

ગુજરાત શૈક્ષણિક સંશોધન અને તાલીમ પરિષદ, ગાંધીનગરના પત્ર-ક્રમાંક  
જસીઈઆરટી/સી એન્ડ ઈ/૨૦૧૪/૨૨૨૨, તા. ૩-૨-૨૦૧૪-થી મંજૂર

A 'Teacher's book' has been prepared for  
teachers and parents (separately).

Kindly use this.

# MATHEMATICS

## Standard 4

### (Semester I - II)



#### PLEDGE

India is my country.

All Indians are my brothers and sisters.

I love my country and I am proud of its rich and varied heritage.

I shall always strive to be worthy of it.

I shall respect my parents, teachers and all my elders and treat everyone with courtesy.

I pledge my devotion to my country and its people.

My happiness lies in their well-being and prosperity.

Price : ₹ 99.00

Name of Student : \_\_\_\_\_

Name of School : \_\_\_\_\_

Class : \_\_\_\_\_ Roll No. \_\_\_\_\_



**Gujarat State Board of School Textbooks**  
**‘Vidyayan’, Sector 10-A, Gandhinagar-382010**

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### PREFACE

In keeping with the guidelines laid down under NCF-2005 and RTE-2009, structural pedagogical changes have come about in primary education, curriculum and syllabus design and textbooks across India. This change refers to our understanding of concerned subjects and teaching-learning procedure on the whole. The primary objective of this syllabus is to foster creativity, out-of-box thinking, logical and analytical skills among young children keeping this approach in mind, the Textbook Board of Gujarat takes pleasure in introducing the textbook of **Standard 4 Mathematics** to students, teachers and parents painstakingly prepared by G.C.E.R.T., Gandhinagar.

IGNUS-erg Team Members have provided vital inputs and guided the State Resource Group members in the entire process of framing new syllabus and designing the textbooks. UNICEF and the core-group members of the concerned subjects have been quite helpful at various junctures.

Before prescribing this textbook in the schools across Gujarat, Gujarati edition book had been introduced in selected schools on an experimental basis. Based on the feedback received from the stakeholders, necessary changes have been incorporated by Gujarat Council of Education and Research Training.

Gujarat State Board of School Textbooks convened a meeting of invited subject-experts and experts from GCERT to prepare the final draft of Gujarati edition textbook before prescribing it in the primary schools across Gujarat.

After that Gujarat State Board of School Textbooks has invited experienced teachers to translate it into english and subject expert teachers reviewed this book and then final edition is prepared.

Every effort has been made to maintain quality of the book and to cater to the taste of young students. We hope that young children will like the four-coloured form of this textbook and make the optimum use of this book. Efforts have been made to make this text book errorfree. Still we solicit suggestions from all the stakeholders.

**Dr. Bharat Pandit**

Director

Date : 3-3-2015

**Dr. Nitin Pethani**

Executive President

Gandhinagar

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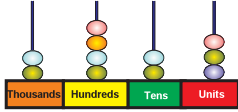
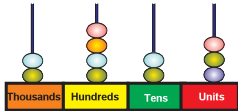

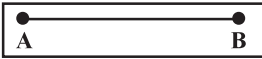
## FUNDAMENTAL DUTIES

It shall be the duty of every citizen of India :

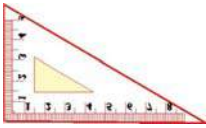
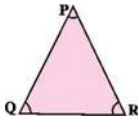
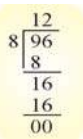
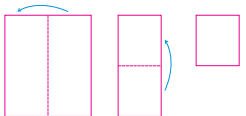
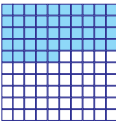

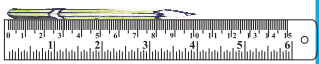


- (a) to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;
  - (b) to cherish and follow the noble ideals which inspired our national struggle for freedom;
  - (c) to uphold and protect the sovereignty, unity and integrity of India;
  - (d) to defend the country and render national service when called upon to do so;
  - (e) to promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to renounce practices derogatory to the dignity of women;
  - (f) to value and preserve the rich heritage or our composite culture;
  - (g) to protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures;
  - (h) to develop the scientific temper, humanism and the spirit of inquiry and reform;
  - (i) to safeguard public property and to abjure violence;
  - (j) to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement.
  - (k) to provide opportunities for education by the parent or the guardian, to his child or a ward between the age of 6 and 14 years as the case may be.
- 

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## About this Text-Book....

This text-book has been prepared with a view to developing expected skills among the students on the basis of Gujarat Curriculum Frame-work (GCF). Special emphasis has been put on acquiring the knowledge through principles by the students in such a way that, they may not resort to cramming. The maximum efforts has been made so that the children learn the concepts of Mathematics, students can think logically. Solve the problems, understand the roll of Mathematics in the beauty of nature and can use Mathematics in day-to-day dealings.

Each chapter begins with the activities based on the experiences of the children. The objective is that the studetns may be inspired to think, may do similar experiments and finally; what they have learnt may be evaluated as per method of ERAC by themselves.

For the preparation of this new text-book the parameters decided are : syllabus according to the age-group of children, continuity and co-ordination of concepts of two standards, simple and short presentations, life-oriented concepts as per guidelines of RTE and utility of local objects. A group of Mathematics teachers directly teching in the primary schools who are selected in SRG have prepared and reviewed this text-book as per the parameters mention here. This final script has been prepared with appropriate correction after getting reviewed by the experts of mathematics and after three years introductory implimentation of Gujarati edition by the Gujarat State Board of School Textbooks.

Each chapter in the text-book is introduce with the titles : 'Let us recall', 'Let us learn Something new', 'Practice' and 'exercise'. The answers to the exercises are given at the end of the chatper. 'Revision' has been given at the end of every three or four chapters so that students may get practice.

The syllabus of this text-book is divided into two semesters. In first semester, 1st chapter contains the knowledge, place-value, ascending-descending order of numbers upto 9999. 2nd chapter includes addition of two or three numbers having four digits. Such that the sum will not exceed 9999. Chapter 3 includes subtraction of numbers without borrowing and with borrowing where the answer will not exceed 9999. Chapter 4 contains multiplication of numbers where product will not exceed 9999. Chapter 5 shows factors of numbers not greater then 100 and multiples of numbers upto 20. Chapter 6 includes the concept of reading the calander, mutual conversion of hours-minutes. Chapter 7 clears the concepts of a line, a line-segment and a ray.

In second semester chapter 8 shows the types of angles, construction and measurment of angles with the help of a protector. Chapter 9 shows the types of triangles on the basis of the angles and the sides. Chapter 10 includes division of two or three digit numbers by one or two digit numbers and practical problems. Chapter 11 explains like, unlike, proper, improper, equivalent, mixed fractions. Chapter 12 includes mutual conversion of simple and decimal fractions. Chapter 13 shows the mutual conversion of rupee-paisa. Chapter 14 shows the conversion of *cm* into meter, meter into *cm*, meter into kilometer and kilometer into meter. Chapter 15 shows the conversion of kilogram into gram and gram into kilogram, also practical problems. Chapter 16 shows mutual conversion of liter-ml. Explanation is given by using pictures, figures, educational games, project work and various activities.

It is hoped that the students, the teachers and the parents will like this text-book prepared for the students of standard IV.



Let us recall :

1. Write the following numbers in words :

- (1) 246 : .....
- (2) 357 : .....
- (3) 509 : .....
- (4) 749 : .....

2. Write the following numbers in figures :

- (1) Three hundred and ninety : .....
- (2) Six hundred and three : .....
- (3) Eight hundred and seventy three : .....
- (4) Nine hundred and fifty four : .....

3. Write missing numbers in the following table :

No.	Number	Hundreds	Tens	Units
(1)	379	.....	.....	.....
(2)	.....	5	6	0
(3)	64	.....	.....	4

4. Arrange the numbers in ascending and descending orders :

No.	Numbers	Ascending Order	Descending Order
(1)	219, 210, 216	....., ....., .....	....., ....., .....
(2)	300, 30, 3	....., ....., .....	....., ....., .....
(3)	505, 55, 555	....., ....., .....	....., ....., .....
(4)	960, 909, 903	....., ....., .....	....., ....., .....

## 5. Fill in the blanks :

No.	Number	Place value of 3	Place value of 7	Place value of 8
(1)	387			
(2)	378			
(3)	738			
(4)	873			

## 6. Fill in the blanks :

No.	Immediately preceding number	The number between two given numbers	Immediately succeeding number
(1)	.....	467	.....
(2)	720	.....	722
(3)	.....	890	.....
(4)	.....	600	.....

7. Fill in the blanks with appropriate symbol  $>$  or  $<$  :

(1) 213 ..... 231

(2) 400 ..... 49

(3) 594 ..... 495

(4) 390 ..... 309

## 8. Identify the given numbers as even or odd :

(1) 306	(2) 465	(3) 638	(4) 223

## ❑ Let us learn something new :

## Identification of number upto 10,000 :

Number 1 is equal to 1 units, 10 units is equal to 1 tens, 10 tens is equal to 1 hundreds and 10 hundreds is equal to 1 thousands.

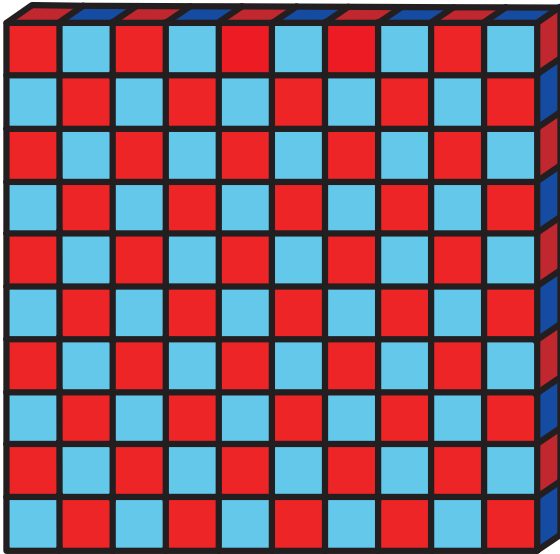
To consolidate your understanding about these numbers look at the figures below :



Here, 1 cube... 1 unit.



10 units is equal to 1 tens.

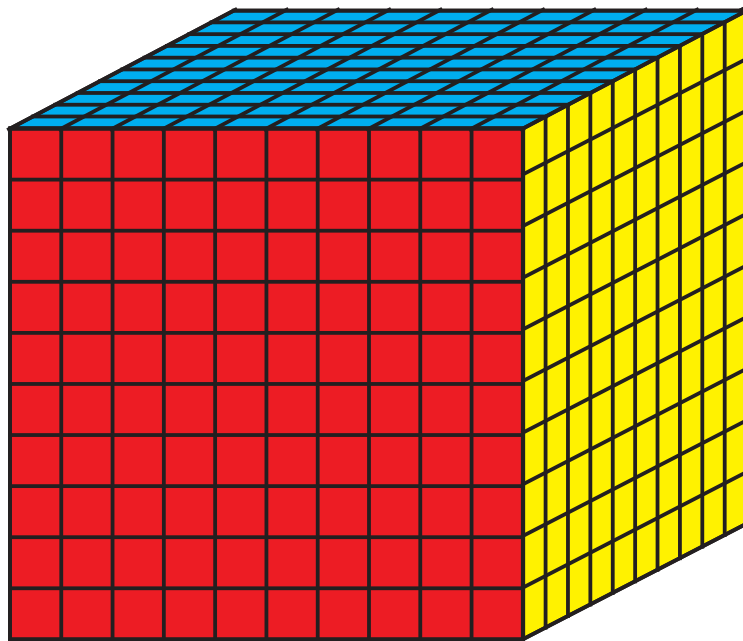


100 units is equal to 10 tens

10 tens is equal to 1 hundreds

If you make 10 piles of 100 cubes each you will get the arrangement as shown below. Its topmost pile has 100 cubes in this arrangement; in the same manner there are 100 cubes in all lower piles.

Tenth hundred →  
Ninth hundred →  
Eightth hundred →  
Seventh hundred →  
Sixth hundred →  
Fifth hundred →  
Fourth hundred →  
Third hundred →  
Second hundred →  
First hundred →



1000 cubes...

10 hundreds means 1 thousands

All piles taken together make 10 hundreds. 10 hundreds is equal to 1 thousands. Thus, 1000 units = 100 tens = 10 hundreds = 1 thousands

♦ **Reading numbers upto 10,000.**

You have already learnt to read the numbers upto nine hundred and ninety nine in std. 3.

♦ **Writing numbers upto 10,000 in figures - words**

**In 1000,**

- (1) Replacing the 'ZERO' at the place of unit by 1 to 9 respectively we get numbers from 1001 to 1009.
- (2) If we put 10 to 99 at the place of tens-units, we get numbers from 1010 to 1099.
- (3) If we put 100 to 999 at the place of hundreds-tens-units, we get numbers from 1100 to 1999.

Thus by placing numbers in every thousand, we can reach upto the number 9999.

♦ **Numbers : In figures and in words :**

In figures	In words	In figures	In words
1001	One thousand and one	6000	Six thousand
1099	One thousand and ninety nine	7892	Seven thousand eight hundred and ninety two
1200	One thousand and two hundred	9000	Nine thousand
2000	Two thousand	9999	Nine thousand nine hundred and ninety nine
5376	Five thousand three hundred and seventy six	10,000	Ten thousand

**Read :**

- (1) 4977 : Four thousand nine hundred and seventy seven.
- (2) 3281 : Three thousand two hundred and eighty one.
- (3) 5023 : Five thousand and twenty three.
- (4) 4872 : Four thousand eight hundred and seventy two.
- (5) 1341 : One thousand three hundred and forty one. It is also read as thirteen hundred and forty one.

♦ **Activity 1 : Let us play a game :**

Fill in the following boxes with your favourite number of four digits. Not a single box should remain empty and a number cannot be repeated.

[illegible]

This game will be played by four players. Take a die to play this game and proceed as many boxes as the number obtained on die on throwing. Read the number in the box at which you have reached. Write this number in figure and in words in your notebook.

Like this, start the game; throw a die; write numbers in your notebook.  
So what are you waiting for ? Start !! Enjoy !!

## ♦ Range of Numbers upto 9999

Activity 2 : Write the numbers you like :

Thousands	Hundreds	Tens	Units	Number in figure	Number in words
5	3	2	1	5321	Five thousand three hundred and twenty one

Now answer the following questions using above table :

- (1) Which is the largest number ? .....
- (2) Which digit is at the place of thousand in the largest number ? .....
- (3) Expand any three numbers in thousand, hundred, ten and unit as shown in the following example :

**Example :** 5321 means 5 thousands 3 hundreds 2 tens 1 units

- (4) ..... means ..... thousands ..... hundreds ..... tens ..... units.
- (5) ..... means ..... thousands ..... hundreds ..... tens ..... units.
- (6) ..... means ..... thousands ..... hundreds ..... tens ..... units.

**Let us understand :**

- 2637 means 26 groups of hundreds, 3 groups of tens and 7 units or 2 groups of thousands, 6 groups of hundreds, 3 groups of tens and 7 units.
- 3004 means 30 groups of hundreds, 0 group of tens and 4 units
- 5168 means 51 groups of hundreds, 6 groups of tens and 8 units

- 27 groups of hundreds, 5 groups of tens and 2 units means 2752
- 32 groups of hundreds, 3 groups of tens and 2 units means 3232
- 55 groups of hundreds, 2 groups of tens and 7 units means 5527

### Reading of numbers :

- 3973 - Three thousand nine hundred and seventy three OR Thirty nine hundred and seventy three

### Practice 1

#### 1. Write the following numbers in words :

- (1) 6594 : .....
- (2) 8964 : .....
- (3) 5089 : .....
- (4) 6594 : .....
- (5) 7401 : .....

#### 2. Write the following numbers in figures :

- (1) Five thousand three hundred and thirty eight : .....
- (2) Four thousand and seven : .....
- (3) Nine thousand five hundred and sixty nine : .....
- (4) Two thousand and eighty nine : .....
- (5) Three thousand seven hundred and nine : .....

