8$

Divisor Dividedend Result (Quotient)

$$8 \overline{)\ 8\ } (1$$
$$-8$$
$$\overline{0} \longrightarrow \text{Remainder}$$

Note

- If 0 is divided by any number then result/quotient will be zero.

For example:

$0 \div 6$

$$6 \overline{)\ 0\ } (0$$
$$-0$$
$$\overline{0}\ \ \text{Remainder}$$

4.3 Let's understand to divide two digit number by one digit number

We need to divide 42 by 2. First divide tens place of 42. 2 times 2 is 4 i.e. 2 x 2 = 4. Write it below ten's place. By subtracting 4 from 4, balance is zero. Now write unit place with zero below the line. Divide 2 by 2. 1 times 2 is 2 i.e. 2x1=2. Now subtract 2 from 2, the result will be zero. Hence result will be 21 and it is called quotient.

- $42 \div 2$ or $\dfrac{42}{2}$

Divisor Dividend (Quotient)

$$2 \overline{)\ 42\ } (21$$
$$-4$$
$$\overline{02}$$
$$-02$$
$$\overline{0}\ \leftarrow \text{Remainder}$$

Divisor $\rightarrow$ 2, Dividend $\rightarrow$ 42

Quotient $\rightarrow$ 21, Remainder $\rightarrow$ 0

We need to divide 42 by 3. First read the table of 3 according to tens place of 43 i.e. 4 which may be equal to 4 or less then 4 i.e. 3x1=3. Now subtract 3 from 4, the remainder is 1. Now with these tens and the units of 42 i.e. 2 make a new number and write below the line, you will get 12. Now read the table of 3 according to number 12 till you get 12 or less then 12 i.e. 3x4=12. Now subtract 12 from 12 to get remainder i.e. 0.

Similarly

· $42 \div 3$ or $\dfrac{42}{3}$

Hence Divisor = 3, Dividend = 42

Quotient = 14, Remainder = 0

$$3 \overline{)\ 42\ } (14$$
$$-3 \downarrow$$
$$\overline{12}$$
$$-12$$
$$\overline{0}$$

- $27 \div 3$ or $\dfrac{27}{3}$

$$3\overline{)\,27\,}(09$$
$$\underline{0}$$
$$27$$
$$\underline{-27}$$
$$0$$

Remember

- If in dividend the tens place is less then the divisor, then mark '0' at tens place of quotient and bring down unit with the remaining.

4.4 Let's understand to divide three digit numbers by one digit number

We need to divide 442 by 2. Now read table of 2 for hundreds place i.e. 4 which must be equal to 4 or less then 4, i.e. 2x2=4. Now subtract 4 from 4, reminder is zero. Now write the digit of tens place of 448 below the line which is 4. Now read the table of 2 which is equal to 4 or less then 4 i.e. 2x2=4, Now subtract 4 by 4, you will get 0 as reminder. Now write unite place i.e. 8 below the line. Now read lable of 2 which is equal to 8 or less then 8 i.e. 2x4=8. Now subtract 8 from 8, the remainder is 0.

- $448 \div 2$ or $\dfrac{448}{2}$

Divisor Dividend (Quotient)

$$2\overline{)\,448\,}(224$$
$$\underline{-4}$$
$$04$$
$$\underline{-\;4}$$
$$08$$
$$\underline{8}$$
$$0 \leftarrow \text{Remainder}$$

Similarly

$402 \div 3$

$$3\overline{)\,402\,}(134$$
$$\underline{-3}$$
$$10$$
$$\underline{-\;9}$$
$$12$$
$$\underline{-\;12}$$
$$0 \leftarrow$$

Let's see, what you have learnt 4.2

Fill in the blanks

(i) a) $0 \div 12 =$ _____   b) $9 \div 9 =$ _____

c) $15 \div 3 =$ _____   d) $0 \div 9 =$ _____

(ii) $832 \div 8 =$ _____   (iii) $963 \div 9 =$ _____

(iv) $535 \div 5 =$ _____   (v) $408 \div 4 =$ _____

(vi) $896 \div 4 =$ _____   (vii) $297 \div 3 =$ _____

4.5 Let's know the usage of division in daily life

We deal with various situations related to equal disribution. In those, generally some facts are given and we need to calculate some other fact related to the situation. Examples given below can help to clarify this.

Example 1 : 50 copies distributed equally among 10 children. How many copies did each child get?

Solution: Number of total copies = 50

Number of children = 10

No. of copies for each child = 50 ÷ 10 or, = 5

So, each child recieved 5 copies.

```
10) 50 (05
    -0
    ‾‾‾‾
    50
   -50
   ‾‾‾‾
    0
   ‾‾‾‾
```

Example 2: Groups of 7 books are formed out of 267 books. How many groups can be formed? How many books will be left ?

Solution : No. of total books = 267

No. of books in one group = 7

No. of groups can be formed = 267 ÷ 7

Total Groups = 38

Remaining Books = 1

```
7) 267 (038
   -0 ↓
   ‾‾‾‾
   26
  -21 ↓
  ‾‾‾‾
   57
  -56
  ‾‾‾‾
   1
  ‾‾‾‾
```

i.e. 38 groups of books can be formed and 1 book will remain as balance.

Example 3: A train coversd 560 kilometer distance in 7 hours with a uniform speed. What was the per hour speed of the train?

Solution : Distance covered in 7 hours = 560 kilometer

Distance covered in 1 hour = (560 ÷ 7) kilometer

```
7) 560 (080
   -0 ↓↓
   ‾‾‾‾
   56 ↓
  -56 ↓
  ‾‾‾‾
   00
  -00
  ‾‾‾‾
   0
  ‾‾‾‾
```

80 kilometers

the speed of the train was 80 kilometer per hour.

🔵 Let's see, what you have learnt   **4.3**

(i)   A tailor sews 6 kurta's in one day. How many days are required to sew 804 kurtas by tailor?

(ii)   7 Children can sit on a patti. How many patti's will be required for 357 children to sit?

- Process of equal distribution of any object, thing or money is called division.

- Division is repeated subtraction.

- Division is the reverse process of multiplication.

- Repeated addition is called multiplication and division is repeated subtraction.

- $\div$ is the symbol of division.

- Number by which we divide is called divisor the number which is to be divided is called dividend. Result is called quotient and the balance is called remainder.

- Division by zero. (0) to any number is not possible.

- If 0 is being divided by any number the quotient will be zero.

Exercise

1. Fill in the blanks

(i) $735 \div 7 =$ _____

(ii) $54 \div 6 =$ _____

(iii) $648 \div 8 =$ _____

(iv) $912 \div 3 =$ _____

(v) $930 \div 5 =$ _____

(vi) $852 \div 4 =$ _____

(vii) $540 \div 5 =$ _____

(viii) $966 \div 2 =$ _____

(ix) $705 \div 3 =$ _____

2. A Teacher has 672 copies. Each child was given equal copies. How many children did get copies?

_____   _____

_____   _____

3. There are 812 plants of tomatos's in a nursery. If 4 plants are planted in each row, then how many rows will be formed to plant all plants?

_____   _____

_____   _____

4. A person has 711 toffees. If he distributes 3 toffies to each child. How many child ren will recieve toffees?

_____   _____

_____   _____

5. A train covers 324 kilometer distance in 4 hours. How many kilometers train will cover in one hour?

_____   _____

_____   _____

Answers

Let's see, what you have learnt

4.1   (i)   6, 6, 3, 5, 5

4.2   (i)   (a) 0, (b) 1, (c) 5, (d) 0

(ii)   104   (iii) 107   (iv) 107   (v) 102   (vi) 224   (vii) 99

4.3   (i) 134 days   (ii) 51 Children

Exercise

1.   (i) 105   (ii) 9   (iii) 81   (iv) 304   (v) 186   (vi) 213   (vii) 108   (viii) 483   (ix) 235

2.   224   3.   203   4.   237 5.   81

Assessment Sheet-2

(from Lesson 3 - 4)

1. Write repeated addition in terms of multiplication.

   (i) $7+7+7=$

   (ii) $10+10+10+10+10 =$

   (iii) $14+14+14+14 =$

   (iv) $40+40 =$

   (v) $35+35+35=$

2. Write multiplication in terms of repeated addition:

   (i) $6 \times 3 =$_____

   (ii) $5 \times 5 =$_____

   (iii) $13 \times 4 =$_____

   (iv) $20 \times 5 =$_____

   (v) $37 \times 7=$_____

3. Find the product:

   (i) $19 \times 6 =$_____

   (ii) $9 \times 10 =$_____

   (iii) $37 \times 71 =$_____

   (iv) $114 \times 7 =$_____

   (v) $103 \times 8 =$_____

4. There are 15 pencils in a packet. How many pencils will be in similar 28 packets?

5. Fill in the blanks with correct number:

   (i) $9 \times 10 =$ _____

   (ii) $76 \times$ _____ $= 76$

   (iii) $23 \times 9 = 9 \times$ _____

   (iv) $38 \times$ _____ $= 0$

   (v) $7 \times 100 =$ _____

   (vi) $0 \times 0 =$ _____ $=$

6. Divide:

   (i) $33 \div 3 =$ _____

   (ii) $100 \div 10 =$ _____

   (iii) $17 \div 1 =$ _____

   (iv) $111 \div 1 =$ _____

   (v) $200 \div 2 =$ _____

   (vi) $0 \div 10 =$ _____

7. Divide:

   (i) $365 \div 5 =$ _____

   (ii) $500 \div 10 =$ _____

   (iii) $856 \div 4 =$ _____

   (iv) $76 \div 2 =$ _____

   (v) $105 \div 5 =$ _____

   (vi) $168 \div 8 =$ _____

8. Fill in the blanks:

   (i)   Symbol of division is _____.

   (ii) Repeated subtraction is called _____.

   (iii) $150 \div 1 =$ [   ]

   (iv) $79 \div$ [   ] $= 79$

   (vi) If we divide 0 by any number, then the qotient is [   ].

9. A person has 51 apples. He wants to distribute all these apples equally among 3 children. How many apples will each child receive?