#### 3. Expand the following numbers in groups of thousand, hundred, ten and unit :

- (1) 9032 means ..... thousands ..... hundreds ..... tens ..... units
- (2) 4504 means ..... thousands ..... hundreds ..... tens ..... units
- (3) 7368 means ..... thousands ..... hundreds ..... tens ..... units
- (4) 8940 means ..... thousands ..... hundreds ..... tens ..... units
- (5) 6549 means ..... thousands ..... hundreds ..... tens ..... units

4. Express the following numbers by expanding in group of hundreds, tens, units or express the expansion as a number :

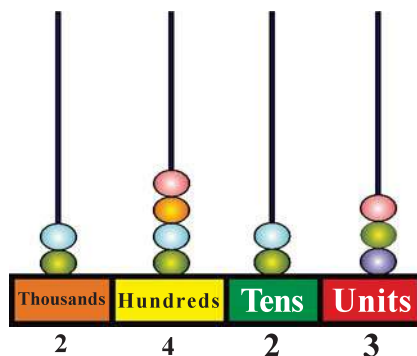
Sr.No.	Number	Groups of hundreds	Groups of tens	Units
Ex.	3467	34	6	7
(1)	6738	.....	.....	.....
(2)	.....	95	0	2
(3)	2047	.....	.....	.....
(4)	.....	67	3	4
(5)	4567	.....	.....	.....

5. Express the following numbers in group of hundreds and in group of tens :

Sr. No.	Number	Groups of hundreds	Groups of tens
Ex.	1000	10 groups	100 groups
Ex.	2010	-	201 groups
(1)	3000	.....	.....
(2)	3060	-	.....

Sr. No.	Number	Groups of hundreds	Groups of tens
(3)	4100	.....	.....
(4)	8000	.....	.....
(5)	7350	-	.....
(6)	5900	.....	.....

- Place value :



2 thousands 4 hundreds 2 tens 3 units means **2423**

Place	Number of Beads	Place-value
Thousands	2	2000
Hundreds	4	400
Tens	2	20
Units	3	3
	<b>Number</b>	<b>2423</b>

Thus, in 2423,

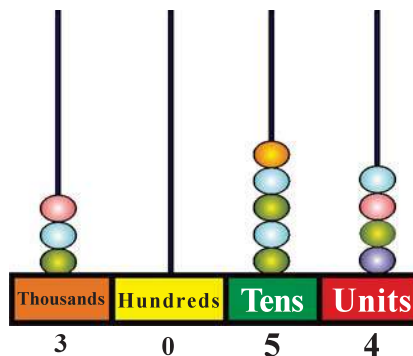
Place-value of 2 is 2000.

Place-value of 4 is 400.

Place-value of 2 is 20.

Place-value of 3 is 3.

Number 2423



3 thousands 0 hundreds 5 tens 4 units means **3054**

Place	Number of Beads	Place-value
Thousands	3	.....
Hundreds	0	0
Tens	.....	50
Units	4	4
	<b>Number</b>	<b>3054</b>

Thus, in 3054,

Place-value of 3 is 3000

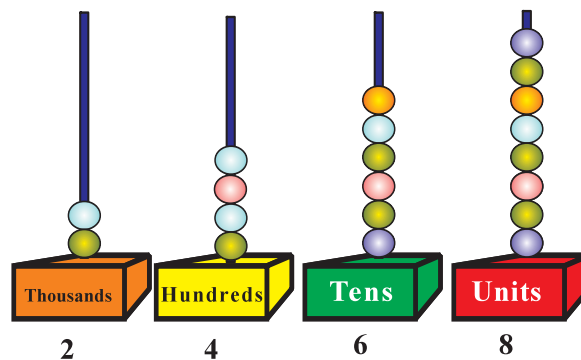
Place-value of 0 is 0

Place-value of 5 is 50

Place-value of 4 is 4

Number : 3054

If abacus are different having exactly one rod on each and if place value is written on it, let us see how to find out that number.



**2 thousands 4 hundreds 6 tens 8 units means 2468.**

In 2468, place-value of 2 is 2000

place-value of 4 is 400

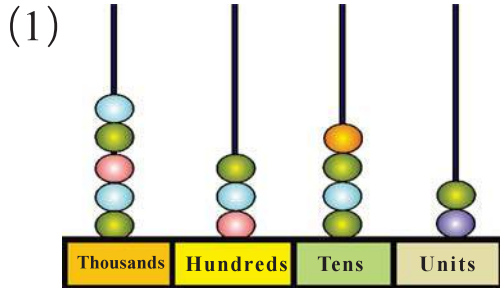
place-value of 6 is 60

place-value of 8 is 8

Number : 2468

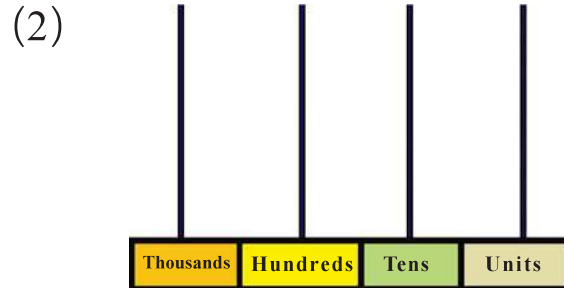
Practice 2

1. Fill in the blanks with the help of abacus :



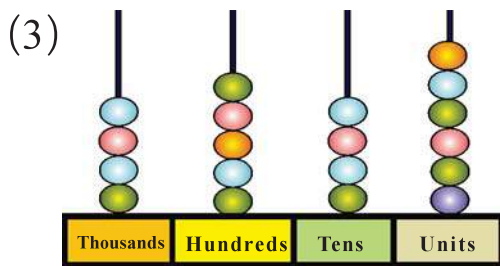
....Thousands ....hundreds ....tens ....units

means



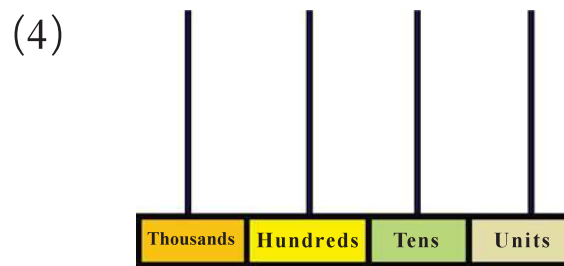
....Thousands ....hundreds ....tens ....units

means



....Thousands ....hundreds ....tens ....units

means



....Thousands ....hundreds ....tens ....units

means

2. Fill in the blanks in the table :

No.	Number	Place-value of digits			
		4	5	6	7
(1)	5746	.....	.....	.....	.....
(2)	6457	.....	.....	.....	.....
(3)	.....	400	5000	60	7
(4)	.....	40	5	6000	700
(5)	5674	.....	.....	.....	.....

3. Complete the table by marking the digit and place-value of the digit as shown in example :

No.	Figure	Thousands		Hundreds		Tens		Units	
		Digit	Place-value of digit	Digit	Place-value of digit	Digit	Place-value of digit	Digit	Place-value of digit
Ex.	4501	4	4000	5	500	0	0	1	1
(1)	9720	.....	.....	.....	700	2	.....	0	.....
(2)	8074	8	.....	.....	.....	.....	70	4	.....
(3)	.....	6	.....	.....	400	.....	10	6	.....
(4)	6533	.....	.....	.....	.....	.....	.....	.....	.....

4. Expand the following numbers as shown in the example and write place-value of each group below it :

Ex. 4351 means 4 thousands 3 hundreds 5 tens 1 units

4000	300	50	1
------	-----	----	---

(1) 6302 means 6 thousands .... hundreds .... tens .... units

	300		
--	-----	--	--

(2) ...45... means 6 thousands .... hundreds .... tens .... units

			3
--	--	--	---

(3) 7...2... means .... thousands 5 hundreds .... tens 0 units

--	--	--	--

(4) 3847 means .... thousands .... hundreds .... tens .... units

--	--	--	--

❑ **Succeeding, Preceding and middle numbers :**

◆ **Observe and understand :**

**Immediately succeeding number**

1349	1350	1351
2999	3000	3001
3998	3999	4000
4999	5000	5001
9432	9433	9434

Middle number

**Immediately preceding number**

1349	1350	1351
2999	3000	3001
3998	3999	4000
4999	5000	5001
9432	9433	9434

Middle number

By adding 1 to the given number we get the number immediately succeeding.

By subtracting 1 from the given number (other than 1) we get the number immediately preceding.

**Understanding of smaller, greater, equal numbers upto 9999 :**

(1)  $\begin{array}{r} 46 \\ \uparrow \end{array}$   $\begin{array}{r} 210 \\ \uparrow \end{array}$   
 Two digits Three digits  
 Therefore  $46 < 210$

(2) 345 and 672  
 $3 < 6$  (Comparing digits at hundreds place.)  
 Therefore  $345 < 672$

(3) 3597 and 3567  
 $9 > 6$   
 (Comparing digits at tens, as digits at thousands and hundreds are same)  
 Therefore  $3597 > 3567$

(4) 1497 and 1497  
 All digits are same  
 Therefore  $1497 = 1497$

$$(5) \quad 413 \quad 402$$

$$1 > 0$$

(Comparing digits at tens as digits at hundreds are same)

Therefore,  $413 > 402$

$$(6) \quad 5430 \text{ and } 5431$$

$$0 < 1$$

(Comparing digits at units, as digits at thousands; hundreds and tens are same.)

Therefore,  $5430 < 5431$

Greater Number  $>$  Smaller Number

Smaller Number  $<$  Greater Number

Number = Same Number

**Note :** To compare numbers, first of all, check numbers from thousands place to units place successively.

### Practice 3

#### 1. Fill in the blanks :

- (1) The number immediately preceding 4444 is .....
- (2) The number immediately succeeding 6809 is .....
- (3) The number immediately preceding the largest number of three digits is .....
- (4) The number immediately preceding the smallest number of three digits is .....
- (5) ..... is the middle number for 7563 and 7565.
- (6) 3000 is the middle number for ..... and .....
- (7) The number immediately succeeding the largest number of four digit is .....

#### 2. Write 7 pairs of four digit numbers and show them with appropriate symbol =, < or > between them :

**Ex. : 2040 > 1498**

- (1) ..... .....
- (2) ..... .....
- (3) ..... .....
- (4) ..... .....
- (5) ..... .....
- (6) ..... .....
- (7) ..... .....

### Ascending-descending order of numbers :

We have learnt how to arrange numbers upto 999 in ascending-descending order. Similarly numbers upto 9999 can also be arranged in ascending-descending order.

From given numbers we write the highest number. Then from remaining numbers we write the highest number at second order. Proceeding like this we get descending order of numbers.

Suppose we want to arrange numbers 3234, 4243, 4324, 5432 in descending order.

- (1) By comparing the digits at the thousands place of numbers 3234, 4243, 4324, 5432, we can see that the largest number is 5432.
- (2) From remaining three numbers 3234, 4243, 4324 the first digits of 4243 and 4324 are same. So, we compare their second digits; we get largest numbers 4324.
- (3) From remaining two numbers 3234, 4243; we can see that 4243 is larger by comparing first digits. Therefore, 5432, 4324, 4243, 3234 are in descending order.

If we reverse the order in ascending order of numbers, we get descending order of the numbers and if we reverse the descending order of numbers, we get the ascending order of the numbers.

**Thus, to decide the ascending order or the descending order, one should compare the digits at thousands and then compare the digits at hundreds, tens and units respectively to decide smaller-greater number.**

**Example 1 :** Arrange the given numbers in ascending order : 4321, 8102, 1898

**Solution :** 4321, 8102, 1898

↓      ↓      ↓

4      8      1      (Place of thousands)

All the three digits at thousands are different and ascending order of them is 1, 4 and 8. Therefore, ascending order of given numbers is 1898, 4321, 8102.

**Example 2 :** Arrange the given numbers in descending order :

7198, 2364, 5078, 1590

**Solution :** 7198, 2364, 5078, 1590

↓      ↓      ↓      ↓

7      2      5      1      (Place of thousands)

In the above numbers, the digits at thousands place are different and in descending order they are 7, 5, 2, 1. Therefore, descending order of given numbers is 7198, 5078, 2364, 1590.

### Practice 4

1. Fill in the blanks with proper numbers by understanding ascending order :

					1007
		1005			
			2113		
(1)	1003				
(2)	2110				
		3018		4208	
(3)					9999
(4)	4205		9997		
(5)					

2. Fill in the blanks with proper numbers by understanding descending order :

*d e s c e n d i n g*

*o r d e r*

(1)	2129				
(2)			2127		
(3)	3213				2125
(4)					2824
(5)	8888				

3. Fill in the blanks with proper understanding of ascending-descending order :

	Ascending order	Descending order
Ex.	1001, 1002, 1003	1003, 1002, 1001
(1)	....., ....., .....	2112, 2111, 2110
(2)	3204, 3205, 3206	....., ....., .....
(3)	....., ....., .....	6412, 6411, 6410
(4)	5588, 5589, 5590	....., ....., .....

Let us understand :

Type of number	How many numbers	Smallest number	Greatest number
1-digit numbers	9	1	9
2-digit numbers	90	10	99
3-digit numbers	900	100	999
4-digit numbers	9000	1000	9999

### Exercise

**1. Write the following numbers in figures :**

- (1) Two thousand and thirty seven .....
- (2) Four thousand three hundred and twenty six .....
- (3) Seven thousand and nine .....
- (4) Eight thousand two hundred and fifty four .....

**2. Write the following numbers in words :**

- (1) 3941 ..... (2) 4607 .....
- (3) 5370 ..... (4) 8093 .....

**3. Fill in the blanks :**

	Number	Place-value of 3	Place-value of 7	Place-value of 4
(1)	3407			
(2)	7324			
(3)	6743			

**4. Expand as required and write the number from the given expansion :**

Number	Expansion according to place-value			
	Thousands	Hundreds	Tens	Units
1876	.....	.....	.....	.....
.....	2	9	0	3
8679	.....	.....	.....	.....

Number	Expansion according to place-value			
	Thousands	Hundreds	Tens	Units
4368	.....	.....	.....	.....
.....	8	5	2	6
.....	9	6	7	8

**5. Fill in the following blanks :**

- (1) The number immediately preceding 1781 is .....
- (2) The number immediately succeeding 3999 is .....
- (3) 5999 is the number immediately preceding .....
- (4) 7610 is the number immediately succeeding .....
- (5) 8000 is the number between ..... and .....

**6. Fill in the following blanks using appropriate symbol =, < or > :**

- (1) 2426 ..... 2388                      (2) 1475 ..... 1478
- (3) 666 ..... 4000                      (4) 8915 ..... 8915

**7. Arrange the following numbers in ascending order :**

- (1) 3048, 8043, 4083                      (2) 6026, 6062, 6620, 6260

....., ....., .....                      ..... , ..... , ..... , .....

**8. Arrange the following numbers in descending order :**

- (1) 4289, 2894, 9824                      (2) 2835, 2833, 2837, 2839

....., ....., .....                      ..... , ..... , ..... , .....



## Answers

### Practice 1

1. (1) Six thousand five hundred and ninety four  
(2) Eight thousand nine hundred and sixty four  
(3) Five thousand and eighty nine  
(4) Six thousand five hundred and ninety four  
(5) Seven thousand four hundred and one
2. (1) 5338 (2) 4007 (3) 9569 (4) 2089 (5) 3709
3. (1) 9, 0, 3, 2 (2) 4, 5, 0, 4 (3) 7, 3, 6, 8 (4) 8, 9, 4, 0 (5) 6, 5, 4, 9
4. (1) 67, 3, 8 (2) 9502 (3) 20, 4, 7 (4) 6734 (5) 45, 6, 7
5. (1) 30, 300 (2) 306 (3) 41, 410 (4) 80, 800  
(5) 735 (6) 59, 590

### Practice 2

1. (1) 5 thousands 3 hundreds 4 tens 2 units means 5342  
(2) 6 thousands 4 hundreds 3 tens 0 units  
(3) 4 thousands 5 hundreds 4 tens 6 units means 4546  
(4) 3 thousands 2 hundreds 5 tens 2 units
2. (1) 40, 5000, 6, 700 (2) 400, 50, 6000, 7  
(3) 5467 (4) 6745 (5) 4, 5000, 600, 70
3. (1) 9, 9000, 7, 20, 0 (2) 8000, 0, 0, 7, 4  
(3) 6416, 6000, 4, 1, 6 (4) 6, 6000, 5, 500, 3, 30, 3, 3
4. (1) 3, 0, 2  

6000		0	2
------	--	---	---

  
(3) 7, 2  

7000	500	20	0
------	-----	----	---
- (2) 4, 5, 3  

6000	400	50	
------	-----	----	--

  
(4) 3, 8, 4, 7  

3000	800	40	7
------	-----	----	---

**Practice 3**

1. (1) 4443 (2) 6810 (3) 998 (4) 99  
(5) 7564 (6) 2999, 3001 (7) 10,000

**Practice 4**

3. (1) 2110, 2111, 2112 (2) 3206, 3205, 3204  
(3) 6410, 6411, 6412 (4) 5590, 5589, 5588

**Exercise**

1. (1) 2037 (2) 4326 (3) 7009 (4) 8254
2. (1) Three thousand nine hundred and forty one  
(2) Four thousand six hundred and seven  
(3) Five thousand three hundred and seventy  
(4) Eight thousand and ninety three
3. (1) 3000, 7, 400 (2) 300, 7000, 4 (3) 3, 700, 40
5. (1) 1780 (2) 4000 (3) 6000 (4) 7609  
(5) 7999, 8001
6. (1)  $>$  (2)  $<$  (3)  $<$  (4)  $=$
7. (1) 3048, 4083, 8043 (2) 6026, 6062, 6260, 6620
8. (1) 9824, 4289, 2894 (2) 2839, 2837, 2835, 2833



Let us recall :

1. The following are the pictures of different objects with their prices.  
Answer the questions accordingly :

			
₹ 500	₹ 200	₹ 400	₹ 300
			
₹ 100	₹ 50	₹ 700	₹ 600

- (1) What is the total price of the toy car and the camera ?.....
- (2) What is the total price of the steel box and the table ?.....
- (3) What is the total price of the iron and the shoes ?.....
- (4) What is the total price of the chair and the steel box ?.....
- (5) What is the total price of the table and the bat ? .....

2. Fill in the following blanks orally :

- |                                   |   |
|-----------------------------------|---|
| (1) $300 + 100 = \dots\dots\dots$ | (2) $500 + 300 + 100 = \dots\dots\dots$ |
| (3) $200 + 500 = \dots\dots\dots$ | (4) $200 + 300 + 400 = \dots\dots\dots$ |
| (5) $300 + 200 = \dots\dots\dots$ | (6) $400 + 100 + 200 = \dots\dots\dots$ |

3. Add the following :

$$\begin{array}{r} (1) \quad 426 \\ + 133 \\ \hline \end{array}$$

$$\begin{array}{r} (2) \quad 234 \\ + 152 \\ \hline \end{array}$$

$$\begin{array}{r} (3) \quad 326 \\ + 356 \\ \hline \end{array}$$

$$\begin{array}{r} (4) \quad 375 \\ + 596 \\ \hline \end{array}$$

$$\begin{array}{r} (5) \quad 32 \\ + 543 \\ + 124 \\ \hline \end{array}$$

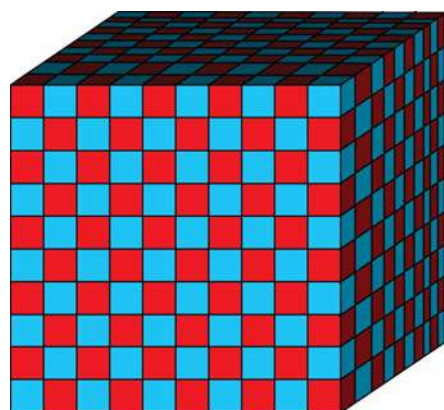
$$\begin{array}{r} (6) \quad 356 \\ + 112 \\ + 321 \\ \hline \end{array}$$

$$\begin{array}{r} (7) \quad 235 \\ + 316 \\ + 327 \\ \hline \end{array}$$

$$\begin{array}{r} (8) \quad 216 \\ + 98 \\ + 34 \\ \hline \end{array}$$

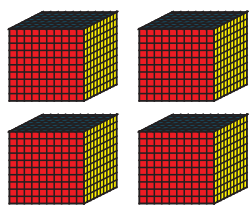
Let us learn something new :

Oral addition :

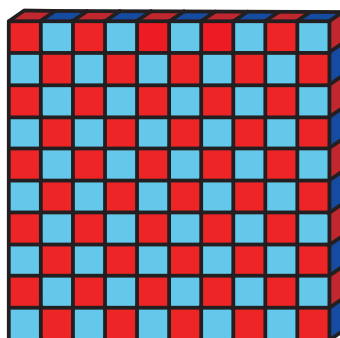


1000

1 thousands

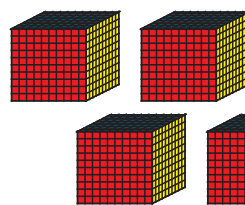


4000



100

1 hundreds



3000



10

1 tens

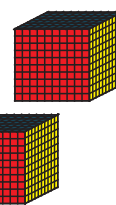


7000



1

1 units

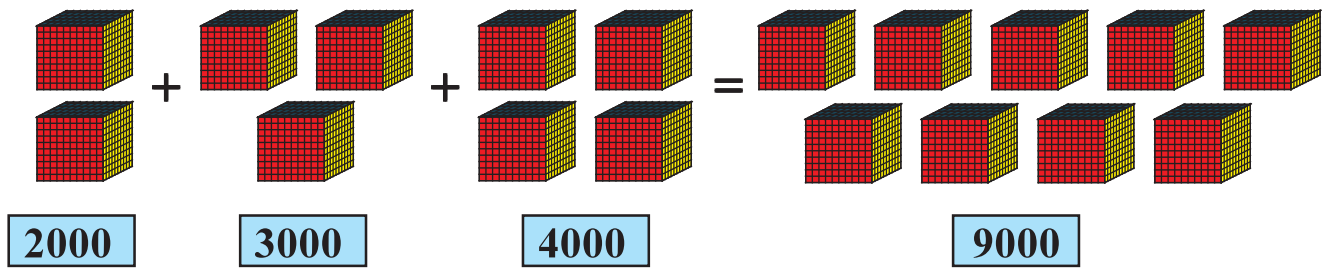


$$4000 + 3000 = 7000$$

$$4 \text{ thousands} + 3 \text{ thousands} = 7 \text{ thousands}$$

$$\begin{array}{r} 4000 \\ + 3000 \\ \hline 7000 \end{array}$$

## 2 : Addition



$$2000 + 3000 + 4000 = 9000$$

$$2 \text{ thousands} + 3 \text{ thousands} + 4 \text{ thousands} = 9 \text{ thousands}$$

$$\begin{array}{r} 2000 \\ + 3000 \\ + 4000 \\ \hline 9000 \end{array}$$

### Practice 1

#### 1. Calculate orally and fill in the following blanks :

(1)  $2000 + 1000 = \dots\dots\dots$

(3)  $3000 + 2000 = \dots\dots\dots$

(5)  $7000 + 2000 = \dots\dots\dots$

(7)  $3000 + 5000 = \dots\dots\dots$

(2)  $4000 + 2000 + 1000 = \dots\dots\dots$

(4)  $3000 + 4000 + 2000 = \dots\dots\dots$

(6)  $2000 + 2000 + 3000 = \dots\dots\dots$

(8)  $1000 + 3000 + 1000 = \dots\dots\dots$

#### □ Look and understand :

#### ◆ Addition of two or three numbers of four digits without carry forward :

#### Example 1 : $2341 + 4032$

	1000	100	10	1				
	2	3	4	1	1000 1000	100 100 100	10 10 10 10	1
+	4	0	3	2	1000 1000 1000 1000		10 10 10	1 1
	6	3	7	3	1000 1000 1000 1000 1000 1000	100 100 100	10 10 10 10 10 10 10	1 1 1

	Thousands	Hundreds	Tens	Units
	2	3	4	1
+	4	0	3	2
	6	3	7	3

Which can be written as follows :

$$\begin{array}{r} 2341 \\ + 4032 \\ \hline 6373 \end{array}$$

**Example 2 : 2312 + 2150 + 1523**

	Thousands	Hundreds	Tens	Units
	2	3	1	2
+	2	1	5	0
+	1	5	2	3
	5	9	8	5

Which can be written as follows :

$$\begin{array}{r} 2312 \\ + 2150 \\ + 1523 \\ \hline 5985 \end{array}$$

**Example 3 : 3251 + 2425 + 213**

	Thousands	Hundreds	Tens	Units
	3	2	5	1
+	2	4	2	5
+		2	1	3
	5	8	8	9

Which can be written as follows :

$$\begin{array}{r} 3251 \\ + 2425 \\ + 213 \\ \hline 5889 \end{array}$$

**Example 4 : 7521 + 423 + 15**

	Thousands	Hundreds	Tens	Units
	7	5	2	1
+		4	2	3
+			1	5
	7	9	5	9

Which can be written as follows :

$$\begin{array}{r} 7521 \\ + 423 \\ + 15 \\ \hline 7959 \end{array}$$

Practice 2

1. Add the following :

$$\begin{array}{r} (1) \quad 2532 \\ + 5321 \\ \hline \end{array}$$

$$\begin{array}{r} (2) \quad 3581 \\ + 4105 \\ \hline \end{array}$$

$$\begin{array}{r} (3) \quad 3264 \\ + 312 \\ + 1413 \\ \hline \end{array}$$

$$\begin{array}{r} (4) \quad 4030 \\ + 47 \\ + 2211 \\ \hline \end{array}$$

$$\begin{array}{r} (5) \quad 3407 \\ + 6452 \\ \hline \end{array}$$

$$\begin{array}{r} (6) \quad 3120 \\ + 432 \\ + 2236 \\ \hline \end{array}$$

$$\begin{array}{r} (7) \quad 3177 \\ + 312 \\ \hline \end{array}$$

$$\begin{array}{r} (8) \quad 13 \\ + 173 \\ + 4211 \\ \hline \end{array}$$

2. Add the following :

$$(1) \quad 7309 + 2200$$

$$(2) \quad 1206 + 1410 + 3021$$

$$(3) \quad 6414 + 225$$

$$(4) \quad 4400 + 235 + 1201$$

$$(5) \quad 4301 + 438$$

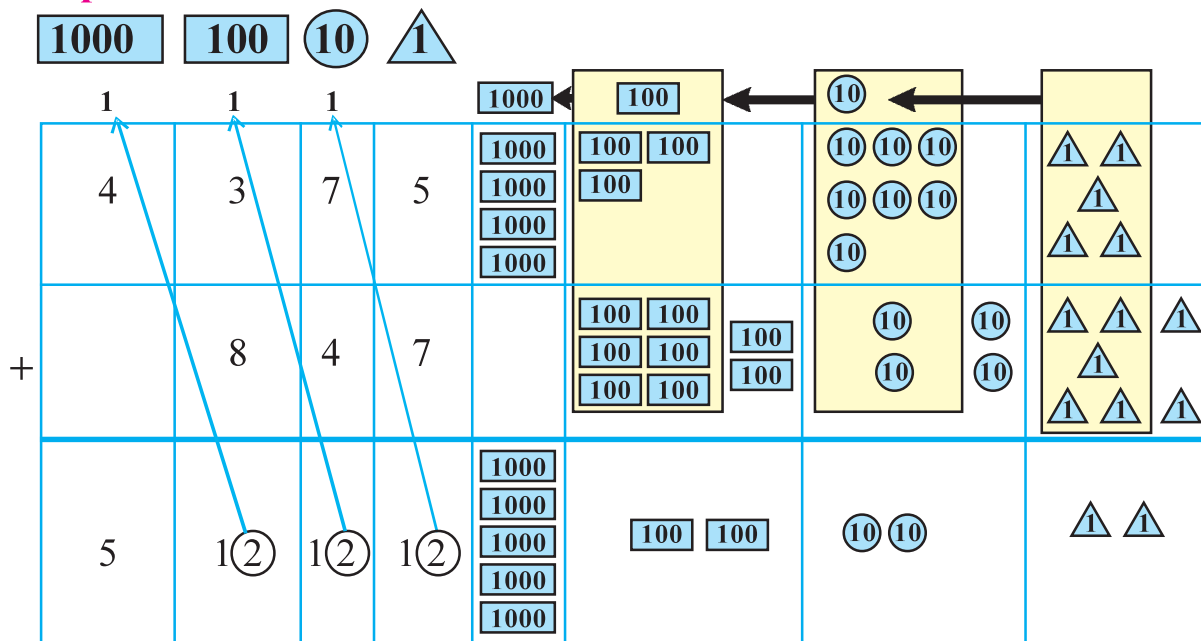
$$(6) \quad 2234 + 1200 + 165$$

$$(7) \quad 327 + 2322$$

$$(8) \quad 3020 + 2621$$

□ Addition of two numbers of four digits with carry forward :

Example 5 :  $4375 + 847$



	Thousands	Hundreds	Tens	Units
	4	3	7	5
+		8	4	7
	5	2	2	2

Which can be written as follows :

$$\begin{array}{r} 1 \quad 1 \quad 1 \\ 4 \quad 3 \quad 7 \quad 5 \\ + \quad 8 \quad 4 \quad 7 \\ \hline 5 \quad 2 \quad 2 \quad 2 \end{array}$$

**Example 6 :**  $4375 + 1858$

	Thousands	Hundreds	Tens	Units
	1	1	1	
	4	3	7	5
+	1	8	5	8
	6	2	3	3

Which can be written as follows :

$$\begin{array}{r} \phantom{0}1\phantom{0}1\phantom{0}1 \\ 4\phantom{0}3\phantom{0}7\phantom{0}5 \\ + 1\phantom{0}8\phantom{0}5\phantom{0}8 \\ \hline 6\phantom{0}2\phantom{0}3\phantom{0}3 \end{array}$$

**Example 7 :**  $5427 + 395$

	Thousands	Hundreds	Tens	Units
		1	1	
	5	4	2	7
+		3	9	5
	5	8	2	2

Which can be written as follows :

$$\begin{array}{r} \phantom{0}1\phantom{0}1 \\ 5\phantom{0}4\phantom{0}2\phantom{0}7 \\ + \phantom{0}3\phantom{0}9\phantom{0}5 \\ \hline 5\phantom{0}8\phantom{0}2\phantom{0}2 \end{array}$$

**Example 8 :**  $5375 + 785$

$$\begin{array}{r} \phantom{0}1\phantom{0}1\phantom{0}1 \\ 5\phantom{0}3\phantom{0}7\phantom{0}5 \\ + \phantom{0}7\phantom{0}8\phantom{0}5 \\ \hline 6\phantom{0}1\phantom{0}6\phantom{0}0 \end{array}$$

**Example 9 :**  $1368 + 189$

$$\begin{array}{r} \phantom{0}1\phantom{0}1 \\ 1\phantom{0}3\phantom{0}6\phantom{0}8 \\ + \phantom{0}1\phantom{0}8\phantom{0}9 \\ \hline 1\phantom{0}5\phantom{0}5\phantom{0}7 \end{array}$$