10. A gardener makes 7 garlands in a day. How many days that gardner will take to make 259 garlands?

1. (i)   7x3

   (ii)   10x5

   (iii) 14x4

   (iv)   40x2

   (v)   35x3

2. (i)   6+6+6

   (ii)   5+5+5+5+5

   (iii) 13+13+13+13

   (iv)   20+20+20+20+20

   (v)   37+37+37+37+37+37+37

3. (i)   114

   (ii)   90

   (iii) 2627

   (iv)   798

   (v)   824

4. 420

5. (i)   90

   (ii)   1

   (iii) 23

   (iv)   0

   (v)   700

   (vi)   0

6. (i)   11

    (ii)   10

    (iii) 17

    (iv)   111

    (v)   100

    (vi)   0

7. (i)   73

    (ii)   50

    (iii) 214

    (iv)   38

    (v)   21

    (vi)   21

8. (i)   ÷

    (ii)   division

    (iii) 150

    (iv)   1

    (v)   0 or Zeero

9. 17

10. 37

5

FRACTION

- Importance and use of fraction in daily life

- Knowledge of equal parts of a unit (whole) or group

- Understanding parts of unit (whole) or a group in terms of fraction

- Understanding, reading and writing of fraction in terms of numerator and denominator

5.1 Let's know the importance and use of fraction in daily life

You use many things daily. Sometimes you need to divide these. For example: Ramvati has a roti (Chapati). If she distributes that equally between two children, then how much roti each will get? In common language we will say that each child will get half.
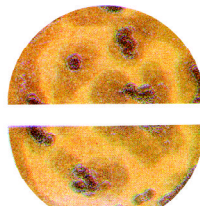
Fig 5 (i)   Fig 5 (ii)

Similarly if Ramvati distributes one roti in three equal parts then what will you say for one part? one-third
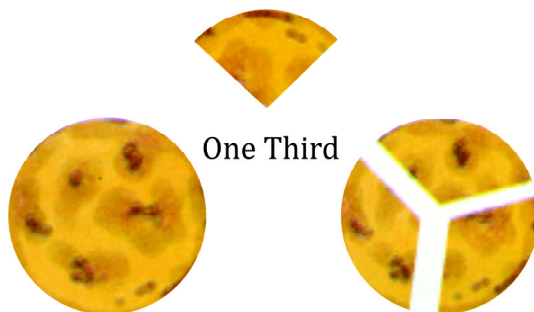
One Third

One Roti   Three Equal Parts

For a unit or a whole we write 1. Half or one-third is less then a unit or a whole.

When any object, figure or goods is being divided in equal parts then for representation of one part out of the whole we use fraction.

5.2 Let's know about numerater and denominater

Figure given below is divided in two equal parts, in which one part is coloured, then what fraction will you write for this coloured portion?
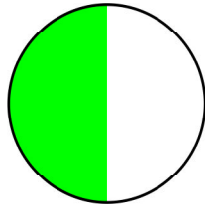
It means you divided the whole figure in two equal parts then each part is half of the whole. It is represented by $\frac{1}{2}$.

Let's see, what you have learnt   5.1

(i)   Count and write, in how many equal parts each figure is divided?
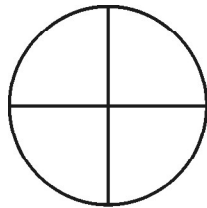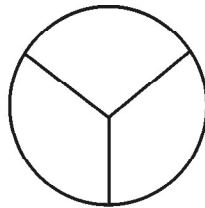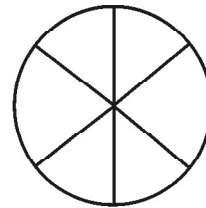
(a)   (b)   (c)
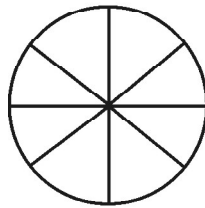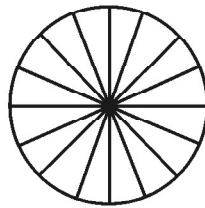
(d)   (e)   (f)
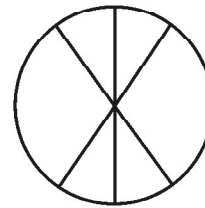
Coloured portion of the given figure is half. We write all half portions as $\frac{1}{2}$. Like this we can represented numbers in half. Let us see:
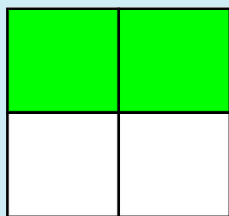
Half of 4 → 2
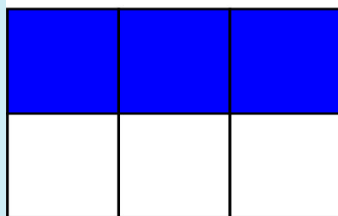
Half of 6 → 3
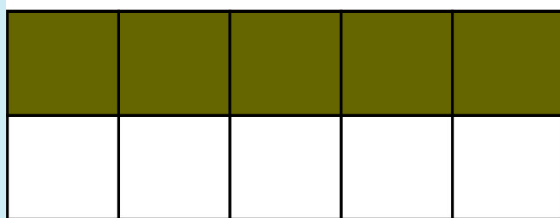
Half of 10 → 5
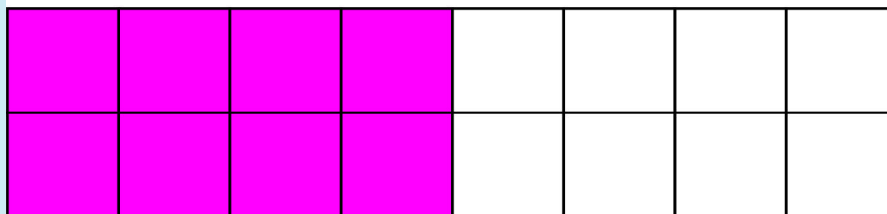
Half of 16 → 8

Remember:

We write half of a unit or whole as $\frac{1}{2}$. Digit written above the line is called numerator and digit written below the line is called denominater.

$\frac{1}{2}$ $\frac{\text{Numerator}}{\text{Deno min ator}}$

Half of a unit (whole) or group is written as $\dfrac{1}{2}$.

Total equal parts of a unit (whole) or group denotes denomiator.

Total selected equal parts from a unit or group denotes numerator.

Fraction is written as $\dfrac{\text{Numerator}}{\text{Denominator}}$.

5.3 Let's know one-fourth $\left(\dfrac{1}{4}\right)$, three-fourth $\left(\dfrac{3}{4}\right)$, one third $\left(\dfrac{1}{3}\right)$ and two third $\left(\dfrac{2}{3}\right)$

If we divide a unit or whole in four equal parts and take three parts, then we write it as

$\dfrac{3}{4}$ = Taken 3 parts from total 4 equal parts

below the paper is divided in 4 equal parts in two different ways. One part is coloured out of 4.
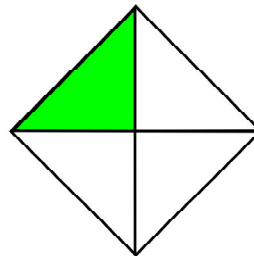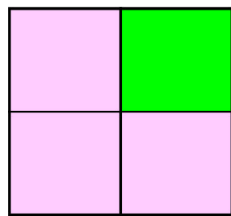
When a figure is divided in some equal parts then number of these parts is called denominator. For example the denominator for the figure given below is 4.

For writing fraction for coloured portion the numerater is 1.

$\dfrac{1}{4}\;\dfrac{\text{Numerator}}{\text{Denominator}}$
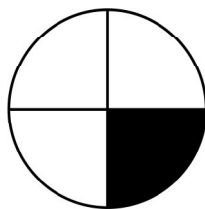
For writing fraction, we write number of coloured portion above the line and number of total equal parts below the line. Number written above below the line is called numerator and denominater respectively.

$\dfrac{\text{Number of coloured portions (Numerator)}}{\text{Number of total equal portions (Denominator)}}\quad \dfrac{1}{4}$

We read it as one-fourths.

We can write fraction for uncoloured portion as:

$$\frac{\text{Number of uncoloured portions (Numerator)}}{\text{Number of total equal portions (Denominator)}} \quad \frac{3}{4}$$

We read it as three-fourth.

If one unit or whole is divided in 3 equal parts and one portion is coloured then

Total equal portions are 3.

Coloured portion is 1.

One third portion is coloured and we can write it as $\frac{1}{3}$ or one third

Similarly if two portion are coloured out of 3 equal parts, then

Total equal portions are 3.

Coloured portion are 2.

2 Portions out of 3 or two-third portion is coloured.

We can write it as $\frac{2}{3}$ or two third.

Let's Revise

1. When any object, figure or good is divided in equal parts then for representation of one or more parts out of the whole, we use fraction.

2. In representing fraction the number above the line is called numerator and the number below the line is called denominator.

3. When any object or figure or good is divided in two equal portions then each portion represents as $\frac{1}{2}$ and it is called half.

4. If any object or figure is divided in three equal parts and one portion is coloured out of them then fraction for coloured portion will be written as $\frac{1}{3}$ and we call it one-third.

5. If any object or figure is divided in four equal parts and one portion is coloured out of them the fraction for coloured portion will be written as $\frac{1}{4}$ and we called it one-fourth.

6. If any object or figure is divided in four equal parts and three portoins are coloured out of them then fraction for coloured portion will be written as $\frac{3}{4}$ and we call it three-fourths.

7. Half = $\frac{1}{2}$ One third = $\frac{1}{3}$ One fourth = $\frac{1}{4}$ Three fourth = $\frac{3}{4}$

1. Write coloured portion as fraction as shown in part (i):

(i)

$$\frac{\text{Numerator}}{\text{Dene min ator}} \quad \frac{1}{4}$$

(ii) _____

(iii) _____

(iv) _____

(iv) _____
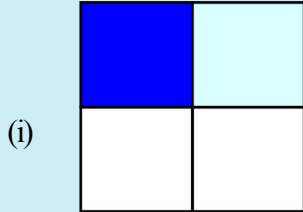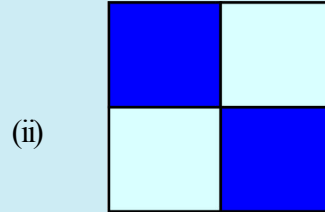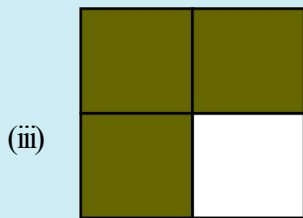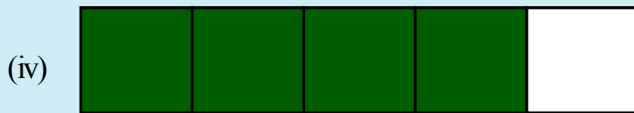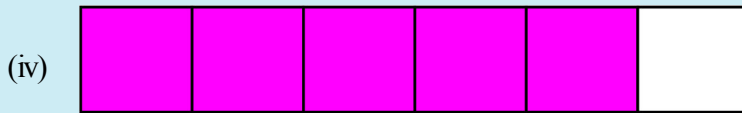
2. Write numerator and denominator of fraction:

(i) $\dfrac{2}{3}$ Numerator = -----------------
Denominator = -----------------

(ii) $\dfrac{4}{7}$ -----------------

(iii) $\dfrac{1}{4}$ -----------------

(iv) $\dfrac{5}{9}$ -----------------

(v) $\dfrac{6}{7}$ -----------------

(vi) $\dfrac{8}{7}$ -----------------
----

3. Write in fraction:

(i) Half =

(ii) One Fourth =

(iii) One third =

(iv) Two thirds =

4. Write colured portion as fraction:

(i) _____

(ii) _____

(iii) _____

(iv) _____
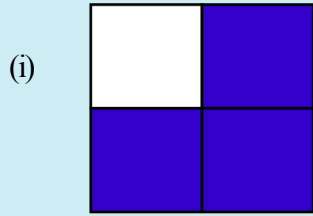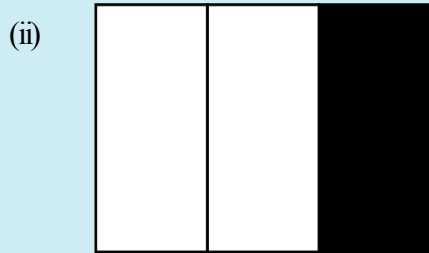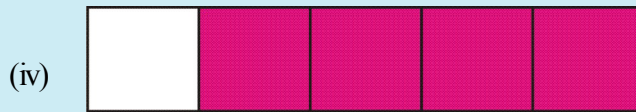
5. Colour the figure as per the given fraction:

(i) $\dfrac{1}{4}$　(ii) $\dfrac{2}{3}$　(iii) $\dfrac{1}{6}$

(iv) $\dfrac{3}{4}$　(v) $\dfrac{1}{3}$　(vi) $\dfrac{5}{6}$
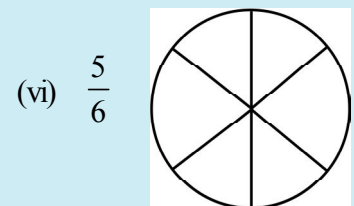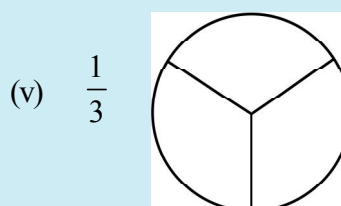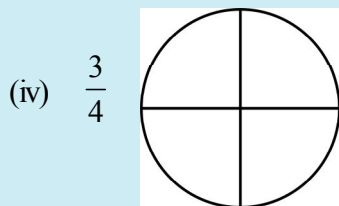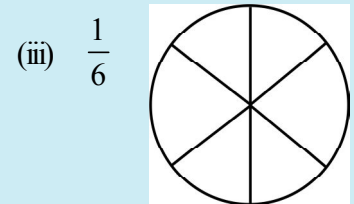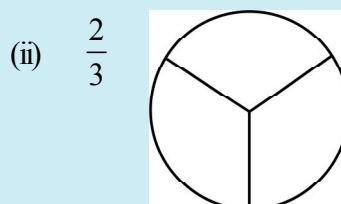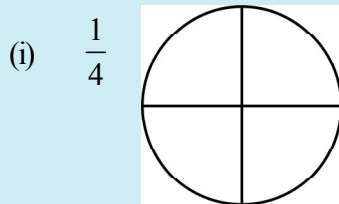
6. Write the given fraction in words:

(i) $\dfrac{1}{4}$ = One Foruth

(ii) $\dfrac{3}{4}$ =

(iii) $\dfrac{1}{5}$ =

(iv) $\dfrac{2}{5}$ =

(v) $\dfrac{1}{6}$ =

(vi) $\dfrac{1}{7}$ =

(vii) $\dfrac{3}{8}$ =

(viii) $\dfrac{5}{7}$ =

(vii) $\dfrac{5}{9}$ =

Let's see, what you have learnt

(i) (a) 4   (b) 3   (c) 6   (d) 8   (e) 16   (f) 6
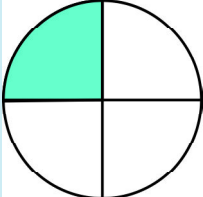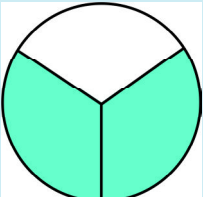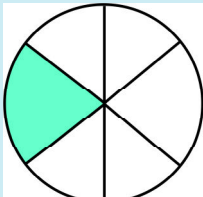
Exercise
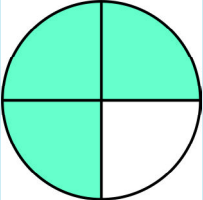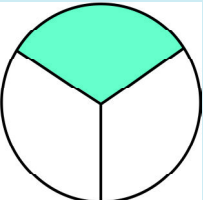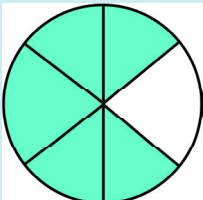
1. (i) $\dfrac{1}{4}$ (ii) $\dfrac{2}{4}$ (iii) $\dfrac{3}{4}$ (iv) $\dfrac{3}{4}$ (v) $\dfrac{3}{4}$

2. (i)   Numerator = 2, Denominator = 3
    (ii)   Numerator = 4, Denominator = 3
    (iii) Numerator = 6, Denominator = 4
    (iv)   Numerator = 5, Denominator = 9
    (v)   Numerator = 6, Denominator = 4
    (vi)   Numerater = 8, Denominator = 7

3. (i) $\dfrac{3}{4}$ (ii) $\dfrac{1}{4}$ (iii) $\dfrac{1}{3}$ (iv) $\dfrac{2}{3}$

4. (i) $\dfrac{3}{4}$ (ii) $\dfrac{1}{3}$ (iii) $\dfrac{2}{5}$ (iv) $\dfrac{5}{6}$

5. (i) $\dfrac{1}{4}$ (ii) $\dfrac{2}{3}$ (iii) $\dfrac{1}{6}$

    (iv) $\dfrac{3}{4}$ (v) $\dfrac{1}{3}$ (vi) $\dfrac{5}{6}$

6. (ii)   Three Fourths   (iii) One Fifth   (iv)   Two Fifths
    (v)   One Sixth   (vi)   One Seventh   (vii) Three Eighths
    (viii) Five Sevenths   (ix)   Five Ninths

6

MEASUREMENT

We will learn in this lesson

- To measure length in centimeter, meter and kilometer
- To weigh objects in grams and kilograms
- To measure liquids in litres and mililitres

6.1 Let's know the importance of measurement in life

We need to measure various objects in life.

For measuring distance, length and breadth of any surface, weight of object or quantity of oil, milk etc for all these we need measurement.

Generally we measure through estimation or our own method for example for measuring field we use feet or pace. For measuring cloth we use hand span etc. In kitchen, we measure quantities by cup and glass. But this measuring instrument must be correct and we need to measure in standard units. Let's know the standard unit of measurement i.e. meter, kilogram, litre etc.

6.2 Let's know measure of length

Figure indicates the name of place, direction and distance.

Here 60km means 60 kilometers and 10km means 10 kilometers.

Note: In ancient times, long distances were measured in 'miles and Kos'. But now-a-days we measure long distances in kilometers.
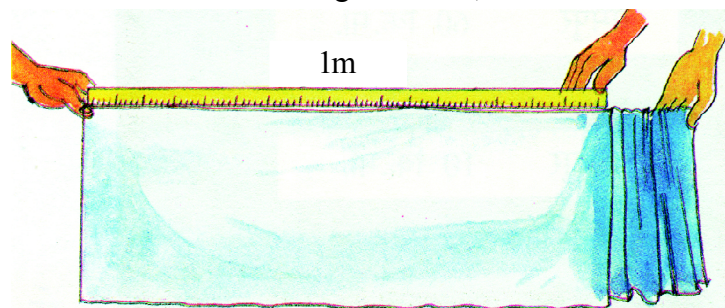
| Rampur | 60km |
| Dholpur | 10km |
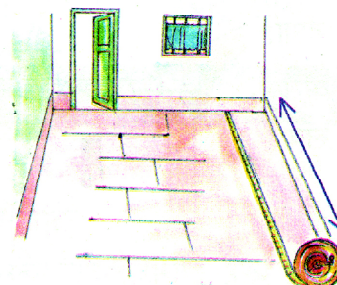
To measure fields or rooms, kitchen or house, we use meter, a unit smaller, then kilometer. For example:

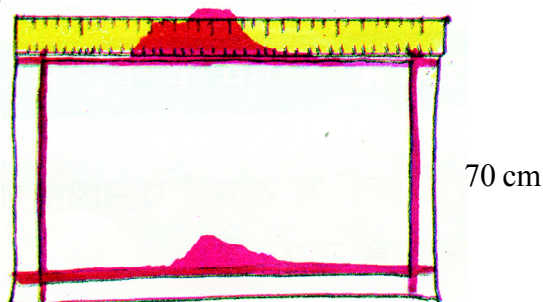**Remeber**

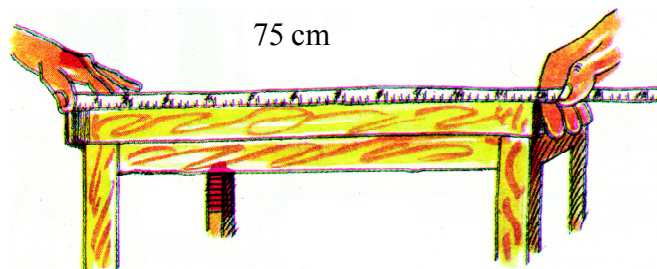One meter rod is used to measure length of cloth, so we called it a meter.

1m

Now think, if you want to measure cloth or distance less then one meter then?

We measure the length less then one meter in centimeter.

70 cm

You have seen the measuring tape. With the help of this measuring tape we measure the length of chair, table, small cloth etc. in centimeter.

75 cm

Remember:

100 centimeters	=	1 meter
1000 meters	=	1 kilometer

Sometimes we use foot or inch for measuring length. Tailor measures with inchitape. Inch and centimeters both can measure on an inchtape or a scale/ruler. We should prefer the use of meter and centimeter.

6.3 Let's know to convert centimeters into meters

To convert centimeters into meters, divide centimeters by 100.

For example: 100 centimeters = 1 meter   i.e. $\frac{100}{100}$ =1 meter

400 centimeters = 4 meters   i.e. $\frac{400}{100}$ =4 meters

Let's see, what you have learnt? 6.1

Convert centimeters into meters

(i) 500 centimeters = _____ meters

(ii) 800 centimeters = _____ meters

(iii) 700 centimeters = _____ meters

(iv) 900 centimeters = _____ meters

(v) 400 centimeters = _____ meters

(vi) 200 centimeters = _____ meters

6.4 Let's know to convert meters into centimeters

For example:

1 meter = 100 centimeters (i.e. 1×100=100 centimeters)

3 meter = 300 centimeters (i.e. 3×100=300 centimeters)

Let's see what you have learnt? 6.2

Fill in the blanks after converting meters into centimeters

(i) 6 meters _____

(ii) 9 meters _____

(iii) 10 meters _____

(iv) 5 meters and 50 centimeters = 550 centimeters

(v) 8 meters 80 centimeters = _____ centimeters

(vi) 7 meters 40 centimeters = _____

(vii) 4 meters 30 centimeters = _____

(viii) 2 meters 90 centimeters = _____

6.5 Let's know to convert meters into kilometers

To convert meters into kilometers divide meters by 1000.

For example's

1000 meters = 1 kilometer i.e. $\dfrac{1000}{1000} = 1$

4000 meters = 4 kilometers i.e. $\dfrac{4000}{1000} = 4$

Let's see what you have learnt? 6.3

Fill in the blanks by converting meters into kilometers

(i)   1000 meters = _____ kilometer

(ii)   3000 meters = _____ kilometers

(iii) 6000 meters = _____ kilometers

(iv)   7000 meters = _____ kilometers

(v)   5000 meters = _____ kilometers

(vi)   8000 meters = _____ kilometers

6.6 Let's know to convert kilometers into meters

To convert kilometers into meters, multiply kilometers by 1000.

For example

1 kilometer = 1000 meters (i.e. 1×1000=1000)

3 kilometer = 3000 meters (i.e. 3×1000=3000)

6.7 Let's know to convert meters into kilometer with the help of decimal (.)

5250 meters = 5 kilometers and 250 meters

We can write 5 kilometers and 250 meters as 5.250 kilometers.

Note:

- **After kilometers mark a dot and then write meters.**

- **If meters are in thousand then mark a dot after three places from right.**

4 kilometers 800 meters = 4.800 kilometers

15 kilometers 360 meters = 15.360 kilometers

Let's see what you have learnt? 6.4A

I.   CONVERT KILOMETERS IN METERS

(i)   5 kilometers = _____ meters

(ii)   6 kilometers = _____ meters

(iii) 7 kilometers = _____ meters

(iv)   9 kilometers = _____ meters

II. Fill in the blanks after converting meters and kilometers into kilometers

  (i) 18 kilometers 700 meters = _____

  (ii) _____ = 23.750 kilometers

Let's know about measure of centimeter

100 centimeters = 1 meter

Half meter = 50 centimeters

Three fourth meter = 75 centimeters

One fourth meter = 25 centimeters

One and one fourth meter = 1 meter + ¼ meter = 125 centimeter

One and one half meter = 1 meter + ½ meter = 150 centimeters

6.8 Let's know to convert centimeters into meters

For example

510 centimeters = 5 meter 10 centimeters = 5.10 meters

5 meters 10 centimeters = 5.10 meters = 510 centimeters

8 meters 25 centimeters = 8.25 meters = 825 centimeters

Note:

- After meters mark a dot and then write centimeters

- If you want to convert centimeters into meters, then mark a dot after two places from right. Now meters will be on left side of the dot and centimeters will be on right side of the dot.

Let's see what you have learnt? 6.5

Fill in the blanks

  (i) 4 meters 75 centimeters = 4.75 meters _____ centimeters

  (ii) 3 meters 50 centimeters = _____ meters = _____ centimeters

  (iii) .... = 5.50 meters = 550 meters = 550 centimeters

6.9 Let's know addition and subtraction of meters and centimeters

For adding meters and centimeters and meters and centimeters to centimeters

For example

	Meters	Centimeters
	15	45
+	14	20
	29	65

	Meter	Centimeters 1 (Carry)	Meters 1 (Carry)	Centimeters 1 (carry)
	23	35	45	56
+	44	55	+ 66	25
	67	90	111	81

Answer = 67 meters 90 centimeters   Answer = 111 meters 81 centimeters

For subtraction meters of and centimeters, subtract centimeters from centimeters and meters from meters.

For example

	Meters	Centimeters
	75	65
–	25	23
	50	42

Answer = 50 meters 42 centimeters

	Meter	Centimeters	Meters	Centimeters
	42	85	72	70
–	27	– 47	– 45	– 45
	15	38	27	25

Answer = 15 meters 38 centimeters   Answer = 27 meters 25 centimeters

Let's see what have you learnt   6.6

(i) Select appropriate unit and mark ( ) on that unit

    (a) Distance from Delhi to Luckhow   (Kilometers/meters/Centimeters)

    (b) Length of pencil   (Kilometers/meters/Centimeters)

    (c) Breadth of a park   (Kilometers/meters/Centimeters)

(d)   Depth of a well   (Kilometers/meters/Centimeters)

(e)   Length of a field   (Kilometers/meters/Centimeters)

(ii) Convert in centimeters

   (a)   3 meters = _____

   (b)   2 meters = _____

   (c)   9 meters = _____

   (d)   1 meters 90 centimeters = _____

   (e)   5 meters 50 centimeters = _____

   (f)   4 meters 30 centimeters = _____

(iii) Solve

(a)	Meter	Centimeters	(b)	Meters	Centimeters
	42	27		66	42
	+ 58	28		− 37	35

6.10 Let's know the measure of weight

We measure weight in grams and kilograms. Generally we say: 5 kilo onion, 20 kilo flour, 2 kilo potatoes etc. Instead of this. We should say: 5 kilogram onion, 20 kilogram flour, 2 kilogram potatoes etc.
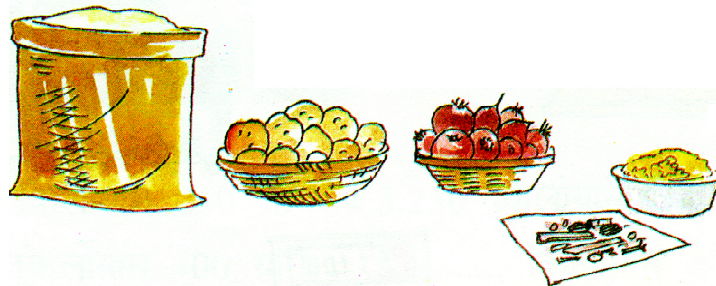
For weighing heavier quantities we use quintal. Lighter quantities weight in kilogram. For weighing more lighter objects we use grams. For example. 100 gram-masala, 50gm small cardamon

Note

100 kilogram makes 1 quintal

1000 grams makes 1 kilogram or 1000 grams = 1 kilogram

We use balance and weights for measuring weight.

1 quintal = 100 kilogram
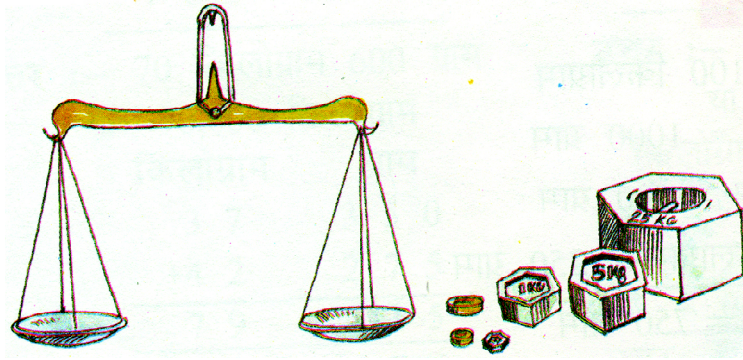
Now a days we use various types of balances in which weights are not required.
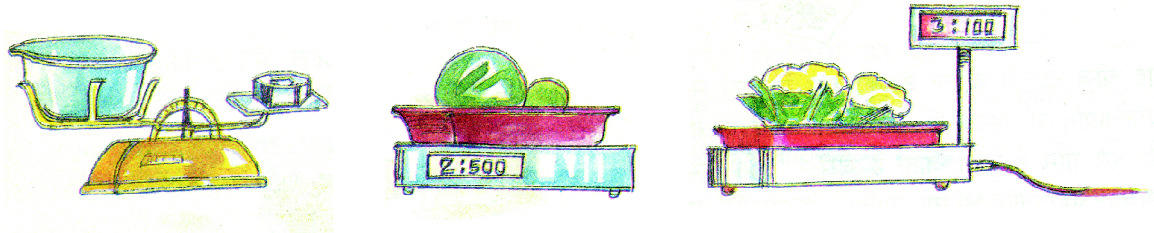
In ancient times we use pav, mun, sher, chatank for measuring weight. Now these weights are not in use. For measuring wheat, sugarcane quintal is used.

Let's know this:

1 quintal = 100 kilograms

One kilogram = 1000 grams

Half kilograms = 500grams

Three fourth kilogram = 750 grams

6.11 Let's know to convert kilograms into quintals and grams into kilograms

For example:

1 kilogram 500 grams = 1.500 kilograms = 1.500kg

370 kilograms = 3 quintal and 70 kilograms or 3.70 quintals

1560 grams = 1 kilograms 560 grams or 1.560 kilograms

Let's see what you have learnt   6.7

(i)   3 kilograms 250 grams = 3.250 kilograms = _____ grams

(ii) 5 kilograms 400 grams = 3.250 kilograms = _____ grams

(iii) 16 kilograms 750 grams = 3.250 kilograms = _____ grams

(iv) 350 kilograms   = _____ quintals = _____ grams

6.12   Let's know addition and subtraction of kilograms and grams

For adding kilograms and grams, add grams to grams and kilograms to kilograms

For example

Kilograms	grams
25	150
+ 45	450
70	600

Answer = 70 kilograms 600 grams

quintals	kilograms
5	70
+ 9	20
14	90

Answer = 14 quintals 90 kilograms or 14.90 quintals

Kilograms	grams
37	350
+ 42	275
79	625

Answer = 79 kilograms 675 grams
or 79.625 kilograms

quintals	kilograms
52	225
+ 28	475
80	700

Answer = 80 kilograms 700 grams
or 80.700 kilograms

For subtraction of kilograms and grams, subtract kilograms from kilograms and grams from grams.

For example:

Kilograms	grams
50	650
− 30	220
20	430

Answer = 20 kilograms 430 grams
or 20.430 kilograms

quintals	kilograms
15	70
− 12	50
03	20

Answer = 3 quintals 20 kilograms
or 3.20 quintal

Kilograms	grams
45	220
− 27	150
18	070

Answer = 18 kilograms 70 grams
or 18.070 kilograms

quintals	kilograms
132	470
− 75	280
057	190

Answer = 57 kilograms 190 grams
or 57.190 kilograms

Let's see what have you learnt   6.8

(i)   Write in grams / kilograms

    (a)   1.750 kilograms = _____ grams

    (b)   5.250 kilograms = _____ grams

(c) 3.400 kilograms _____ grams

(d) 11.570 kilograms _____ grams

(e) 5.80 quintals _____ kilograms

(f) 7.50 quintals _____ kilograms

(g) 9.70 quintals _____ kilograms

(h) 10.50 quintals _____ kilograms

(ii) Add

kilograms	grams		kilograms	grams
23	320		57	275
+ 42	450		+ 65	380
_____	_____		_____	_____
_____	_____		_____	_____

(iii) Subtract

kilograms	grams		kilograms	grams
27	275		42	250
− 15	150		− 45	170
_____	_____		_____	_____
_____	_____		_____	_____

(iv) Solve

quintals	kilograms		quintals	kilograms
8	40		15	90
+ 7	90		+ 10	70
_____	_____		_____	_____
_____	_____		_____	_____

6.13 **Let's know to measure liquids**

Normally we say, give me 2 kg milk, 5kg oil etc. It's wrong. Liquids are measured in mililiters and liters not in kilograms and grams. We should say give me 2 litre milk or 5 litre oil etc.