### Practice 3

1. Add the following :

(1)  $\begin{array}{r} 3515 \\ + 5346 \\ \hline \end{array}$

(2)  $\begin{array}{r} 6383 \\ + 3383 \\ \hline \end{array}$

(3)  $\begin{array}{r} 3798 \\ + 275 \\ \hline \end{array}$

(4)  $\begin{array}{r} 7849 \\ + 99 \\ \hline \end{array}$

(5)  $\begin{array}{r} 1327 \\ + 3589 \\ \hline \end{array}$

(6)  $\begin{array}{r} 4327 \\ + 3258 \\ \hline \end{array}$

(7)  $\begin{array}{r} 5256 \\ + 199 \\ \hline \end{array}$

(8)  $\begin{array}{r} 7326 \\ + 285 \\ \hline \end{array}$

2. Add the following :

(1)  $3635 + 2784$

(2)  $3498 + 4796$

(3)  $5181 + 999$

(4)  $3258 + 3479$

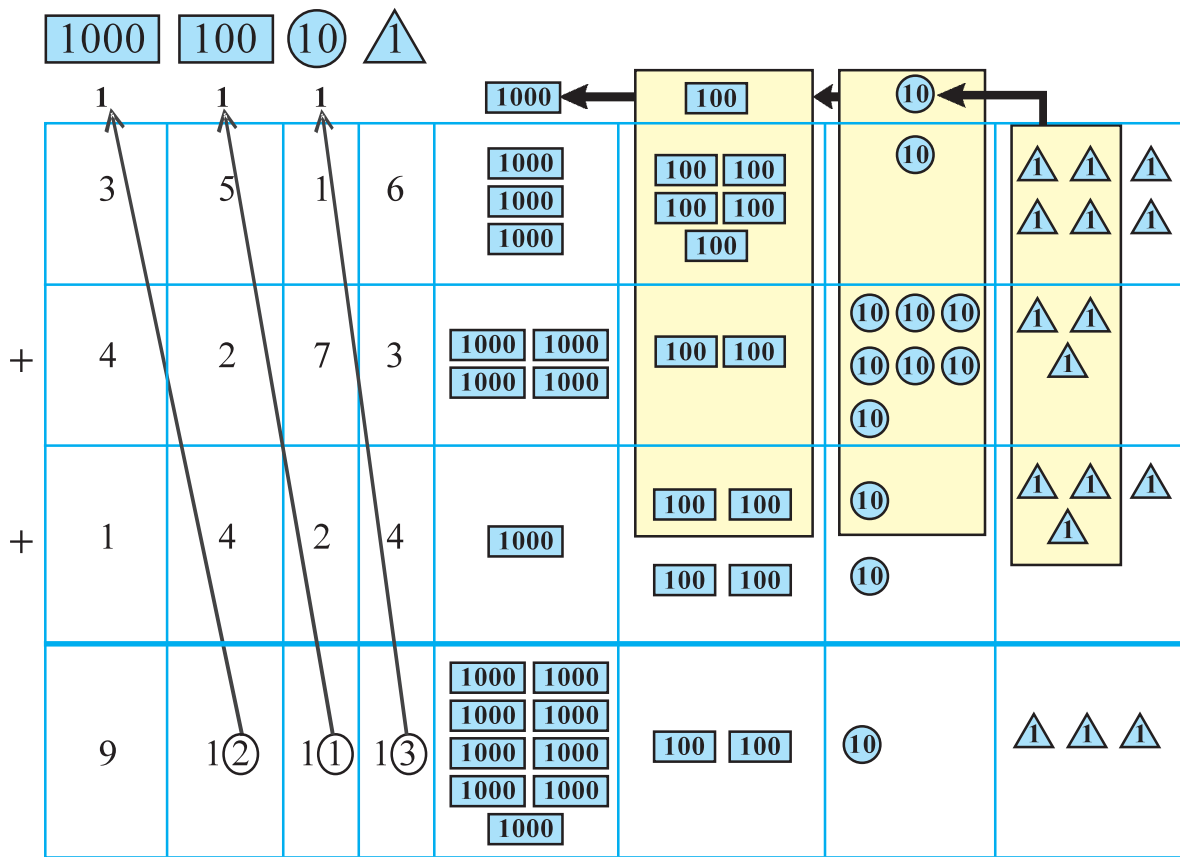
(5)  $5327 + 3259$

(6)  $4326 + 5125$

(7)  $4321 + 235$

□ Addition of three numbers of four digits with carry forward :

**Example 10 :**  $3516 + 4273 + 1424$



	Thousands	Hundreds	Tens	Units
	3	5	1	6
+	4	2	7	3
+	1	4	2	4
	9	2	1	3

Which can also be written as follows :

$$\begin{array}{r}
 \begin{array}{cccc}
 & 1 & 1 & 1 \\
 3 & 5 & 1 & 6 \\
 + & 4 & 2 & 7 & 3 \\
 + & 1 & 4 & 2 & 4 \\
 \hline
 9 & 2 & 1 & 3
 \end{array}
 \end{array}$$

**Example 11 :**  $4795 + 3887 + 719$

	Thousands	Hundreds	Tens	Units
	2	2	2	
	4	7	9	5
+	3	8	8	7
		7	1	9
	9	4	0	1

Which can be written as follows :

$$\begin{array}{r}
 222 \\
 4795 \\
 + 3887 \\
 + 719 \\
 \hline
 9401
 \end{array}$$

**Example 12 :**  $5325 + 3258 + 235$

	Thousands	Hundreds	Tens	Units
		1	1	
	5	3	2	5
+	3	2	5	8
		2	3	5
	8	8	1	8

Which can be written as follows :

$$\begin{array}{r}
 11 \\
 5325 \\
 + 3258 \\
 + 235 \\
 \hline
 8818
 \end{array}$$

**Example 13 :**  $4625 + 2876 + 389$

$$\begin{array}{r}
 112 \\
 4625 \\
 + 2876 \\
 + 389 \\
 \hline
 7890
 \end{array}$$

**Example 14 :**  $5729 + 3258 + 457$

$$\begin{array}{r}
 112 \\
 5729 \\
 + 3258 \\
 + 457 \\
 \hline
 9444
 \end{array}$$

### Practice 4

**1. Add the following :**

(1) 
$$\begin{array}{r}
 1080 \\
 + 2909 \\
 + 4456 \\
 \hline
 \end{array}$$

(2) 
$$\begin{array}{r}
 768 \\
 + 1345 \\
 + 2789 \\
 \hline
 \end{array}$$

(3) 
$$\begin{array}{r}
 1248 \\
 + 6645 \\
 + 64 \\
 \hline
 \end{array}$$

(4) 
$$\begin{array}{r}
 597 \\
 + 4685 \\
 + 18 \\
 \hline
 \end{array}$$

$$\begin{array}{r} (5) \quad 3219 \\ + 2325 \\ + 486 \\ \hline \end{array}$$

$$\begin{array}{r} (6) \quad 4251 \\ + 2429 \\ + 18 \\ \hline \end{array}$$

$$\begin{array}{r} (7) \quad 3257 \\ + 325 \\ + 18 \\ \hline \end{array}$$

**2. Add the following :**

$$(1) \quad 1305 + 2523 + 1330$$

$$(3) \quad 2824 + 3250 + 1975$$

$$(5) \quad 2426 + 3528 + 251$$

$$(7) \quad 3252 + 256 + 28$$

$$(2) \quad 5256 + 3124 + 1219$$

$$(4) \quad 5276 + 3251 + 1289$$

$$(6) \quad 4370 + 2352 + 326$$

$$(8) \quad 4598 + 3586 + 19$$

**□ Explanation of practical examples :**

**Example 15 :** 1356 boys and 2385 girls visited a science fair at district level; how many children visited the science fair ?

(**Explanation :** If we want to find out total number of children, we have to add the number of boys and the number of girls.)

$$\begin{array}{r} 11 \\ \dots\dots\dots \\ 1356 \text{ boys} \\ + 2385 \text{ girls} \\ \hline 3741 \text{ Total children} \end{array}$$

**Thus, total 3741 children visited science fair.**

**Example 16 :** In a library there are 3247 story books; 4378 picture story books and 198 kids story books. How many total number of books are there in the library ?

(**Explanation :** To find out total number of books in library we have to add number of story books, number of picture story books and number of kids story books.)

$$\begin{array}{r} 22 \\ \dots\dots\dots \\ 3247 \text{ story books} \\ + 4378 \text{ picture story books} \\ + 198 \text{ kids story books} \\ \hline 7823 \text{ Total books} \end{array}$$

**Thus, the library has total 7823 books.**

Pictures showing cost of different items



₹ 4725



₹ 8729



₹ 3450



₹ 1325



₹ 5527



₹ 3187



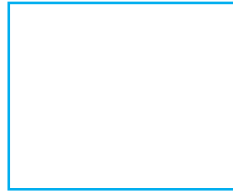
₹ 750



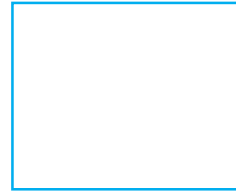
₹ 287



₹ 330



₹ 50



₹ 450

Observe pictures and understand :

$$\begin{array}{r} \overset{1}{4} \overset{\cdot}{7} \overset{\cdot}{2} \overset{\cdot}{5} \text{ price of a T.V.} \\ + \quad 7 \ 5 \ 0 \text{ price of pants} \\ \hline 5 \ 4 \ 7 \ 5 \text{ total amount} \end{array}$$

$$\begin{array}{r} \overset{1}{3} \overset{1}{4} \overset{\cdot}{5} \overset{\cdot}{0} \text{ price of a mobile} \\ + \ 1 \ 3 \ 2 \ 5 \text{ price of a fan} \\ + \quad 3 \ 3 \ 0 \text{ price of a shirt} \\ \hline 5 \ 1 \ 0 \ 5 \text{ Total amount} \end{array}$$

Practice 5

1. See the picture given above, find the total amount of the following, also find the missing pictures and draw them :

(1) Price of a grinding machine and a shirt = .....

(2) Price of a cupboard and a sweater = .....

- (3) Price of a mobile, price of pants and price of a towel = .....
- (4) Price of a cupboard and price of a frock of young girl = .....
- (5) Price of a grinding machine, price of a fan and price of a towel = .....
- (6) Price of a T.V., price of a mobile and price of a shirt = .....
- (7) Price of an electric motor, price of a sweater and price of pants = .....
- (8) Price of a cupboard, price of a towel and price of a frock = .....

Exercise

1. Play a game :

3251	4321	3296	1385	4327
4258	4562	1004	2467	3251
3257	3251	2327	3504	4327
1324	4326	2591	1398	3421
1598	49	752	1089	324

**Rules of game :** Drop a match stick on this number box from some height. Add these two numbers where two ends of this match stick touch.

Note down :

(1) $\begin{array}{r} 1 \\ 3257 \\ + 4562 \\ \hline 7819 \end{array}$	(2)	(3)
(4)	(5)	(6)

## 2. Perform the following addition :

(1)  $5783 + 1214 + 2013$

(2)  $4328 + 2350 + 3251$

(3)  $99 + 875 + 6450$

(4)  $4325 + 3529 + 1213$

## 3. In an APMC (The Agricultural Produce Market Committee) market number of bags of grain noted in a day is as follows. Answer the following :

No.	Item	Number of bags	No.	Item	Number of bags
(1)	Wheat	4250	(6)	Sesame	1560
(2)	Millet	3254	(7)	Ground nut	3251
(3)	Corn	1329	(8)	cotton	1332
(4)	Mustard	3257	(9)	Sorghum	2350
(5)	Castor seeds	4325	(10)	Toover	3251

## Questions :

(1) How many total bags of Millet and Groundnut are there ? .....

(2) How many total bags of Mustard, Castor seeds and Corn are there ? .....

(3) How many total bags of Sesame, Mustard and Millet are there ? .....

(4) How many total bags of Millet, Ground nut and Sorghum are there ? .....

(5) How many total bags of Wheat; Ground nut and cotton are there ? .....

4. Iqbalbhai has sold wheat worth ₹ 7251 and Millet worth ₹ 1435. Then what is the worth of total grain he has sold ?

5. Vishalbhai and Jitendrabhai have donated ₹ 5555 and ₹ 3509 respectively to make a water tank in a school. What is the total amount of donation given by both ?

6. In a rationing shop; in the month of January rice worth ₹ 1650, wheat worth ₹ 3256 and sugar worth ₹ 2436 were sold. What is the total revenue of shopkeeper in this month ?

7. 1560 males, 2288 females and 1357 kids visited a funfair. How many persons visited the funfair ?

8. Visit Mid-day meal centre nearby you and collect the following information :

Month	Beneficiaries of Mid-day meal plan	
	Boys	Girls
January		
February		
March		

**Answer the following :**

- (1) What is the total number of beneficiaries in the month of January ?  
.....
- (2) What is the total number of beneficiaries in the month of February ?  
.....
- (3) What is the total number of beneficiaries in the month of March ?  
.....



### Practice 1

1. (1) 3000      (2) 7000      (3) 5000      (4) 9000  
(5) 9000      (6) 7000      (7) 8000      (8) 5000

### Practice 2

1. (1) 7853      (2) 7686      (3) 4989      (4) 6288  
(5) 9859      (6) 5788      (7) 3489      (8) 4397
2. (1) 9509      (2) 5637      (3) 6639      (4) 5836  
(5) 4739      (6) 3599      (7) 2649      (8) 5641

**Practice 3**

1. (1) 8861      (2) 9766      (3) 4073      (4) 7948  
(5) 4916      (6) 7585      (7) 5455      (8) 7611
2. (1) 6419      (2) 8294      (3) 6180      (4) 6737  
(5) 8586      (6) 9451      (7) 4556

**Practice 4**

1. (1) 8445      (2) 4902      (3) 7957      (4) 5300  
(5) 6030      (6) 6698      (7) 3600
2. (1) 5158      (2) 9599      (3) 8049      (4) 9816  
(5) 6205      (6) 7048      (7) 3536      (8) 8203

**Exercise**

2. (1) 9010      (2) 9929      (3) 7424      (4) 9067
3. (1) 6505      (2) 8911      (3) 8071      (4) 8855      (5) 8833
4. 8686      5. ₹ 9064      6. ₹ 7342      7. 5205



Let us recall :

Let us play :

Play this game with your friend.

300	427	475	429	400
633	700	555	867	786
325	568	100	146	900
362	200	246	425	800
111	732	500	367	600

**Rules of game :**

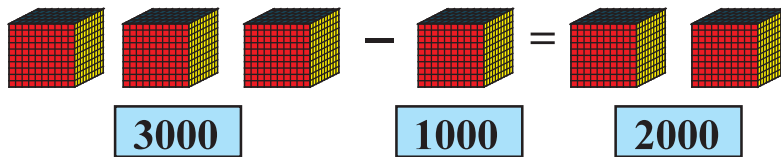
- (1) Collect two stones from the ground and drop them on this number square.
- (2) Subtract the smaller number from the greater number among two numbers on which these stones fall.
- (3) If the answer is correct, the player will get 10 points and then it is the turn of the other player. Play like this for 7 times.
- (4) The person who has the highest number of points will be the winner.  
So what are you waiting for ? Start the game.
- (5) Who is the winner ? By what margin ?

**Note :**

(1)	(2)	(3)	(4)
$  \begin{array}{r}  9 \\  6 \cancel{0} \cancel{0} \\  7 \cancel{0} \cancel{0} \\  - 568 \\  \hline  132  \end{array}  $			
(5)	(6)	(7)	(8)

❑ Let us learn something new :

◆ Oral subtraction :



$$\begin{array}{r}
 3000 \\
 - 1000 \\
 \hline
 2000
 \end{array}$$

$$3000 - 1000 = 2000$$

$$3 \text{ thousands} - 1 \text{ thousands} = 2 \text{ thousands}$$

## Practice 1

**1. Calculate orally and fill in the following blanks :**

(1)  $9000 - 3000 = \dots\dots\dots$

(2)  $8000 - 1000 = \dots\dots\dots$

(3)  $7000 - 2000 = \dots\dots\dots$

(4)  $3000 - 2000 = \dots\dots\dots$

(5)  $6000 - 1000 = \dots\dots\dots$

(6)  $4000 - 4000 = \dots\dots\dots$

Let us learn something new :

Subtraction of two numbers of four digits without borrowing :

Example 1 :  $4356 - 2134$

1000 100 10 1

	4	3	5	6	<del>1000</del> <del>1000</del>	<del>100</del> <del>100</del>	<del>10</del> <del>10</del> <del>10</del>	<del>1</del> <del>1</del> <del>1</del>
					<del>1000</del> <del>1000</del>	<del>100</del>	<del>10</del> <del>10</del>	<del>1</del> <del>1</del> <del>1</del>
-	2	1	3	4	<del>1000</del> <del>1000</del>	<del>100</del>	<del>10</del> <del>10</del> <del>10</del>	<del>1</del> <del>1</del> <del>1</del>
	2	2	2	2	1000 1000	100 100	10 10	1 1

	Thousands	Hundreds	Tens	Units
	4	3	5	6
-	2	1	3	4
	2	2	2	2

This can also be written as :

$$\begin{array}{r} 4356 \\ - 2134 \\ \hline 2222 \end{array}$$

Example 2 :  $5431 - 2110$

	Thousands	Hundreds	Tens	Units
	5	4	3	1
-	2	1	1	0
	3	3	2	1

This can also be written as :

$$\begin{array}{r} 5431 \\ - 2110 \\ \hline 3321 \end{array}$$

## Practice 2

1. Subtract :

$$\begin{array}{r} (1) \quad 8589 \\ - 7358 \\ \hline \end{array}$$

$$\begin{array}{r} (2) \quad 7686 \\ - 6660 \\ \hline \end{array}$$

$$\begin{array}{r} (3) \quad 5971 \\ - 3860 \\ \hline \end{array}$$

$$\begin{array}{r} (4) \quad 9467 \\ - 7054 \\ \hline \end{array}$$

## 2. Subtract :

$$(1) 8725 - 7514$$

$$(2) 9815 - 3510$$

$$(3) 3419 - 2305$$

$$(4) 7429 - 3118$$

### □ Subtraction of two numbers of four digits with borrowing :

**Example 3 :**  $3252 - 1364$

	Thousands	Hundreds	Tens	Units
	2	<del>1</del>	<del>14</del>	12
-	<del>1</del>	<del>3</del>	<del>6</del>	<del>4</del>
	1	8	8	8

This can also be written as :

$$\begin{array}{r} \phantom{0}11\phantom{0}14 \\ 2\cancel{1}\cancel{1}4\phantom{0}12 \\ - 1\phantom{0}3\phantom{0}6\phantom{0}4 \\ \hline 1\phantom{0}8\phantom{0}8\phantom{0}8 \end{array}$$

**Example 4 :**  $8765 - 2873$

	Thousands	Hundreds	Tens	Units
	7	<del>16</del>	16	
-	<del>2</del>	<del>8</del>	<del>7</del>	3
	5	8	9	2

This can also be written as :

$$\begin{array}{r} \phantom{0}16 \\ 7\cancel{1}6\phantom{0} \\ - 2\phantom{0}8\phantom{0}7\phantom{0}3 \\ \hline 5\phantom{0}8\phantom{0}9\phantom{0}2 \end{array}$$

**Example 5 :**  $9000 - 4685$

	Thousands	Hundreds	Tens	Units
	8	<del>9</del>	<del>9</del>	10
-	<del>4</del>	6	8	5
	4	3	1	5

This can also be written as :

$$\begin{array}{r} \phantom{0}9\phantom{0}9 \\ 8\cancel{9}\cancel{9}10 \\ - 4\phantom{0}6\phantom{0}8\phantom{0}5 \\ \hline 4\phantom{0}3\phantom{0}1\phantom{0}5 \end{array}$$

**Think and write :**

Form a four digit number using digits from 1 to 9. Obtain the number by interchanging the positions of digits at tens and units place, write them in the table and subtract the smaller number from the greater number.