For measuring liquids we need measuring vessels. Shown below are some measuring vessels which we require to measure liquids.

Different vessels hold different quantity of liquids

1L   –   It can hold 1 litre liquid.

5L   –   It can hold 5 litres liquid or with this vessel 5 litres can be measured.

10L   –   By using 5 litre vessel two times, it can be filled.

20L   –   Picture it can hold 20 litres liquid
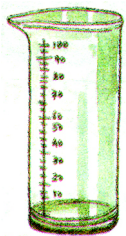
–   This measuring cylinder can hold 100 mililitres liquid.   .

– Droper is used for measuring less quantity of liquid medicine . This droper can hold 20 mililitres liquid.

How much liquid a vessle can hold is called it's capacity.

Note: In place of 'Know' we may write is "understand"1000 mililiters = 1 litre

6.14	**Let's know to convert mililiters into litres**

1300 mililitres = 1 litres 300 mililiters = 1.300 litres

3560 mililiters = 3 litres 560 mililiters = 3.560 liters

Note

For conversion of mililiters into liters, divide mililiters by 1000.

If mililiters are in thousands then for conversion into litres marka a dot (.) after three places from right.

Number is on left side of dot will be litres and number is on right side of dot will be mililiters.

Let's see what you have learnt | 6.9 |

Convert into litres

For example

1 litre 200 mili litres = 1.200 litres/3450 mililiters = 3.450 litres

(a)   4 litres 650 mililiters = _____ liters

(b)   7540 mililiters   = _____ liters

(c)   5 liters 100 mililiters = _____ liters

(d)   4350 mililiters   = _____ liters

(e)   ....   3.450 liters

6.15	**Let's understand addition and subtraction of litres and mililiters**

Note: For addition of liters and mililters add mililiters to mililiters and liters to liters.

For example

liters	mililiters
45	250
+ 22	125
67	375

Answer: 67 litres 375 mililiters

Similarly:

liters	mililiters	kilograms	grams
47	475	52	245
+ 37	290	+ 48	375
84	765	100	620

| | Answer: 84 litres 765 mililiters | Answer: 100 litre 620 mililiters |
| | or 84.765 litres | or 100.620 litres |

Note

For subtraction of mililitres and litres, subtract mililiters from mililitres and litres from litres.

For example

liters	mililiters
45	755
− 23	225
22	530

Answer : 22 litres 530 mililitres

Simililarly:

liters	mililiters		kilograms	grams
62	470		40	825
− 57	285		− 26	470
05	185		14	355

Answer: 5 litres 185 mililiters   Answer: 14 litres 355 mililiters

Let's see what you have learnt   6.10

(i)   (A)   Convert litres into mililitres as shown in case of

(a)   2.500 litres   =   2500 ml

(b)   3.750 litres   = _____ ml

(c)   5.250 litres   = _____ml

(d)   4.425 litres   = _____ ml

(B)   Convert mililitres into litres

(a)   3700 ml   =   3.700 litres

(b)   7300 ml   = _____ litres

(c)   4540 ml   = _____ litres

(d)   9050 ml   = _____ litres

(ii)   Add:

(a)	liters	mililiters	(b)	litre	mililiters
	47	250		37	470
+	25	275	+	47	280
	_____	_____		_____	_____
	_____	_____		_____	_____

(ii)   Subtract:

(c)	liters	mililiters	(d)	litre	mililiters
	65	425		125	250
−	27	270	−	55	160
	_____	_____		_____	_____
	_____	_____		_____	_____

Note

- People generally temper in measurement so you bring less quantity or pay more money.

- If a shopkeeper is measuring cloth through meter rod than you need to be aware that he/she will not stretch the clothes so much and use meter rod appropriately.

- Be aware while measuring land, anyone can measure land in gaj in place of meter.

- For measurement of weight, balance need to be perfect. Balancing point, pans and weights all need to be correct.

- If someone is measuring through brick or stone then its wrong. Ask to measure with standard weights.

- Measuring vessels must not be tempered for measurement of liquids.

Let's Revise

- Length is measured in kilometer, meter and centimeters.

- Long distances are measured in kilometers.

- Short and very short distances are measured in meters and centimeters respectively.

- 100 centimeters = 1 meter and 1000 meters = 1 kilometer

- Weight of objects are measured in kilograms.

- Heavier objects are weighed in quintals.

- Lighter objects are weighed in grams and kilograms.

- 1000 grams = 1 kilogram and 100 kilograms = 1quintal.

- Liquids are measured in kilolitres, litres and mililitres.

- Larger quantities are measured in kilolitres.

- Smaller quantities are measured in mililiters and litres.

- 1000 mililitre = 1 litre

- 1000 litres = 1 kilolitre

- Capacity is the quantity of liquid that a container can hold (in litres and mililitres).

Exercise

1. Fill in the blank

   (i)   1 kilometer _____ meters

   (ii) 1 meter _____ centimeters

   (iii) 5 meter _____ centimeters

   (iv) 1 kilograms = _____ grams

   (v)   1 quintal = _____ kilograms

   (vi) 1 litre = _____ mililitres

   (vii) 1 kilolitre _____ litres

2. Convert kilograms into grams and grams into kilograms

   (i)   5 kilograms 300 grams = _____ grams

   (ii) 16 kilograms 400 gram = _____ grams

   (iii) 450 kilograms = _____ quintals _____ kilograms

   (iv) 3 kilograms = _____ grams

3. Convert meters into kilometers and meter into centimeters

   (i)   5000 meters = _____ kilometers

   (ii) 540 centimeters = _____ meters _____ centimeters

   (iii) 3 kilometer = _____ meters

   (iv) 5400 meters = _____ kilometers _____ meters

   (v)   7 meters = _____ centimeters

4. Convert litres into mililiters and mililiters into litres

   (i)   1700 mililitres _____ litres _____ militers

   (ii) 5 litres _____ militers

   (iii) 7560 _____ liters _____ mililiters

   (iv) 9080 militers _____ litrers _____ mililiters

5. Convert the units by marking dot (.)

(i) 4 liters 300 mililiters = _____ liters

(ii) 7 liters 540 mililiters = _____ liters

(iii) 4370 mililiters = _____ liters

(iv) 7050 mililiters = _____ liters

(v) 580 kilograms = _____ quaintals

(vi) 1090 kilograms = _____ quaintals

(vii) 7940 grams = _____ kilograms

(viii) 3040 grams = _____ kilograms

(ix) 825 centimeters = _____ meters

(x) 907 centimeters = _____ meters

(xi) 7540 meters = _____ kilometers

(xii) 3010 meters = _____ kilometers

6. Add:

(i)

meters	centimeters
55	40
+ 30	35
_____	_____
_____	_____

(ii)

kilometers	meters
70	320
+ 40	115
_____	_____
_____	_____

(iii)

kilograms	grams
35	240
+ 50	175
_____	_____
_____	_____

(iv)

kilometers	meters
7	340
+ 9	760
_____	_____
_____	_____

(v)	liters	mililiters		(vi)	liters	mililiters
	55	240			60	370
+	44	350		+	25	850
	_____	_____			_____	_____
	_____	_____			_____	_____

7. Subtract

(i)	liter	mililiters		(ii)	kilometers	meters
	75	740			84	670
−	30	500		−	55	250
	_____	_____			_____	_____
	_____	_____			_____	_____

(iii)	kilograms	grams		(iv)	quintals	kilograms
	70	350			70	540
−	40	140		−	30	220
	_____	_____			_____	_____
	_____	_____			_____	_____

(v)	liters	mililiters		(vi)	liters	mililiters
	68	350			95	380
−	25	180		−	75	290
	_____	_____			_____	_____
	_____	_____			_____	_____

Let's see what you have learnt

6.1 (i)   5 meters   (ii)   8 meters   (iii)   7 meters
    (iv)   9 meter   (v)   5 meters   (vi)   2 meters

6.2 (i)   600 cm   (ii)   900 cm   (iii)   1000 cm
    (iv)   880 cm   (v)   740 cm   (vi)   430 cm
    (vii)   290 cm

6.3 (i)   1 km   (ii)   3 km   (iii)   700 km
    (iv)   7 km   (v)   5 km   (vi)   8 km

6.4 (I) (i)   5000 meter   (ii)   6000 meter
    (iii)   700 meter   (iv) 9000 meter

6.4 (II) (i)   18700 meter   (ii)   23 km 750 m

6.5 (i)   475 cm   (ii)   3.50 m 350 cm   (iii)   5 m 50cm

6.6 (i) (a) kilometer   (b)   centimeter   (c)   meter
    (d)   meter   (e)   meter

    (ii) (a) 300 cm   (b)   200 cm   (c)   900 cm
    (d)   190 cm   (e)   550 cm   (f)   430 cm
    (iii)(a) 100 meter 55 centimeter   (b)   29 meter 7 centimeter

6.7 (i)   3250 gm   (ii)   5.400 kg, 5400 gm   (iii)   16.750 kg, 16750 gm
    (iv)   3 quintal 50 kilogram, 350000 grams

6.8 (i)(a) 1750 gm   (b)   5250 gm   (c)   3400 gm   (d)   11570 gm
    (e)   580 kg   (f)   750 kg   (g)   970 kg   (h)   1050 kg

    (ii) (a) 65 kg 770 gm   (b)   122 kg 655 gm
    (iii) (a) 12 kg 125 gm   (b)   7 kg 80 gm

    (iv)(a) 16 quintal 30 kilogram   (b)   5 quintal 20 kilogram

6.9 (i)(a) 4.650 litre   (b)   7.540 litre   (c)   5.100 litre
    (d)   4.350 litre   (e)   3 litre 450 mililitre

6.10 (i) (A)(a)   2500   (b)   3750   (c)   5250   (d)   4425
    (B)   (a)   3.700   (b)   7.300   (c)   4.540   (d)   9.050
    (ii)   (a)   72 liters 525 mililiters   (b)   84 liters 750 mililiters

    (iii)   (a)   38liter 155 mililiter   (b)   70 liters 90

Exercise

1. (i) 1000 meters
    (ii) 100 cm
    (iii) 500 cm
    (iv) 1000 gram
    (v) 100 km
    (vi) 1000 km
    (vii) 1000 liter

2. (i) 5300 gram
    (ii) 16400 gram
    (iii) 4 quental 50 km
    (iv) 3000 gram

3. (i) 5 km
    (ii) 5 m 40 cm
    (iii) 3000 meter
    (iv) 5 km 400 meter
    (v) 700 cm

4. (i) 1 liter 700 mililiter
    (ii) 5000 mililiter
    (iii) 7 liter 560 mililiter
    (iv) 9 liter 80 mililiter

5. (i) 4.300 liter
    (ii) 7.540 liter
    (iii) 4.540 liter
    (iv) 7.050 liter
    (v) 5.80 quental
    (vi) 10.90 quental
    (viii) 3.040 km
    (ix) 8.25 meter
    (x) 7.540 km
    (xi) 7.540 km
    (xii) 3.010 km

6. (i) 85 meter 75 cm
    (ii) 110 km 435 meter
    (iii) 85 km 415 gram
    (v) 99 liter 590 militer
    (vi) 86 liter 220 mililiter

7. (i) 45 liter 240 cm
    (ii) 20 km 420 meter
    (iii) 30 kilogram 210 gram
    (iv) 40 quental 320 kilogram
    (v) 43 liter 170 mililiter
    (vi) 20 liter 090 mililiter

GEOMETRICAL FIGURES

- Meaning and use of geometry

- Basic elements of geometry

- Knowledge of square, rectangle, triangle in a plane

- Knowledge of various solids i.e. cuboid, cube, cylinder, cone and sphere

- To make designs with plane figures and model with solids

- To appreciate the role of different figures with the help of pencil and ruler

7.1 Lets know the meaning and use of geometry

To draw and measurement of figures correctly is called geometry. Word geometry is made of two words: Geo-Land, Metry- Measurement i.e. meaning of geometry is land measurement.

In the geometry we learn how to draw various figures. Geometry helps us in making houses, fountains etc. In fields or garden, road and flyovers, furniture (i.e. table, chail, bed, almirah etc.) for house and other similar works. We can see different type of figures in our surroundings. Identify the figures in the image given below. In these figures some are looking like as rectangle, some as square, some as triangle, some as cone, some as cylinder and some are like as sphere. To draw and measure these figures come under geometry.
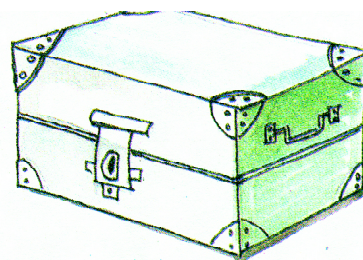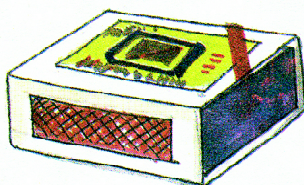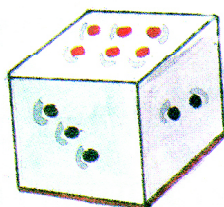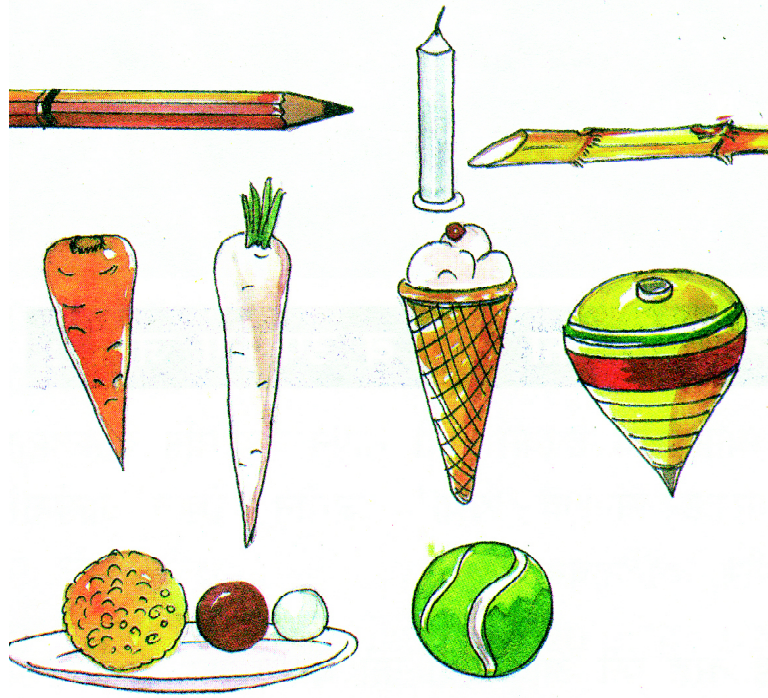
Let's know basic elements of geometry

- Basic element of geometry is point. A point has no length breadth and height.

- A line segment can contract by joining tow points. A line segment can be straight or curved. A line has only length not breadth.

Curved line segment   Straight line segment   Zig-Zag line segment

- Shortest line segment which joins two prints is called straight line segment.

- Figures can draw by joining line segments.

- Some figures can be drawn by joining only straight line segments. For example :
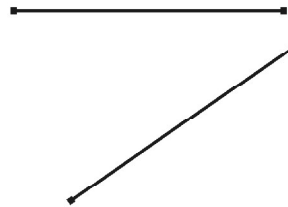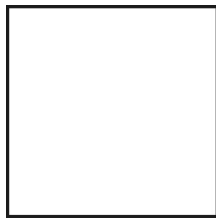
- Some figures can be drawn by joining only curved line segments. For example.
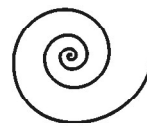
- Some figures can draw by joining both straight and curbed line segments.
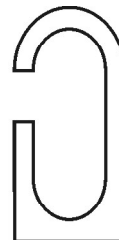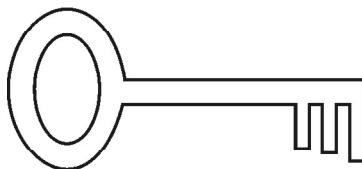
7.3 Let's know the types of figures

Figures are of two types- open and closed figures are closed from all sides. Open figure are open from any one side.

Note :

- When we draw closed figure, we start drawing from one point and end at the same point.
- When we draw open figure, we start drawing from one point and end at the another point

Open figures
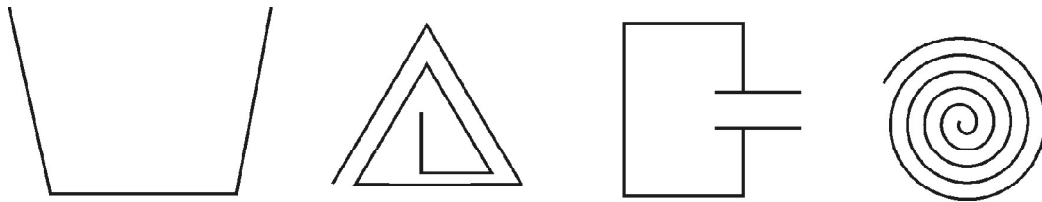
Closed figures
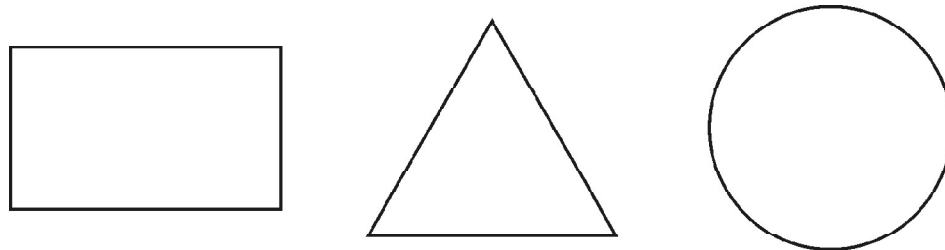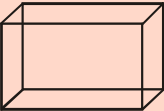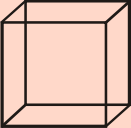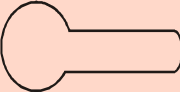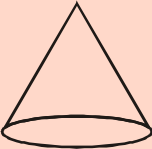
7.4 Lets know rectangle, square, triangle in a plane

Some plane figures (which has length and breadth but not height) made by joining line segments are given below:

Triangle		Closed figure made by three line segments is called Triangle.
Quadrilateral		Closed figure made by four line segments is called quadrilateral.
Rectangle		In rectangle opposite sides are equal and adjoining line segments are vertical to each other.
Square		Quadrilateral in which all sides are equal and adjoining line segments are vertical to each other
Circle		It is a circular figure made by a point moving at a constant distance from a fixed point

Let's know solids i.e. cuboid, cube, cylinder, can, sphere some solids (which has length, breadth and height) are given below

Cuboid		Solid like box having six faces
Cube		Solid like box, having six faces in which length, breadth and height are equal, is called a cube
Cylinder		Cylindrical solid is called cylinder.
Cone		Conical solid is called cone.
Sphere		Spherical solid is called sphere.

Now you make model or design with the help of match box.
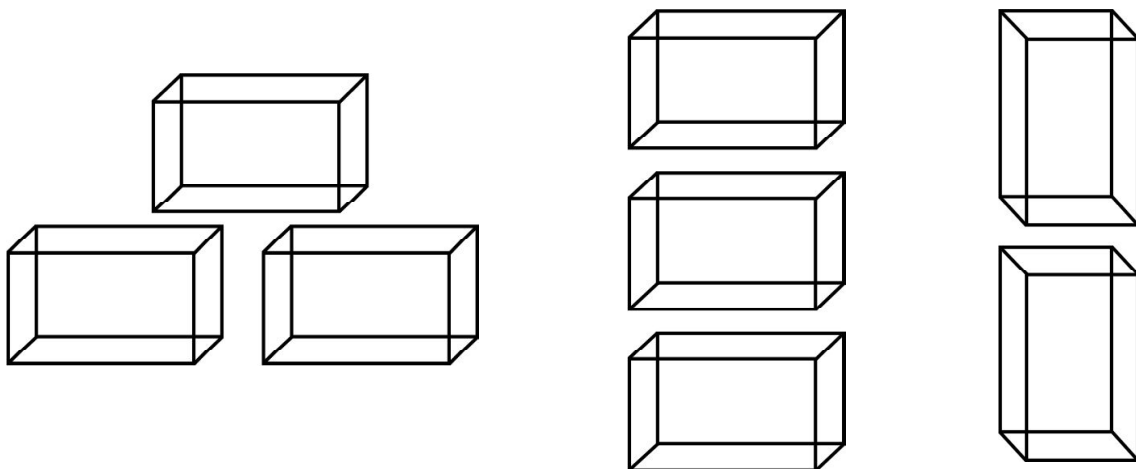
` Now let's understand the role of figures in making objects attractive. Have you ever used figures for decoration of your house? Look at this picture.
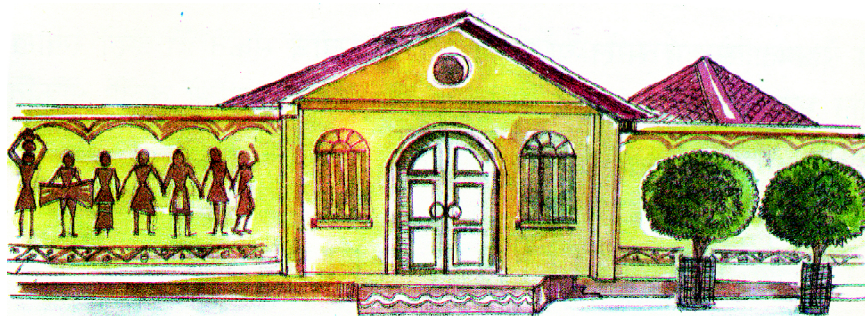
You have seen designs of figures on cloths.