No.	The number of 4 digits that you have formed	The number obtained by interchanging the position of digits at tens and units	The answer obtained on subtracting the smaller number from the larger number
(1)	5639	5693	
(2)			
(3)			
(4)			
(5)			
(6)			

**Practice 3**

**1. Subtract :**

$$\begin{array}{r}
 (1) \quad 3256 \\
 - 1876 \\
 \hline
 \end{array}
 \quad
 \begin{array}{r}
 (2) \quad 5345 \\
 - 2786 \\
 \hline
 \end{array}
 \quad
 \begin{array}{r}
 (3) \quad 8405 \\
 - 3765 \\
 \hline
 \end{array}
 \quad
 \begin{array}{r}
 (4) \quad 5325 \\
 - 1489 \\
 \hline
 \end{array}
 \quad
 \begin{array}{r}
 (5) \quad 8385 \\
 - 2778 \\
 \hline
 \end{array}$$

**2. Subtract :**

$$\begin{array}{l}
 (1) \quad 3635 - 2784 \\
 (4) \quad 7285 - 95
 \end{array}
 \quad
 \begin{array}{l}
 (2) \quad 7498 - 1809 \\
 (5) \quad 9375 - 7287
 \end{array}
 \quad
 \begin{array}{l}
 (3) \quad 5181 - 999 \\
 (6) \quad 4524 - 3518
 \end{array}$$

❑ **Practical examples :**

**Example 6 :** On Tushar's birthday, his father went to a T.V. shop to purchase a T.V. with ₹ 8654 in his wallet. Having paid ₹ 7436 for the T.V. he was left with ₹ 1218. Is this the correct amount ?

[**Understanding :** Answer can be confirmed by subtracting ₹ 7436 from total ₹ 8654. If we get answer ₹ 1218 then the answer is correct.]

$$\begin{array}{r}
 \overset{4\ 14}{8\ 6\ 5\ 4} \text{ Total amount with Tushar's father} \\
 - 7\ 4\ 3\ 6 \text{ Price of the T.V.} \\
 \hline
 1\ 2\ 1\ 8 \text{ Remaining amount}
 \end{array}$$

**The amount ₹ 1218 remaining with Tushar's father is correct.**

**Example 7 :** 8328 pupils participated in district sports festival. Among these 4517 were girls, find the number of boys.

$$\begin{array}{r}
 \overset{7\ 13}{8\ 3\ 2\ 8} \text{ Total number of pupils participated} \\
 - 4\ 5\ 1\ 7 \text{ Total number of girls participated} \\
 \hline
 3\ 8\ 1\ 1 \text{ Total number of boys}
 \end{array}$$

**3811 boys participated in sports festival.**

◆ **Observe, understand and write :**

The list of items purchased by Jagrutiben for yearly household usage is as follows. Using this information answer the following questions :

No.	Items	Amount
(1)	Clothings	₹ 2233
(2)	Grocery	₹ 5674
(3)	Vegetables	₹ 978
(4)	Household things	₹ 3573
(5)	Jewellery	₹ 7678
(6)	Mixer	₹ 3434

- (1) For which item has Jagrutiben spent maximum amount ? How much ?
- (2) For which item has Jagrutiben spent minimum amount ? How much ?
- (3) Subtract the minimum amount spent from the maximum amount spent by Jagrutiben.
- (4) Of household things and vegetables, where is the maximum amount spent ? How much ?
- (5) Subtract the amount spent for clothings from the amount spent for jewellery.

□ **Do it yourself :**

Similar to Jagrutiben list, make a list of any six items purchased for your home and list its price against it in the following table :

No.	Items	Amount

**Answer the questions :**

- (1) For which item has the maximum amount been spent ? How much ?
- (2) For which item has the minimum amount been spent ? How much ?
- (3) Subtract the minimum amount from the maximum amount that has been spent in your home.
- (4) Find the difference in the amount of first item and the amount of last item.

**Example 8 :** Utsav enters a shop with ₹ 7321. He wants to buy different items. If he purchases a fan worth ₹ 1325, how much amount will he be left with ?

$$\begin{array}{r}
 \begin{array}{r}
 12 \ 11 \\
 6 \cancel{2} \cancel{1} \cancel{1} \\
 \cancel{7} \cancel{3} \cancel{2} \cancel{1}
 \end{array}
 \text{ ₹ he had} \\
 -1 \ 3 \ 2 \ 5 \text{ Price of Fan} \\
 \hline
 5 \ 9 \ 9 \ 6 \text{ ₹ left}
 \end{array}$$

Practice 4

Answer the following questions from given pictures :

			
₹ 8524	₹ 9528	₹ 3250	₹ 1325
			
₹ 5640	₹ 3178	₹ 1486	

- (1) Which item's price is more; the T.V.'s or the cupboard's ? How much ?
- (2) Which item's price is less; the mobile's or the grinding machine's ? How much ?
- (3) What is the total amount of the Iron and the Fan ?
- (4) Which item's price is more; the electric motor's or the fan's ? How much ?
- (5) Which item's price is more; the T.V.'s or the mobile's ? How much ?
- (6) Find the difference between the cost of the highest priced item and that of the lowest priced item.

**Example 9 : Simplify :**  $3560 + 2856 - 4725$

$$\begin{array}{r} \overset{1}{\cdot} \overset{1}{\cdot} \\ 3560 \\ + 2856 \\ \hline 6416 \end{array} \qquad \begin{array}{r} \overset{13}{\cdot} \\ \overset{5}{\cancel{6}} \overset{11}{\cancel{4}} \overset{1}{\cancel{6}} \\ - 4725 \\ \hline 1691 \end{array}$$

**Example 10 : Simplify:**  $7435 - 5326 + 1326$

$$\begin{array}{r} \overset{2}{\cdot} \overset{15}{\cdot} \\ 74\cancel{3}\cancel{5} \\ - 5326 \\ \hline 2109 \end{array} \qquad \begin{array}{r} \overset{1}{\cdot} \\ 2109 \\ + 1326 \\ \hline 3435 \end{array}$$

## Practice 5

**1. Evaluate the following :**

- (1)  $3425 + 2527 - 3259$       (2)  $4257 - 3251 + 3250$   
 (3)  $4527 - 3215 + 4327$       (4)  $8427 - 4325 - 1324$   
 (5)  $5927 - 3257 + 1268$       (6)  $4529 + 3258 - 3540$

❑ **Let us understand :**

**Example 11 :** Mahi has ₹ 8520. If she purchases a mobile phone worth ₹ 3250 and a fan worth ₹ 1325; how many rupees will be left with her ?

[**Understanding :** Subtract the price of the mobile phone from the amount Mahi has, then subtract the price of the fan from the remaining amount.]

$$\begin{array}{r} \overset{4}{\cdot} \overset{12}{\cdot} \\ 8\cancel{5}\cancel{2}0 \text{ Rupees with Maahi} \\ - 3250 \text{ Mobile price} \\ \hline 5270 \text{ Rupees left} \end{array} \qquad \begin{array}{r} \overset{4}{\cdot} \overset{12}{\cdot} \overset{6}{\cdot} \overset{10}{\cdot} \\ \cancel{8}\cancel{2}\cancel{7}0 \text{ Rupees were left} \\ - 1325 \text{ Fan price} \\ \hline 3945 \text{ Rupees left now.} \end{array}$$

**Now Maahi has 3945.**

**Example 12 :** Manojbhai has ₹ 4529. His father gave him ₹ 3258. Then Manojbhai purchased a bicycle worth ₹ 5429. How much amount is left with him ?

[**Understanding :** We have to add rupees with Manojbhai and rupees given by his father and then we have to subtract the price of bicycle from it.]

$\begin{array}{r} \overset{1}{\dots\dots\dots} \\ 4\ 5\ 2\ 9 \\ +\ 3\ 2\ 5\ 8 \\ \hline 7\ 7\ 8\ 7 \end{array}$	$\begin{array}{r} \overset{7\ 17}{\dots\dots\dots} \\ 7\ 7\ 8\ 7 \\ -\ 5\ 4\ 2\ 9 \\ \hline 2\ 3\ 5\ 8 \end{array}$
amount with Manojbhai amount given by his father Total amount	Total amount Price of bicycle Total amount

**Now, ₹ 2358 is left with Manojbhai.**

**Practice 6**

1. A merchant has 4526 oil tins and he purchased 3256 more oil tins. Out of these, he sold 3580 oil tins. How many oil tins are left with him ?
2. Ramjibhai purchased fertilizer worth ₹ 5680 and seeds worth ₹ 1785 from the amount ₹ 9000 that he had. How much amount will be left with him ?
3. Rahimbhai has 4645 kg paddy and 3485 kg wheat of which he sold 5985 kg grain. How much grain will be left with him ?
4. There are 3585 male voters and 3540 female voters in a village. 4975 voters have voted in an election. Then how many voters did not vote ?
5. Pareshbhai's monthly income is ₹ 6530. His wife's monthly income is ₹ 3412. Their monthly expense is ₹ 3196. Find out their monthly savings.

## Exercise

1. Write 4 digit numbers of your choice in the following table in all empty boxes :

	2325				

- Read all the numbers.
- Fill in yellow colour in the boxes containing odd numbers.
- Fill in blue colour in the boxes containing even numbers.
- Select any two numbers, subtract the smaller number from greater number and note here.

(1)

(2)

(3)

(4)

2. Subtract :

(1)  $6452 - 1640$

(2)  $3216 - 1527$

(3)  $9375 - 4852$

(4)  $4658 - 1779$

3. There are 8975 persons in a village. 6997 of them are literate. How many of them are illiterate in this village ?
4. Meena purchased grain worth ₹ 3475 and for that she paid ₹ 4000 to the merchant. How much money will the merchant return to Meena ?
5. 7500 students appeared in an exam at an examination centre. 6845 of them passed the examination. How many of them got failed in the examination ?
6. 9436 plants were grown in a nursery. 6385 plants were planted at different places during *Van mahotsav*. From the remaining plants, 785 plants were donated to a school. How many plants were left in the nursery ?
7. Maheshbhai had got ₹ 9325. He purchased a cot worth ₹ 5790 from it, he also purchased a sofa set worth ₹ 3251. How much amount will be left with him ?
8. In a primary school, *Sarpanch* has donated ₹ 4551 to construct a water-tank. Teachers collected a contribution of ₹ 3565. Total expense of constructing water-tank was ₹ 7425. How much money was left ?
9. Under programme of '*Vanche Gujarat*', 2425 books were given to a primary school library with the help of villagers. 1285 books were given to children and other villagers for reading. How many books are left in the library?



Practice 1

1. (1) 6000 (2) 7000 (3) 5000 (4) 1000 (5) 5000 (6) 0

**Practice 2**

1. (1) 1231 (2) 1026 (3) 2111 (4) 2413
2. (1) 1211 (2) 6305 (3) 1114 (4) 4311

**Practice 3**

1. (1) 1380 (2) 2559 (3) 4640 (4) 3836 (5) 5607
2. (1) 851 (2) 5689 (3) 4182 (4) 7190 (5) 2088 (6) 1006

**Practice 4**

1. (1) Cupboard - 1004                      (2) Mobile - 2390    (3) 2811  
(4) Electric motor - 1853    (5) T.V. - 5274        (6) 8203

**Practice 5**

1. (1) 2693 (2) 4256 (3) 5639 (4) 2778 (5) 3938 (6) 4247

**Practice 6**

1. (1) 4202 (2) 1535 (3) 2145 (4) 2150 (5) 6746

**Exercise**

2. (1) 4812 (2) 1689 (3) 4523 (4) 2879
3. 1978    4. 525    5. 655    6. 2266
7. 284    8. 691    9. 1140

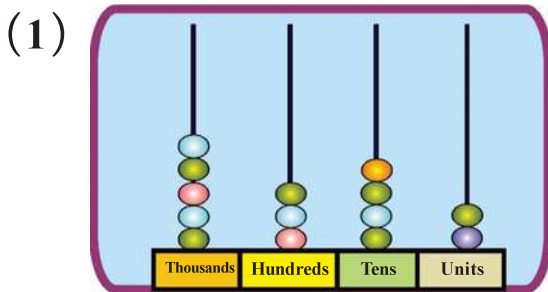


## Revision : 1

### 1. Complete the following table :

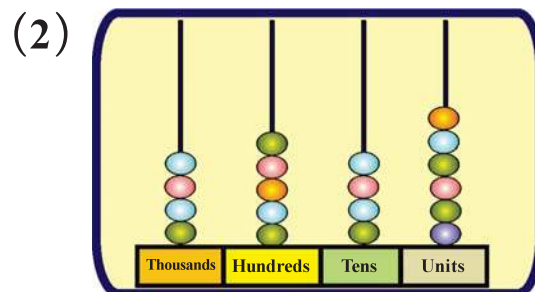
No.	Number in figure	Number in words
(1)	8047	.....
(2)	.....	Six thousand five hundred and twenty three
(3)	5002	.....
(4)	.....	Nine thousand two hundred and fifty four

### 2. Find number from the beads placed in the abacus :



....thousands ....hundreds ....tens ....units

means



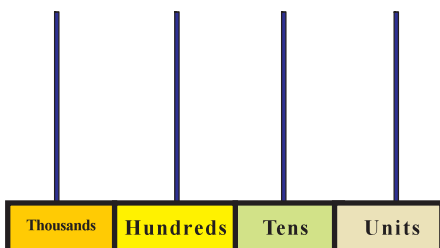
....thousands ....hundreds ....tens ....units

means

### 3. Write four digit numbers of your choice in the given boxes and expand by drawing beads in abacus :

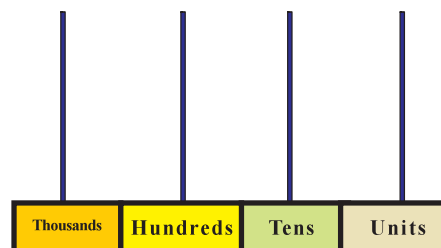
....thousands ....hundreds ....tens ....units

means



....thousands ....hundreds ....tens ....units

means



**4. Fill in the blanks with the appropriate symbol =, < or > :**

(1) 3000  999

(2) 4305  3504

(3) 5911  5911

(4) 9999  10000

**5. Arrange the following numbers in ascending order and then in descending order :**

(1) 5374, 5344, 5394

(2) 4295, 4280, 4287, 4292

**6. Find place-value of underlined digit :**

(1) 4702 (2) 5913 (3) 4023 (4) 6919

**7. Fill in the following blanks :**

(1) The number immediately preceding 3979 is .....

(2) The number immediately succeeding 4579 is .....

(3) The number immediately succeeding the greatest number of three digits is .....

**8. Evaluate the following sums :**

$$\begin{array}{r} (1) \quad 2415 \\ + 3592 \\ \hline \end{array}$$

$$\begin{array}{r} (2) \quad 3516 \\ + 2189 \\ + 3932 \\ \hline \end{array}$$

$$\begin{array}{r} (3) \quad 4478 \\ + 2609 \\ + 1871 \\ \hline \end{array}$$

$$\begin{array}{r} (4) \quad 3251 \\ + 2518 \\ + 2054 \\ \hline \end{array}$$

**9. Evaluate the following sums :**

$$\begin{array}{r} (1) \quad 9843 \\ - 4376 \\ \hline \end{array}$$

$$\begin{array}{r} (2) \quad 7622 \\ - 2337 \\ \hline \end{array}$$

$$\begin{array}{r} (3) \quad 9605 \\ - 3515 \\ \hline \end{array}$$

$$\begin{array}{r} (4) \quad 7000 \\ - 1328 \\ \hline \end{array}$$

(5)  $5420$

$- 1675$

(6)  $3251$

$- 2985$

(7)  $8704$

$- 5518$

(8)  $6600$

$- 1671$

**10. Evaluate :**

(1)  $5236 + 1256 - 3251$

(2)  $4258 - 1325 + 90$

(3)  $4325 + 226 - 35$

(4)  $3250 - 1567 + 456$

**11.** Monthly income of Rekha's father is ₹ 5840. Her mother's monthly income is ₹ 3425. Her grandmother earns ₹ 325 per month through home production business. What is the total monthly income of Rekha's family ?

**12.** Het has ₹ 9544. He bought DVD player worth ₹ 3256. How much money will be left with him ?

**13.** Total population of a village is 5231 among them, 2024 are male and 1938 are female. Find out the number of children in the village ?

**14.** Muskan had ₹ 3524. She got ₹ 5952 as salary. She purchased grain worth ₹ 2238. How much money will be left with her ?

**Answers**

**1.** (1) Eight thousand and forty seven (2) 6523

(3) Five thousand and two (4) 9254

**2.** (1) 5342 (2) 4546 **4.** (1) > (2) > (3) = (4) <

**5.** (1) In ascending order : 5344, 5374, 5394

In descending order : 5394, 5374, 5344

(2) In ascending order : 4280, 4287, 4292, 4295

In descending order : 4295, 4292, 4287, 4280

**6.** (1) 700 (2) 5000 (3) 20 (4) 9    **7.** (1) 3978 (2) 4580 (3) 1000

**8.** (1) 6007 (2) 9637 (3) 8958 (4) 7823

**9.** (1) 5467 (2) 5285 (3) 6090 (4) 5672

(5) 3745 (6) 266 (7) 3186 (8) 4929

**10.** (1) 3241 (2) 3023 (3) 4516 (4) 2139

**11.** ₹ 9590

**12.** ₹ 6288

**13.** 1269 children

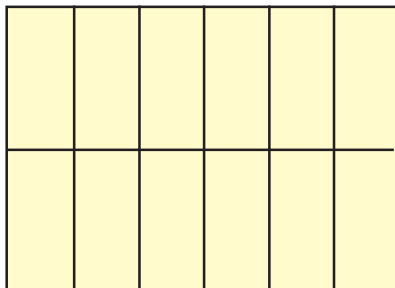
**14.** ₹ 7238



Let us learn something new :

**Construction of multiplication tables :**

**Construction of multiplication table of 12 :**



- Cut a chart paper of a size of a match box.
- Draw twelve equal sized boxes on it.
- Prepare 55 checkscards like this.
- Arrange in the following manner and construct the tables.

(1)		$12 \times 1 = 12$
(2)		$12 \times 2 = 24$
(3)		$12 \times 3 = 36$
(4)		$12 \times 4 = 48$
(5)		$12 \times 5 = 60$
(6)		$12 \times 6 = 72$
(7)		$12 \times 7 = 84$
(8)		$12 \times 8 = 96$

Construction of multiplication table of 13 :

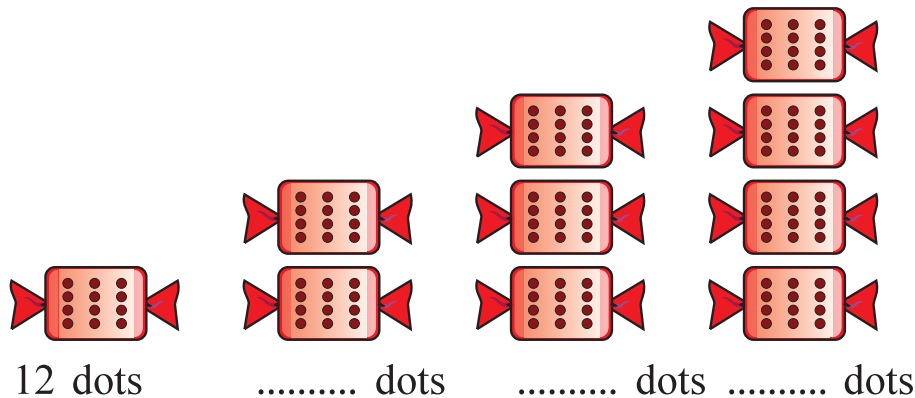
(1)	$13 \text{ one time} = 13$	$13 \times 1 = 13$
(2)	$13 + 13 = 26$	$13 \times 2 = 26$
(3)	$13 + 13 + 13 = 39$	$13 \times 3 = 39$
(4)	$13 + 13 + 13 + 13 = 52$	$13 \times 4 = 52$
(5)	$13 + 13 + 13 + 13 + 13 = 65$	$13 \times 5 = 65$

Following the above method, construct multiplication tables of 11 to 20 and write the tables in your note-book.

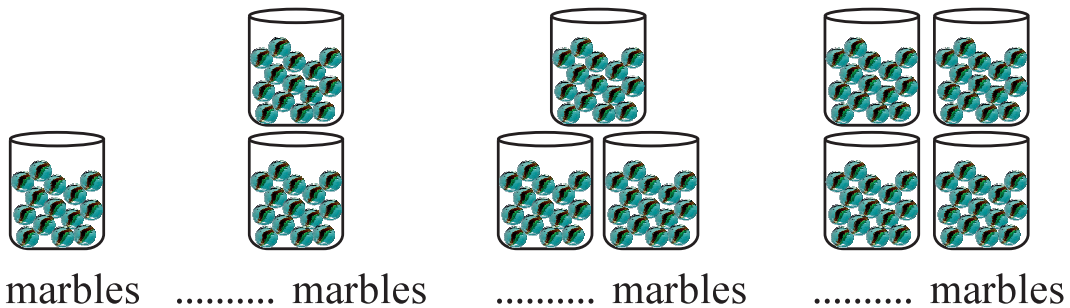
Practice 1

1. Answer the following with the help of tables :

(1)



(2)



(3)  $17 \times 6 = \dots\dots\dots$   $17 \times 7 = \dots\dots\dots$   $17 \times 8 = \dots\dots\dots$

(4) Fifteen sixes are =  $\dots\dots\dots$  Sixteen fours are =  $\dots\dots\dots$

Eighteen sevens are =  $\dots\dots\dots$

♦ **If there are ten chocolates in a box, then**

there are 120 chocolates in 12 boxes  
there are ..... chocolates in 14 boxes  
there are ..... chocolates in 180 boxes

$$\begin{aligned} 12 \times 10 &= 12 \times 1 \text{ tens} \\ &= 12 \text{ tens} \\ &= 120 \end{aligned}$$

♦ **If there are hundred biscuits in a jar, then**

there are ..... biscuits in 4 jars  
there are ..... biscuits in 7 jars  
there are ..... biscuits in 10 jars

$$\begin{aligned} 4 \times 100 &= 4 \times 1 \text{ hundreds} \\ &= 4 \text{ hundreds} \\ &= 400 \end{aligned}$$

♦ **If there are 1000 pages in a book, then**

there are ..... pages in 2 books  
there are ..... pages in 7 books

$$\begin{aligned} 2 \times 1000 &= 2 \times 1 \text{ thousands} \\ &= 2 \text{ thousands} \\ &= 2000 \end{aligned}$$

♦ **If a number is multiplied by zero, the answer is zero.**

e.g.  $15 \times 0 = 0$

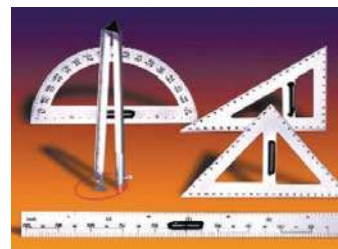
**Practice 2**

**1. Multiply orally and fill in the blanks :**

(1) $5 \times 10 = \dots\dots\dots$	(2) $100 \times 8 = \dots\dots\dots$
(3) $1000 \times 3 = \dots\dots\dots$	(4) $7 \times 10 = \dots\dots\dots$
(5) $15 \times 100 = \dots\dots\dots$	(6) $1000 \times 6 = \dots\dots\dots$
(7) $10 \times 335 = \dots\dots\dots$	(8) $27 \times 100 = \dots\dots\dots$
(9) $9 \times 1000 = \dots\dots\dots$	(10) $35 \times 200 = \dots\dots\dots$

**Multiplication of a two digit number with a two digit number :**

Cost of the set of instruments shown in adjoining figure is ₹ 25.



(1) What will be the cost of 10 such sets at the rate of ₹ 25 ?

$$\begin{array}{r} 25 \text{ (Multiplicand)} \\ \times 10 \text{ (Multiplier)} \\ \hline 250 \text{ (Product)} \end{array}$$

Cost of 10 sets is ₹ 250.

(2) What will be the cost of 23 such sets ?

Cost of 20 sets :

$$\begin{array}{r} 25 \text{ (Multiplicand)} \\ \times 20 \text{ (Multiplier)} \\ \hline 500 \text{ (Product)} \end{array}$$

Cost of 3 sets :

$$\begin{array}{r} 25 \text{ (Multiplicand)} \\ \times 3 \text{ (Multiplier)} \\ \hline 75 \text{ (Product)} \end{array}$$

$$\therefore 500 + 75 = 575$$

$$\begin{array}{r} 25 \\ \times 23 \\ \hline 500 \text{ (} 25 \times 20 \text{)} \\ + 75 \text{ (} 25 \times 3 \text{)} \\ \hline 575 \text{ (Product)} \end{array}$$

$\therefore$  Cost of 23 sets is ₹ 575.

**Explanation :**

$$23 = 20 + 3$$

Here, to multiply by 23; first multiply by 20, then multiply by 3 and add both the results.

◆ **Keep in mind :**

If the multiplier is a two digit number :

- Place zero at units place of the product.
- Multiply by the tens digit.
- Multiply by the units digit.

**Practice 3**

1. Do multiplication :

$$\begin{array}{r} (1) \quad 32 \\ \times 12 \\ \hline \end{array}$$

$$\begin{array}{r} (2) \quad 18 \\ \times 46 \\ \hline \end{array}$$

$$\begin{array}{r} (3) \quad 56 \\ \times 30 \\ \hline \end{array}$$

$$\begin{array}{r} (4) \quad 50 \\ \times 32 \\ \hline \end{array}$$

$$\begin{array}{r} (5) \quad 68 \\ \times 22 \\ \hline \end{array}$$

$$\begin{array}{r} (6) \quad 85 \\ \times 78 \\ \hline \end{array}$$

2. Multiply the following :

(1)  $32 \times 15$  (2)  $35 \times 14$  (3)  $64 \times 64$  (4)  $63 \times 52$

3. Multiply the following :

12	14	22	32	52
12	42	27	18	26
33	44	19	10	29
50	40	21	36	45

Your friend and you select a number each. Multiply the selected two numbers with each other.

♦ Activity 1 :



- (1) How many currency notes of denomination of 100 rupees are there ?
- (2) What is the total amount ?
- (3) What did you do to find the total amount ?
- (4) How many currency notes of denomination of 10 rupees are there ?
- (5) What is the total amount of both kinds of currency notes ?

•  $100 + 100 + 100 + 100 + 100 + 100$   
 $+ 100 + 100 + 100 + 100 = 1000$

•  $10 + 10 + 10 + 10 + 10 + 10 + 10$   
 $+ 10 + 10 + 10 = 100$

•  $1000 + 100 = 1100$  (Eleven hundred rupees)

$100 \times 10 = 1000$

$10 \times 10 = 100$   
 $\underline{\hspace{1cm}}$   
 1100

(Eleven hundred rupees)

**Observe and understand :**

15 currency notes of ₹ 100 + 15 currency notes of ₹ 50 + 15 currency notes of ₹ 5 = How much money in all ?

$$15 \text{ currency notes of ₹ 100} = 100 \times 15 = ₹ 1500$$

$$15 \text{ currency notes of ₹ 50} = 50 \times 15 = ₹ 750$$

$$15 \text{ currency notes of ₹ 5} = 5 \times 15 = ₹ 75$$

$$\text{Now, } 1500 + 750 + 75 = ₹ 2325$$

**Example 1 :** Multiply :  $823 \times 12$

$$\begin{array}{r} 823 \\ \times 12 \quad (10 + 2) \\ \hline 8230 \quad (823 \times 10) \\ + 1646 \quad (823 \times 2) \\ \hline 9876 \end{array}$$

$$823 \times 12 = 9876$$

**Practice 4**

**1. Multiply :**

(1) $\begin{array}{r} 412 \\ \times 13 \\ \hline \end{array}$	(2) $\begin{array}{r} 584 \\ \times 16 \\ \hline \end{array}$	(3) $\begin{array}{r} 342 \\ \times 18 \\ \hline \end{array}$	(4) $\begin{array}{r} 282 \\ \times 18 \\ \hline \end{array}$	(5) $\begin{array}{r} 196 \\ \times 15 \\ \hline \end{array}$
(6) $\begin{array}{r} 713 \\ \times 12 \\ \hline \end{array}$	(7) $\begin{array}{r} 403 \\ \times 21 \\ \hline \end{array}$	(8) $\begin{array}{r} 315 \\ \times 22 \\ \hline \end{array}$	(9) $\begin{array}{r} 123 \\ \times 70 \\ \hline \end{array}$	(10) $\begin{array}{r} 304 \\ \times 27 \\ \hline \end{array}$

**2. Test your mind :**

A	B	C	D	E	F	G	H	I	J
0	1	2	3	4	5	6	7	8	9

$$\begin{array}{r} \text{BFG} \\ \times \text{BC} \\ \hline \end{array}$$

$$\begin{array}{r} \text{DIA} \\ \times \text{BG} \\ \hline \end{array}$$

$$\begin{array}{r} \text{BED} \\ \times \text{CD} \\ \hline \end{array}$$

$$\begin{array}{r} \text{CEH} \\ \times \text{EA} \\ \hline \end{array}$$

$$\begin{array}{r} \text{BAC} \\ \times \text{DB} \\ \hline \end{array}$$

3. Find mistake and correct it :

(1)	$\begin{array}{r} 345 \\ \times 12 \\ \hline 3450 \\ + 680 \\ \hline 4030 \end{array}$	(2)	$\begin{array}{r} 308 \\ \times 18 \\ \hline 3080 \\ + 2544 \\ \hline 5624 \end{array}$	(3)	$\begin{array}{r} 528 \\ \times 16 \\ \hline 528 \\ + 3228 \\ \hline 3646 \end{array}$	(4)	$\begin{array}{r} 109 \\ \times 50 \\ \hline 1090 \\ + 109 \\ \hline 1199 \end{array}$
-----	--	-----	---	-----	--	-----	--

❑ Practical problems :

Practice 5

1.



If 29 children sit in one trip of the train, how much does the owner of the train earn in that trip ?

**Solution :** If the cost of a ticket is ₹ 12,

then the cost of 29 tickets =  $(29 \times 12)$

$$\begin{array}{r} 29 \\ \times 12 \\ \hline 290 \\ + 58 \\ \hline 348 \end{array}$$

₹ 348 earned.

- (1) If two persons sit in the train, then how much do they pay ?
- (2) How much does the boat keeper earn at the most in a single trip ?
- (3) How much does the merry-go-round keeper earn at the most in a single trip ?
- (4) How much does the train keeper earn at the most in a single trip ?
- (5) If 49 persons watch the death-well show, then how much does the owner earn ?