Figures can decorate objects and design of figure can enhance the beauty of objects

Now you make your own designs with the help of match box.

7.7 Let's know to draw various figures made by line segments

We can draw straight line segments with the help of scale/ruler from these line segments we can draw a figure of three line segments, four line segments or more then four line segments, for example
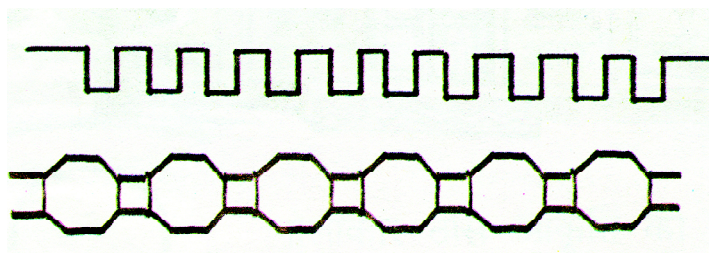
Now you also draw a figure made by straight line segments. For example:
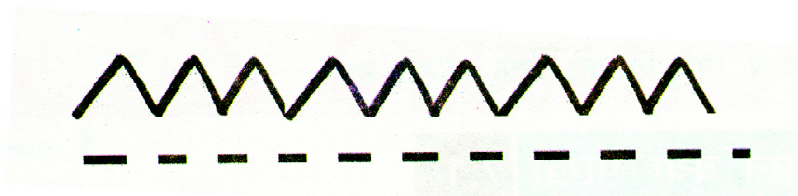
Let's see what you have learnt?

1. What is geometry ?

    _____

2. Define point

    _____

3. How line segment is formed ?

    _____

4. What are open figures ?

    _____

5. What are closed figures ?

    _____

6. What is a triangle ?

    _____

7. What is a quadrilateral ?

    _____

8. What is a rectangle ?

    _____

9. What is a circle ?

    _____

10. What is a cube ?

    _____

11. What is a cylinder ?

    _____

12. What is a cone ?

    _____

13. What is a sphere ?

    _____

14. Fill in the blanks

    (i) Geometry means _____.

    (ii) A figure which has no length, breadth and height is called _____.

    (iii) A _____ is formed by joining two points.

    (iv) A closed figure which has three sides is called _____.

    (v) A closed figure which has four sides is called _____.

    (vi) A quadrilateral which has all sides equal and vertical adjoin sides is called _____.

    (vii) Circular figure is called _____.

Let's Revise

- Meaning of geometry is Geo = Land, Metry = Measurement i.e. measuring land

- There are so many figures in geometry i.e. point, line, rectangle, square, sphere, cylinder, cube, cuboid, cone, triangle, circle etc.

- A figure which has no length, no breadth and no height is called point. '

- Figure which joins two points is called line segments.

- Figures are of two types-closed and open.

- A Quadrilateral which has opposite sides equal four corners, and vertical adjoining line segments to each other, is called a rectangle.

- A Quadrilateral which has all sides equal, four corners, and vertical adjoining line segments to each other is called a square.

- A Closed figure in a plane made of three line segments is called triangle.

- Circular figure is called circle.

- A Solid made by six rectangular faces is called a cuboid.

- Solid made by six faces in which length, breadth and height are equal is called a cube.

- Cylindrical figures are called cylinder.

- Conical figures are called cone.

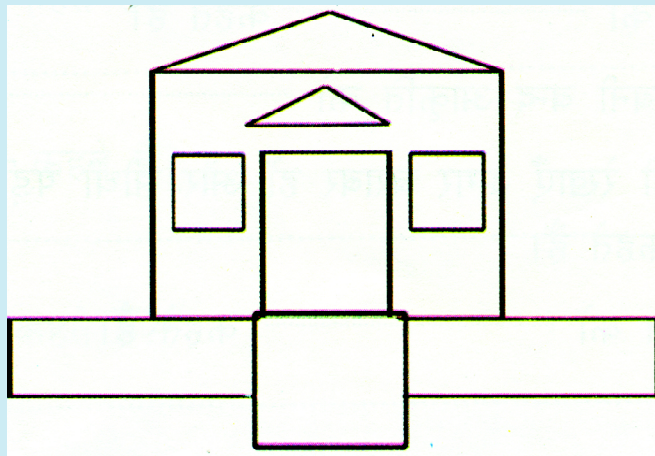(1)   Match the figures with the objects of same shape:

Figure   **Objects**
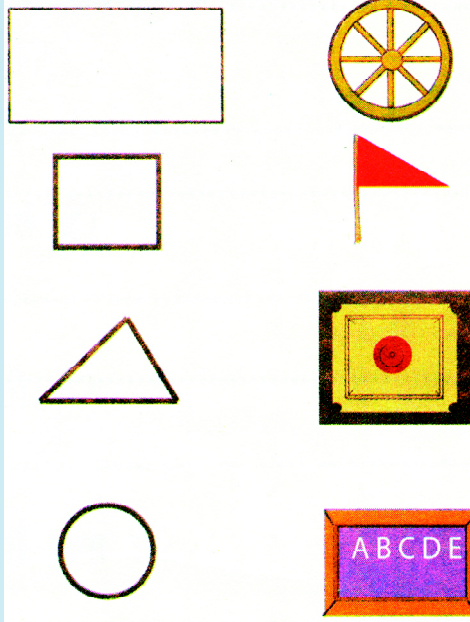
(2)   Count and write the number of triangles, rectangles and squares in the figure given below:
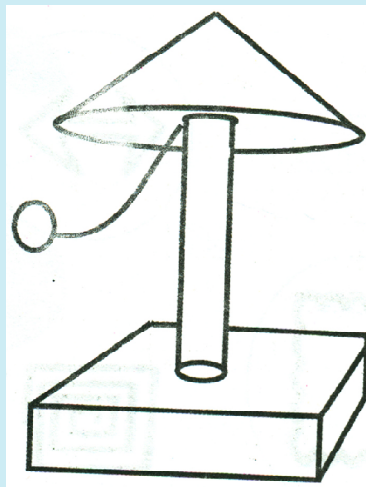

No. of Triangles _____   No. of Rectangles _____   No. of Squares _____

(3)   Identify closed and open figures. Mark right ( ) open figures and mark circle (O) in closed figures.

(4)   Name of the solids which are used in the model.


Answers

Let's Revise

(i)   Meaning of geometry is Geo = Land, Metry = Measurement i.e. measuring land

(ii)   A figure which has no length, no breadth and no height is called point. '

(iii)   Figure which joins two points is called line segments.

(iv)   Open figures are open from any oneside.

(v)   Closed figures are closed from all side.

(vi)   A Closed figure in a plane made of three line segments is called triangle.

(vii)   Closed figure made by four line sigment is called quadrilateral.

(viii) A Quadrilateral which has opposite sides equal four corners, and vertical adjoining line segments to each other, is called a rectangle.

(xi) Circular figure is called circle. \

(x) Solid made by six faces in which length, breadth and height are equal is called a cube.

(xi) Cylindrical figures are called cylinder.

(xii) Conical figures are called cone.

(xiii) Circula solide is called sphere.

14. Fill in the blanks -

    (i)   Measuring land   (ii) Point   (iii) Line Segment   (iv) Triangle

    (v)   Quadrilateral   (vi) Square   (vii) Circle

Answer to Exercise

1.
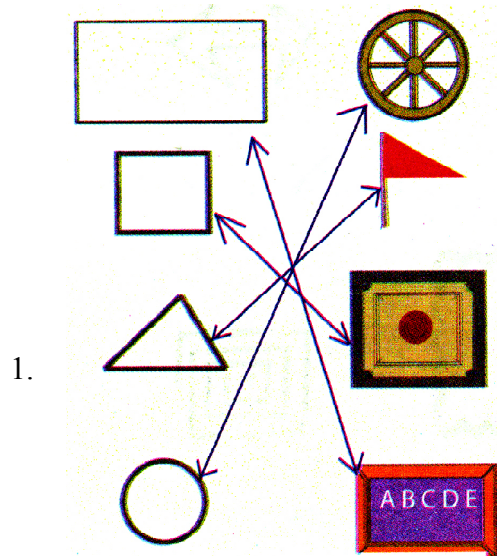
2. Triangle = 2, Rectangle = 4, Square = 3

3.
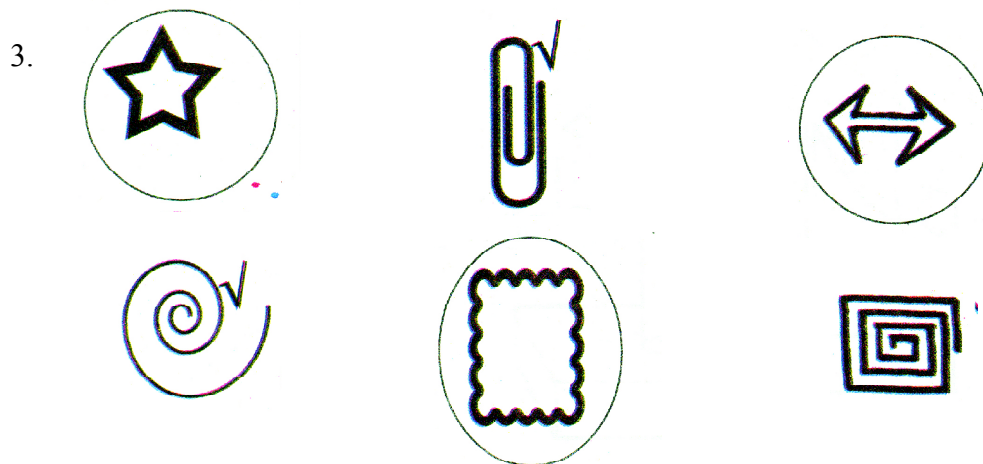
4. Cone, cylinder, Sphere, Cuboid

Assessment Sheet-3
(Lesson 5 - 7)

1. Write the follwoing in fraction:

    (i)   One portion out of four equal portions   _____

    (ii)   Two portions out of three equal portions   _____

    (iii) Three portions out of five equal portions   _____

    (iv)   One portion out of two equal portions   _____

    (v)   Five portions out of six equal portions   _____

2. Write in fraction coloured portion if figure :

    (i)   _____

    (ii)   _____

    (iii)   _____   (iv)   _____

    (v)
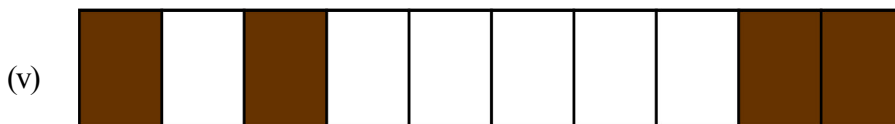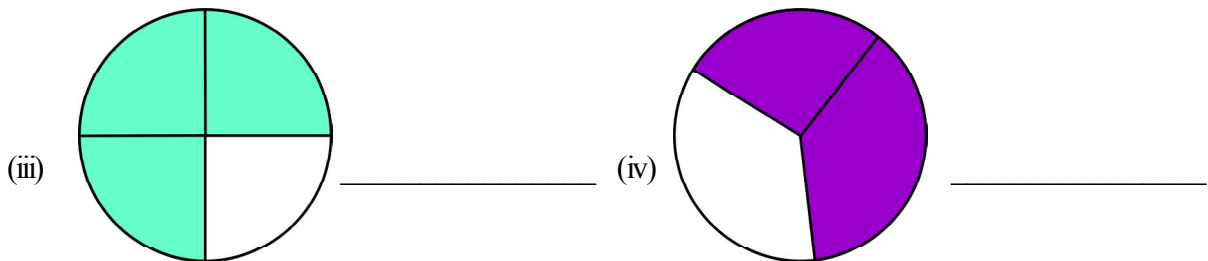
3. Write the given fractions in words:

    (i) $\dfrac{1}{3}$ = _____

    (ii) $\dfrac{2}{5}$ = _____

    (iii) $\dfrac{3}{4}$ = _____

(iv) $\dfrac{5}{8}$ = _____

(v) $\dfrac{4}{9}$ = _____

4. Form Fractions:

    (i)   Numerator = 1, Denominator = 3, Faction = _____

    (ii)   Numerator = 3, Denominator = 5, Faction = _____

    (iii)   Numerator = 1, Denominator = 7, Faction = _____

    (iv)   Numerator = 2, Denominator = 9, Faction = _____

    (v)   Numerator = 5, Denominator = 6, Faction = _____

5. Convert centimeters in meters:

    (i)   100 Centimeters = _____

    (ii)   300 Centimeters = _____

    (iii)   600 Centimeters = _____

    (iv)   700 Centimeters = _____

    (v)   1000 Centimeters = _____

6. Solve:

(i)

Meters	Centimeters
34	29
+32	36

(ii)

Meters	Centimeters
75	53
-37	45

(iii)

Kilograms	Grams
47	450
+34	275

(iv)

Km	Meters
57	645
-24	225

(v)

Kilograms	Grams
62	350
-35	270

(vi)

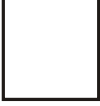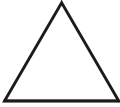| quintal	Kilograms
30	02
+24	02
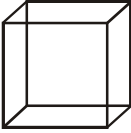
7. Fill in the blanks:

(i) 1 Kilogam 750 grams = _____ kilograms

(ii) 7 Kilogams 300 grams = _____ kilograms

(iii) Half Kilogam = _____ grams

(iv) 1 Litre = _____ mililitres

(v) 7 Litre 450 mililiters = _____ litres

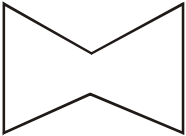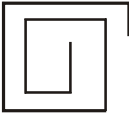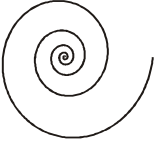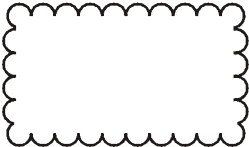8. Fill in the blanks :

(i) A figure formed by joining two points is called _____ .

(ii) A three sided closed figure is called _____ .

(iii) Figures can be formed by joining _____ .

9. Match the following:

Name	Figure

(i) Rectangle

(ii) Cuboid

(iii) Triangle

(iv) Cylinder

(v) Square

10. Indentify by open and closed figuress and mark right ( ). Under the appropriate column.

(i)   **Closed**   **Open**

_____

(ii)
_____

(iii)
_____

(iv)
_____

(v)
_____

Answer

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

2. (i) $\dfrac{1}{3}$　　(ii) $\dfrac{3}{5}$　　(iii) $\dfrac{3}{4}$　　(iv) $\dfrac{2}{3}$　　v) $\dfrac{4}{10}$

3. (i) One third 　　(ii) Two Fifths 　　(iii) Three fourths

   (iv) Five Eightths 　　(v) Four Ninths

4 (i) $\dfrac{1}{3}$ (ii) $\dfrac{3}{5}$ (iii) $\dfrac{1}{7}$ (iv) $\dfrac{2}{9}$ v) $\dfrac{5}{6}$

5. (i) 1meter   (ii) 3meter   (iii) 6 meter   (iv) 6meter   (v) 10meter

6. (i) 66meter 65cm   (ii) 38 meter 8cm   (iii) 81kg 725gm

   (iv) 33km 420m   (v) 27kg 80gm   (vi) 54 quintal 04kg

7. (i) 1.750kg   (ii) 7.300gk   (iii) 500gm

   (iv) 1000ml   (v) 7.450 litre

8. (i) Line Segment   (ii) Triangle   (iii) Line Segments

9. (i) Rectangle

   (ii) Cuboid

   (iii) Triangle

   (iv) Cylinder

   (v) Square
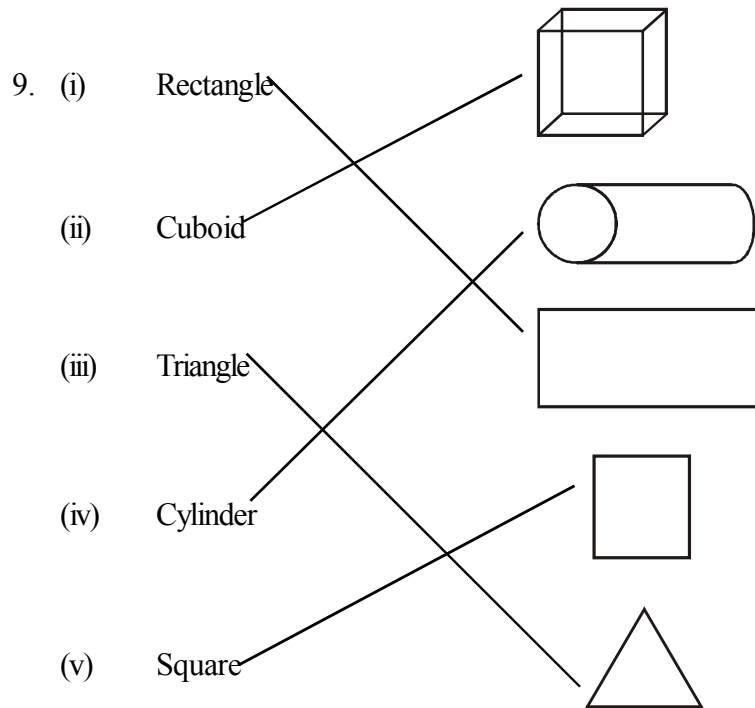
10. (i) Closed   (ii) Closed   (iii) Open

    (iv) Open   (v) Closed

Model Question Paper

1. Fill in the blanks: **2x5=10**

   (i)   Smallest number of two digits is _____.

   (ii)   Greatest number of one digit is _____.

   (iii) 795 = [   ] Hundreds + [   ] Tens + [   ] Units

   (iv)   109 + 1 = [   ]

   (v)   Smallest number of four digits is _____.

2.   Solve as per direction: **2x5=10**

   (i)   Write in increasing order:

          40, 35, 52, 86, 365, 789, 624

   (ii)   Write in decreasing order:

          999, 527, 696, 424, 108, 190

   (iii) Mark [>], [<] or [=]

          489 [   ] 479

          899 [   ] 999

   (iv)   Write place value of 7 in 879. [   ]

   (v)   Write successor and predecessor of 100.

3.   Add: **2x5=10**

(i) 400	(ii) 5	(iii) 83	(iv) 85	(v) 435
+1	+0	+17	+38	+286

4.   Substract:

(i) 5	(ii) 9	(iii) 87	(iv) 68	(v) 435
-5	- 0	- 35	-29	-229

5.   Solve:

   (i)   Ram bought a sewing machine in ₹ 588 and clothes in ₹ 255. How much money did Ram
          spend?

(ii) Sohan's monthly income is ₹990 and expenditure for that month is ₹795. How much money did Sohan save?

6. Fill in the blanks: 2x5=10

(i) 10x9 = _____ (ii) 46x0 = _____ (iii) 308x2 = _____

(iv) 34 ÷ 1 = _____ (v) 455 ÷ 7 = _____

7. Solve:

(i) There are 4 Ladoo's in a packet. How many Ladoo's will be in 4 dozen packets?

(ii) A train covers 560 kilometers in 7 hours with a uniform speed. What is per hour speed of the train?

8. Fill in the blanks:

(i) Fraction for half = ☐

(ii) Fraction for one fourth = ☐

(iii) Fraction for three eighths = ☐

(iv) Numerator in $\dfrac{7}{9}$ = ☐

(v) 1 meter = ☐ centimeters

(vi) 1000 meters = ☐ kilometer

(vii) 400 Centimeters = ☐ meters

(viii) Half kilogram = ☐ grams

(ix) Three fourths = ☐

(x) Denominator in $\dfrac{5}{7}$ = ☐

9. Solve:

(i)	Meter	Centimeters
	23	35
	+ 44	55
	_____	_____

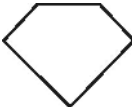| (ii)	Kilogram	Grams
	45	220
	+ 27	150
	_____	_____

(iii) Convert 5 litres and 250 mililiters in litres.

(iv) How many vessels of half litre capacity can be filled from a vessel of 2 litres and 500 mililiters milk?
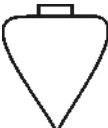
10. Fill in the blanks: **2x5=10**

(i) A figure made by joining two points is called _____.

(ii) A closed figure made up of three line sements is called _____.

(iii) is a _____ figure. (Open/Closed)

(iv) is a _____ figure. (Open/Closed)

(v) is a _____ figure. (Conical/Cylindrical/Cubied)

Answers

1. (i) 10
   (ii) 9
   (iii) $\boxed{7}$ Hundreds + $\boxed{9}$ Tens + $\boxed{5}$ Ones
   (iv) 110
   (v) 1000

2. (i) 35, 40, 52, 86, 365, 624, 789
   (ii) 999, 696, 527, 424, 190, 108
   (iii) 489 $\boxed{>}$ 479,   899 $\boxed{<}$ 999
   (iv) 70
   (v) Predecessor = 99, Sucessor = 101

3. (i) 401   (ii) 5
   (iii) 100   (iv) 123
   (v) 721

4. (i) 0   (ii) 9
   (iii) 52   (iv) 39
   (v) 206

5. (i) ₹843   (ii) ₹195

6. (i) 90   (ii) 0
   (iii) 616   (iv) 34
   (v) 65

7. (i) 192   (ii) 80 kms/hour

8. (i) $\dfrac{1}{2}$ (ii) $\dfrac{1}{4}$

    (iii) $\dfrac{3}{8}$ (iv)   7

    (v)   100   (vi)   1

    (vii) 4   (vii) 500

    (ix) $\dfrac{3}{4}$ (x)   7

9. (i)   67 meters 90 centimeters

    (ii)   72 kilograms 370 grams

    (iii) 5.250 litres

    (iv)   5

10. (i)   Line Segment

    (ii)   Triangle

    (iii) Open

    (iv)   Closed

    (v)   Conical