**2. Tell the price from price-list :**

Price-list	1 kilogram : Price (₹)
Oil	85
Ghee	280
Wheat	25
Sugar	38
Jaggery	45
Black gram	36

- (1) What is the cost of 15 kilogram of Ghee ?
- (2) How much money do we need to purchase 140 kilogram of wheat ?
- (3) How much money do we need to purchase 108 kilogram of jaggery ?
- (4) Maitri has purchased 12 kilogram of black gram. What amount should she pay ?

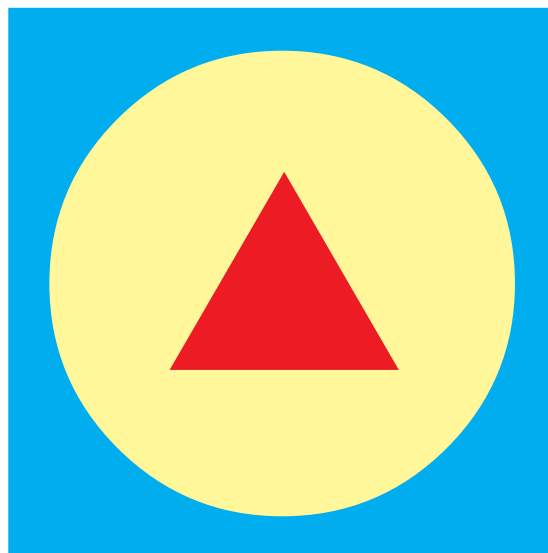
**Exercise**

**1. Answer with the help of multiplication tables :**

- |   |  |
|---|--|
| (1) $12 \times 7 = \dots\dots\dots$         | (2) $18 \times 6 = \dots\dots\dots$        |
| (3) $15 \times 9 = \dots\dots\dots$         | (4) Fourteen sixes are = $\dots\dots\dots$ |
| (5) Thirteen eights are = $\dots\dots\dots$ | (6) Nineteen fives are = $\dots\dots\dots$ |

**2. Multiply orally :**

Take 9 tiny pebbles and drop them gently on the following figure :



If the place-value  $\square$  box is 1000

the place-value  $\bigcirc$  box is 100

the place-value  $\triangle$  box is 10, then obtain the number according to the position of tiny pebbles.

3. In a toy shop, one day sale is as follows. From this, answer the following questions :

Price of toys Day	Doll (₹ 55)	Motor car (₹ 80)	Hockey-stick (₹ 75)
Monday	32	18	33
Tuesday	46	35	48
Wednesday	38	26	55

**Questions :**

- (1) How much amount is made from the sale of Hockey-stick on Monday ?
- (2) How much amount is made from the sale of Dolls on Wednesday ?
- (3) How much amount is made from the sale of Toys on Tuesday?
- (4) How much amount is made from the sale of Motor-cars on Monday ?

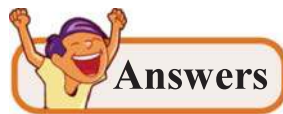
4. Look at the table and answer the questions :

No.	Worker	Income per day (in rupees)
(1)	Carpenter	500
(2)	Cobbler	250
(3)	Blacksmith	300
(4)	Mason	600
(5)	Tailor	720

**Questions :**

- (1) If the carpenter does not work for three days in the month of January, then how much income does he lose for these three days ?
- (2) If the black-smith works for all the days of July, then how much does he earn ?

- (3) If the cobbler does not work for seven days in the month of April, then what would be his income ?
- (4) Who earns the highest in a day ? If he does not work for four Sundays in the month of June, then what would be his loss in that month ?



### Practice 1

1. (1) 24, 36, 48      (2) 28, 42, 56  
(3) 102, 119, 136      (4) Ninety, Sixty four, One hundred and twenty six

### Practice 2

1. (1) 50      (2) 800      (3) 3000      (4) 70      (5) 1500  
(6) 6000      (7) 3350      (8) 2700      (9) 9000      (10) 7000

### Practice 3

1. (1) 384      (2) 828      (3) 1680      (4) 1600      (5) 1496      (6) 6630  
2. (1) 480      (2) 490      (3) 4096      (4) 3276

### Practice 4

1. (1) 5356      (2) 9344      (3) 6156      (4) 5076      (5) 2940  
(6) 8556      (7) 8463      (8) 6930      (9) 8610      (10) 8208  
2. **Test your mind :** (1) BIHC (1872) (2) GAIA (6080) (3) DCIJ (3289)  
(4) JIIA (9880)      (5) DBGK (3162)

### Practice 5

1. (1) 24      (2) 375      (3) 1575      (4) 420      (5) 1715  
2. (1) 4200      (2) 3500      (3) 4860      (4) 432

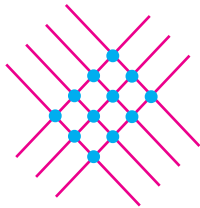
### Exercise

1. (1) 84 (2) 108 (3) 135 (4) Eighty four (5) One hundred and four  
(6) Ninety five
3. (1) 2475 (2) 2090 (3) 8930 (4) 1440
4. (1) 1500 (2) 9300 (3) 5750 (4) Tailor, 2880



#### Let us know more :

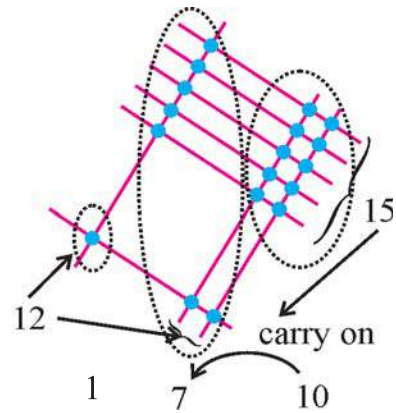
☞ **Example :**  $4 \times 3$



Total 12 dots.

Therefore,  $4 \times 3 = 12$

☞ **Example :**  $12 \times 15$



$= 180$

**Activity 1 :**

See, Priyanshi arranges 8 tamarind seeds in different types of groups. Now, you make different types of groups of 8 tamarind seeds similarly. How many different types of groups can you form ?



- (1) How many groups of one tamarind seeds are formed ? .....  
How many tamarind seeds remain ? .....
- (2) How many groups of two tamarind seeds are formed ? .....  
How many tamarind seeds remain ? .....
- (3) How many groups of three tamarind seeds are formed ? .....  
How many tamarind seeds remain ? .....
- (4) How many groups of four tamarind seeds are formed ? .....  
How many tamarind seeds remain ? .....
- (5) How many groups of five tamarind seeds are formed ? .....  
How many tamarind seeds remain ? .....
- (6) How many groups of six tamarind seeds are formed ? .....  
How many tamarind seeds remain ? .....
- (7) How many groups of seven tamarind seeds are formed ? .....  
How many tamarind seeds remain ? .....
- (8) How many groups of eight tamarind seeds are formed ? .....  
How many tamarind seeds remain ? .....

Do the following division from preceding activity :

(1) $1 \overline{) 8}$	(2) $2 \overline{) 8}$	(3) $3 \overline{) 8}$	(4) $4 \overline{) 8}$
(5) $5 \overline{) 8}$	(6) $6 \overline{) 8}$	(7) $7 \overline{) 8}$	(8) $8 \overline{) 8}$

### Understand from Activity 1 :

- When groups of 1's, 2's, 4's and 8's are formed, not a single tamarind seed remains. This type of division is called 'division without leaving a remainder'.
- In (1), (2), (4) and (8) there are divisions without leaving a remainder.
- When groups of 3's, 5's, 6's and 7's are formed, some tamarind seeds remain. The number which remains at the end of division is called the remainder.
- In (3), (5), (6) and (7) we get remainders.  
Thus, 8 is exactly divisible (without a remainder) by 1, 2, 4 and 8.  
Therefore, 1, 2, 4 and 8 are said to be factors of 8.

**If certain numbers divide a given number, without leaving any remainder, then those certain numbers are said to be the factors of the given number.**

**Example 1 : Give factors of 24.**

$$24 \div 1 = 24, 24 \div 2 = 12, 24 \div 3 = 8, 24 \div 4 = 6,$$

$$24 \div 6 = 4, 24 \div 8 = 3, 24 \div 12 = 2, 24 \div 24 = 1$$

Thus, 24 is exactly divisible by 1, 2, 3, 4, 6, 8, 12 and 24.

Therefore, 1, 2, 3, 4, 6, 8, 12 and 24 are factors of 24.

□ **Explanation of factors by multiplication :**

◆ **Activity 2 :**

You have a chart of multiplication tables by multiplication from 1 to 20. In which multiplication tables do the following numbers given in the first column occur ? Find this by making a pair with friends and write down in the table :

Sr. No.	Multiplicative format	In which tables ? (Factors)	No. of factors
1	$1 \times 1$	1	1
2	$1 \times 2, 2 \times 1$	1, 2	2
3	$1 \times 3, 3 \times 1$	1, 3	2
4	$1 \times 4, 2 \times 2, 4 \times 1$	1, 2, 4	3
5			
12			
14			
15			
18			
20	$1 \times 20, 2 \times 10, 4 \times 5, 5 \times 4,$ $10 \times 2, 20 \times 1$	1, 2, 4, 5, 10, 20	6

**Activity 3 : Complete the table by multiplying as explained in the example :**

×	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3				12				24				
4			12							40		
5												
6		12										
7												
8									72			
9												
10												
11						66						
12	12											

Look at the pink boxes in the table. 12 can be obtained by multiplying different numbers. e.g.,

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

♦ From this, we can say that 1, 2, 3, 4, 6 and 12 are the factors of 12.

Answer the following from above table :

- (1) What are the factors of 10 ?
- (2) Which is the greatest number, of which factors can be obtained from this chart ?
- (3) What can be done to obtain factors of a number greater than 12 ?

- The smallest factor of every number is 1.
- The largest factor of any number is the number itself.
- 1 is the factor of every number.

### Practice 1

#### 1. Fill in the blanks :

- (1) For any number, the smallest factor is .....
- (2) The largest factor of 15 is .....
- (3) Number of factors of 16 is .....
- (4) If the largest factor of a number is 72, then the number is .....
- (5) Write all the factors of 18 : .....
- (6) Write all the factors of 24 : .....
- (7) Write all the factors of 30 : .....
- (8) Write all the factors of 37 : .....
- (9) Since  $9 \times 5 = 45$ , ..... and ..... are factors of 45.
- (10) Since  $8 \times 7 = 56$ , ..... and ..... are factors of 56.

## 2. Write down all the factors of the given numbers :

No.	Numbers	Factors of number
1.	12	
2.	36	
3.	42	
4.	66	
5.	84	

### ❑ Multiples :

#### ◆ Activity 4 : "Mew-game"

All students make a circle to play this game. A player says 'one', the next player says 'two' and in this way the game goes on. In turn, the player has to utter *mew* instead of a number divisible by 3. If someone misses to utter 'mew', he is out of the game. The one who remains till last is the winner.

For which numbers, did you utter 'mew' ?

3, 6, 9, .....

We call these numbers multiples of 3.

Play this game again by changing to number 4 in place of number 3. Now, for which numbers did you utter 'mew' ?

These numbers are multiples of 4.

### Now, let us understand :

We obtain multiples of 9 :

$9 \times 1 = 9$ , therefore 9 is a multiple of 9.

$9 \times 2 = 18$ , therefore 18 is a multiple of 9.

$9 \times 3 = 27$ , therefore 27 is a multiple of 9.

In the same way, 9, 18, 27, 36, ....., ....., 63, ....., 81, ..... etc. are the multiples of 9.

**Answer the following :**

(1) How many multiples of 9 are there ? .....

(2) Number of multiples of any number are ..... .

(3) The smallest multiple of any number is ..... .

**Write the multiples of the given numbers in the given box :**

4 →	4, 8, 12, 16, 20, 24, 28,...
5 →	
6 →	
7 →	

- The number of multiples of any number are endless.
- The smallest multiple of any number is the number itself.
- A number has no largest multiple.
- Each number is a multiple of 1.
- Write any five multiples of 5 :
- Write any five multiples of 7 :

**Multiple :** If a number is exactly divisible by a given number, then the number is called a multiple of the given number.

## Practice 2

## 1. Write first five multiples of each number given below :

**Example : Multiples of 2 : 2, 4, 6, 8, 10**

(1) Multiples of 12 = ....., ....., ....., ....., .....

(2) Multiples of 15 = ....., ....., ....., ....., .....

(3) Multiples of 17 = ....., ....., ....., ....., .....

(4) Multiples of 19 = ....., ....., ....., ....., .....

## 2. Write missing multiples of the given numbers :

(1) Multiples of 13 = 13, 26, ....., ....., 65, ....., 91

(2) Multiples of 14 = 14, ....., ....., ....., ....., 84, .....

(3) Multiples of 16 = 16, ....., ....., ....., 80, ....., .....

(4) Multiples of 18 = 18, ....., ....., 72, ....., ....., .....

◆ **Comparison :**

Factor	Multiple
(1) If certain numbers divide a given number, without leaving any remainder, then those certain numbers are said to be the factors of the given number.	(1) If a number is exactly divisible by a given number, then the number is said to be a multiple of the given number.
(2) A number is exactly divisible by each of its factors.	(2) Each multiple of a given number is exactly divisible by the given number.
(3) 1 is a factor of all the numbers.	(3) All numbers are multiples of 1.
(4) A factor of any number is not larger than that number.	(4) Multiple of any number is not smaller than that number.

**The largest factor of a number = The smallest multiple of the number  
= The number itself.**

◆ **Prime and composite numbers :**

Classify the numbers in the first column of the chart given on page 67.  
Write in the following table :

Numbers having only one factor	Numbers having only two factors	Numbers having more than two factors
1 is neither a prime nor a composite number.	Prime numbers	Composite numbers

- A number which has more than 2 factors is called a **composite number**. If a number is exactly divisible by 1, itself and atleast one more other number, then that number is called a composite number.
- Now, let us think about 18, then  $18 \div 1 = 18$ ,  $18 \div 18 = 1$ ,  $18 \div 3 = 6$ . This means that, 18 is exactly divisible by 1 and 18, moreover, also by 3 and 6. Therefore, 18 is a composite number.
- The number which has only 2 factors is called a **prime number**. This means a number which can only be divided by 1 and the number itself is a prime number.
- Now, we know that 19 has only two factors, 1 and 19. So, 19 is a prime number.
- 2 is the only number which is prime as well as even.
- Number of factors of 1 is only 1, this means that 1 is exactly divisible by only 1. So, 1 is neither a prime number nor a composite number.

## Practice 3

Write as directed :

Sr. No.	Number	Factors	Total number of factors	Prime or composite ?
(1)	21			
(2)	25			
(3)	31			
(4)	37			
(5)	44			
(6)	47			
(7)	50			

## Exercise

1. Give all the factors of the following numbers :

(1) 8 (2) 20 (3) 28 (4) 43

2. Encircle the multiples of the given numbers :

No.	Number	Is it a multiple ?
(1)	11	17, 22, 28, 33, 40, 44
(2)	15	70, 75, 80, 85, 90, 105
(3)	17	85, 111, 119, 125, 136, 140
(4)	18	103, 108, 116, 126, 127, 144
(5)	20	100, 110, 120, 130, 140, 150

3. Classify the following numbers into prime numbers and composite numbers :

3, 4, 5, 6, 8, 9, 11, 14, 17, 19, 20, 22, 25, 29, 32, 33, 36, 37, 43, 49



## Answers

## Practice 1

1. (1) 1 (2) 15 (3) 5 (4) 72 (5) 1, 2, 3, 6, 9, 18  
 (6) 1, 2, 3, 4, 6, 8, 12, 24 (7) 1, 2, 3, 5, 6, 10, 15, 30  
 (8) 1, 37 (9) 9, 5 (10) 8, 7
2. (1) 1, 2, 3, 4, 6, 12 (2) 1, 2, 3, 4, 6, 9, 12, 18, 36  
 (3) 1, 2, 3, 6, 7, 14, 21, 42 (4) 1, 2, 3, 6, 11, 22, 33, 66  
 (5) 1, 2, 3, 4, 6, 7, 12, 14, 21, 28, 42, 84

## Practice 2

1. (1) 12, 24, 36, 48, 60 (2) 15, 30, 45, 60, 75  
 (3) 17, 34, 51, 68, 85 (4) 19, 38, 57, 76, 95
2. (1) 39, 52, 78 (2) 28, 42, 56, 70, 98  
 (3) 32, 48, 64, 96, 112 (4) 36, 54, 90, 108, 126

## Practice 3

Factors	Numbers of factors	Prime or Composite
(1) 1, 3, 7, 21	4	Composite
(2) 1, 5, 25	3	Composite
(3) 1, 31	2	Prime
(4) 1, 37	2	Prime
(5) 1, 2, 4, 11, 22, 44	6	Composite
(6) 1, 47	2	Prime
(7) 1, 2, 5, 10, 25, 50	6	Composite

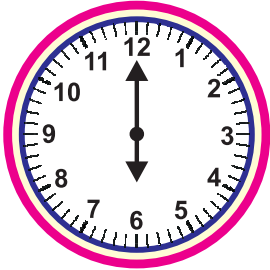
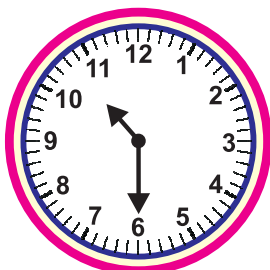

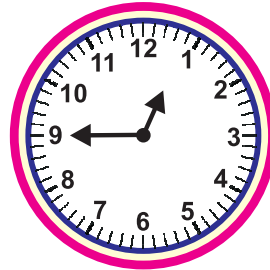
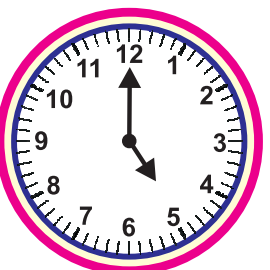
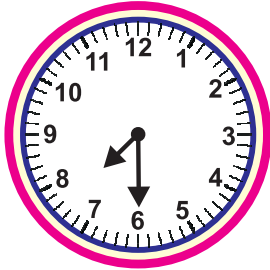
## Exercise

1. (1) 1, 2, 4, 8 (2) 1, 2, 4, 5, 10, 20  
(3) 1, 2, 4, 7, 14, 28 (4) 1, 43
2. (1) 22, 33, 44 (2) 75, 90, 105 (3) 85, 119, 136  
(4) 108, 126, 144 (5) 100, 120, 140
3. **Composite numbers** : 4, 6, 8, 9, 14, 20, 22, 25, 32, 33, 36, 49  
**Prime numbers** : 3, 5, 11, 17, 19, 29, 37, 43

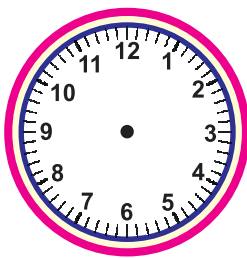


Let us recall :

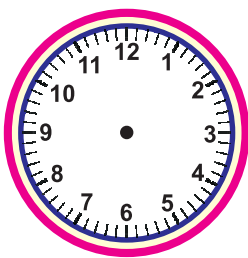
Activity 1 : Look at the pictures and fill in the blanks :

 <p>At what time does Jay wake up ?</p> <p>.....</p>	 <p>At what time does Aneri go to school ?</p> <p>.....</p>	 <p>When is prayer held in Jay and Aneri's school?</p> <p>.....</p>
 <p>What is the time of long recess ?</p> <p>.....</p>	 <p>At what time does the school get over ?</p> <p>.....</p>	 <p>When do Jay and Aneri do their homework ?</p> <p>.....</p>

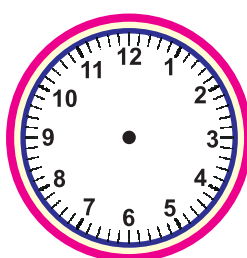
Activity 2 : Draw minute-hand and hour-hand in the clock face (dial) according to the time given below :



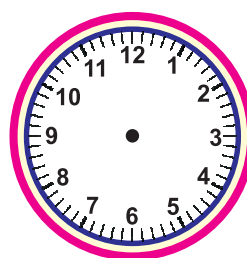
2 : 00



5 : 25



8 : 15



10 : 35

❑ Let us learn something new :

◆ Second

### Activity 3 :

Observe the second-hand of a clock placed in front of you.

### What do you say :

- (1) When the second-hand of a clock moves from number 12 to 1, how many marks does it move ? .....
- (2) When the second-hand of a clock starts from 12 and returns back to 12, how many marks does it move ? .....

**When the second-hand moves from one mark to another, it is known as moving by 1 second. When second-hand starts from 12 and returns back to 12, its movement is known as 1 minute. Hence, 60 seconds = 1 minute.**

◆ Minute :

### What do you say :

- (1) When the minute-hand of a clock moves from number 12 to 1, how many marks does it move ? .....
- (2) When the minute-hand of a clock starts from 12 and returns back to 12, how many marks does it move ? .....

**When the minute-hand moves from one mark to another, its movement is known as 1 minute. When minute-hand starts from 12 and returns back to 12, time consumed is known as 1 hour. Hence, 60 minutes = 1 hour.**

◆ Day :

### What do you say :

- (1) When the hour-hand moves from number 12 to 1, time is one hour. When it moves from number 12 to 2, time is 2 hours.
- (2) If the hour-hand starts from 12 and returns back to 12, how many hours is it ? .....

From 12 O'clock midnight to 12 O'clock noon and 12 O'clock noon to 12 O'clock midnight there are total 24 hours.

Duration between one sunrise to another sunrise is called a day.

**Hence, 24 hours = 1 day.**

- ♦ Generally the duration of 24 hours is denoted in two ways :

(1) System of 12 hours      (2) System of 24 hours

Starting from 12 O'clock Midnight		Starting from 12 O'clock Noon	
System of 12 hours	System of 24 hours	System of 12 hours	System of 24 hours
12:00	00:00	12:00	12:00
1:00	1:00	1:00	13:00
2:00	2:00	2:00	14:00
3:00	3:00	3:00	15:00
4:00	4:00	4:00	16:00
5:00	5:00	5:00	17:00
6:00	6:00	6:00	18:00
7:00	7:00	7:00	19:00
8:00	8:00	8:00	20:00
9:00	9:00	9:00	21:00
10:00	10:00	10:00	22:00
11:00	11:00	11:00	23:00
12:00	12:00	12:00	00:00

♦ **Week :**

**Write the names of the days of a week in your note-book.**

Count the days and say how many days are there ? .....

**Seven days = 1 week**

♦ **Month :**

**Answer the following questions by examining the calendar in your class-room :**

- (1) How many days are there in the month of March ? .....
- (2) How many days are there in the month of February ? .....
- (3) How many days are there in the month of November ? .....

♦ **Calendar**

One can know the date of any day of any month from calendar :

**September 2012**

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

**September 2012**

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

- Names of the days are written in horizontal or vertical rows in the calendar.
- Usually, red ink is used to indicate Sundays and also the dates falling on Sundays.

- Usually, the dates of public holidays are also printed with red ink.
- In many calendars, the months and days (*Tithi*) of *Vikramsamvat* are also mentioned with the date.
- Names of the main festivals are also written with the respective dates.

**Study the month of September in the given calendar of 2012 and answer the following questions :**

- (1) How many Sundays are there ? .....
- (2) How many Thursdays are there ? .....
- (3) Which days occur four times ? .....
- (4) Which days occur five times ? .....

◆ **Let us understand :**

If there is Saturday on 1st, then by adding 7 successively, we get the dates of Saturdays. that is  $1 + 7 = 8$ ,  $8 + 7 = 15$ ,  $15 + 7 = 22$ ,  $22 + 7 = 29$ , so, 1, 8, 15, 22 and 29 dates occur on Saturday.

In the same way, if there is a Monday on date 3, then  $3 + 7 = 10$ ,  $10 + 7 = 17$ ,  $17 + 7 = 24$  and  $24 + 7 = 31$  occur on Mondays.

The same day occurs if 7 is subtracted from the date of any given day.

**Think and write :**

- (1) If there is a Tuesday on 2nd of October, then on which other dates will there be Tuesdays ?  
....., ....., ....., ....., .....
- (2) If there is a Sunday on 27th of April, then on which other dates will there be Sundays in the same month ?  
....., ....., ....., .....

- (3) If there is a Wednesday on 8th of January, then on which other dates will there be Wednesdays in the same month ?

....., ....., ....., .....

#### ♦ Activity 4 :

**Study the current year calendar of your classroom and answer the following questions :**

- (1) On which dates do Sundays occur in the month of January ?

....., ....., ....., ....., .....

- (2) How many days are there in the month of February ? .....

- (3) Count and write the total number of days of this year. ....

- (4) How many months begin with Mondays ?

.....

#### Understand :

- (1) 60 seconds = 1 Minute      (2) 60 Minutes = 1 Hour

- (3) 24 hours = 1 Day      (4) 7 Days = 1 Week

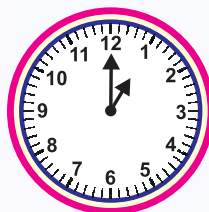
- (5) 52 Weeks = 1 Year      (6) 12 Months = 1 Year

(+1 day or +2 days)

**There are 365 or 366 days in a year.**

**A leap year has 366 days.**

Daksh



Krenzy

Oh, Krenzy! this minute-hand of the clock has completed one full rotation but this hour-hand has moved only one number. Wow, what a magic !

Oh! Not like that. Let me explain. Count all the marks starting from number 12 to 12 drawn on the clock. Tell me, how many marks are there ?



There are 60 marks.



When a minute-hand moves 1 mark, it means 1 minute. Similarly when it moves 60 marks, it means 60 minutes and when minute-hand moves 60 marks then hour-hand moves 5 marks.



Daksh, look at the clock and tell what time is it ?

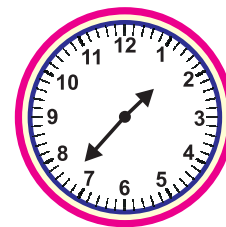
1 hour and 30 minutes.



Daksh, your answer is wrong. You have forgotten to count marks after 1 O'clock and 30 minutes. Minute-hand is on third marks ahead of six, so  $30 + 3 = 33$  minutes. Hence, it is 1 O'clock and 33 minutes. Understood?



Yes, I have understood. Look, now there is 1 hour and 37 minutes in the clock.



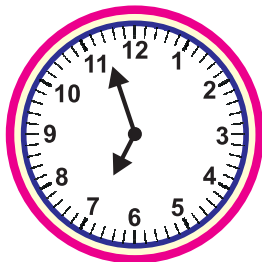
**What do you say :**

- (1) When minute-hand moves 60 marks, how many marks the hour-hand move ? .....
- (2) How many marks has the minute-hand to move for the hour-hand to move one mark ? .....
- (3) The hour-hand is on 9:00. When the hour-hand moves from 9:00 to 10:00, where does the minute hand reach ? .....

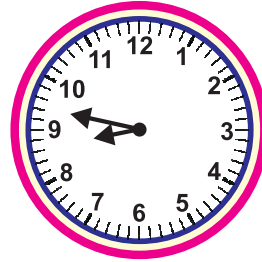
Write the time, shown by picture of each clock, in  given below :



Hours  Minutes



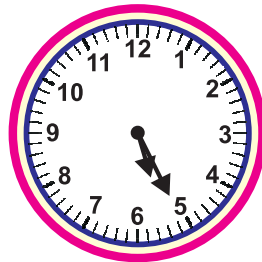
Hours  Minutes



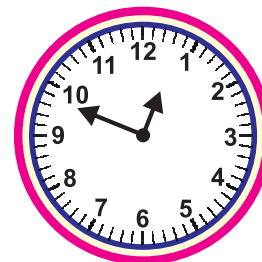
Hours  Minutes



Hours  Minutes



Hours  Minutes



Hours  Minutes

♦ **Activity 5 :**

Help Daksh to convert hours into minutes and vice-versa :

Hours	Minutes
1 hour	60 minutes
2 hours	..... minutes
..... hours	$60 \times 3 = 180$ minutes
4 hours	$60 \times 4 = \dots\dots\dots$ minutes
5 hours	..... minutes
9 hours	..... minutes
1 hour 10 minutes	$60 \times 1 + 10 = 70$ minutes
3 hours 20 minutes	$\dots \times \dots + \dots\dots\dots = \dots\dots\dots$ minutes
2 hours 40 minutes	$\dots \times \dots + \dots\dots\dots = \dots\dots\dots$ minutes
5 hours 15 minutes	$\dots \times \dots + \dots\dots\dots = \dots\dots\dots$ minutes

## Practice 1

## 1. Answer the following questions :

- (1) Convert 90 minutes into hour and minutes.
- (2) Convert 2 hours and 30 minutes into minutes.
- (3) For how many minutes does the prayer assembly of your school last ?
- (4) How many minutes does the long recess of your school have ?
- (5) It takes half an hour for Daksh to reach railway station from his home, it means he takes ..... minutes to reach.

## 2. Answer the following questions :

- (1) 160 minutes = ..... hours ..... minutes
- (2) 210 minutes = ..... hours ..... minutes
- (3) 255 minutes = ..... hours ..... minutes
- (4) 3 hours 20 minutes = ..... minutes
- (5) 5 hours 40 minutes = ..... minutes
- (6) 2 hours 30 minutes = ..... minutes

## ♦ Activity 6 :

Read the bus timetable and write the answers in the given table :








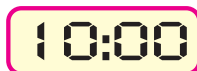




Name of the bus	Departure Time	Time to reach	Duration		Duration (minutes)
			Hr.	Min.	
Ahmedabad to Junagadh	8:00	14:00	6	00	360
Ahmedabad to Surat	7:00	12:00			
Ahmedabad to Vadodara	9:00	11:10			
Ahmedabad to Khedbrahma	13:00	18:50			
Ahmedabad to Vijapur	12:00	13:30			
Ahmedabad to Bhuj	10:00	19:30			
Ahmedabad to Palanpur	12:30	18:30			
Ahmedabad to Jamnagar	10:30	20:30			

**Write the answers of the following by oral calculations :**

- (1) Add : 1 hour 10 minutes and 2 hours 30 minutes : .....
- (2) Add : 2 hours 25 minutes and 3 hours 20 minutes : .....
- (3) Add : 5 hours 20 minutes and 2 hours 30 minutes : .....

♦ **Activity 7 : Match the following :**

Clock	Digital clock	Answers
A 	(1) 	A : .....
B 	(2) 	B : .....
C 	(3) 	C : .....
D 	(4) 	D : .....
E 	(5) 	E : .....

♦ **Observe and understand :****Example 1 :****(1)** Add : 3 hours and 55 minutes and 2 hours 15 minutes :

$$\begin{array}{r}
 3 \text{ hrs } 55 \text{ min} \\
 + 2 \text{ hrs } 15 \text{ min} \\
 \hline
 5 \text{ hrs } 70 \text{ min}
 \end{array}$$

5 hours 70 minutes means,  
 70 minutes = 60 minutes + 10 minutes  
 = 1 hour and 10 minutes

**5 hours and 1 hour 10 minutes means  
 6 hours and 10 minutes**

**(2)** Add : 2 hours and 45 minutes and 4 hours 34 minutes :

$$\begin{array}{r}
 2 \text{ hrs } 45 \text{ min} \\
 + 4 \text{ hrs } 34 \text{ min} \\
 \hline
 6 \text{ hrs } 79 \text{ min}
 \end{array}$$

6 hours 79 minutes means,  
 79 minutes = 60 minutes + 19 minutes  
 = 1 hour and 19 minutes

**6 hours and 1 hour 19 minutes means  
 7 hours and 19 minutes**

**(3)** Add : 6 hours and 30 minutes, 3 hours 40 minutes and 8 hours 55 minutes :

$$\begin{array}{r}
 6 \text{ hrs } 30 \text{ min} \\
 + 3 \text{ hrs } 40 \text{ min} \\
 + 8 \text{ hrs } 55 \text{ min} \\
 \hline
 17 \text{ hrs } 125 \text{ min}
 \end{array}$$

17 hours 125 minutes means,  
 125 minutes = 120 minutes + 5 minutes  
 = 2 hours and 5 minutes

**17 hours and 2 hours minutes means,  
 19 hours and 5 minutes**

**Practice 2****1. Add the following :**

- (1) 2 hours 25 minutes and 3 hours 45 minutes
- (2) 4 hours 45 minutes and 1 hour 55 minutes
- (3) 8 hours 38 minutes, 4 hours 55 minutes and 7 hours 40 minutes
- (4) 5 hours 25 minutes, 3 hours 45 minutes and 7 hours 30 minutes
- (5) 3 hours 10 minutes, 5 hours 15 minutes and 2 hours 50 minutes

♦ **Observe and understand :****Example 2 :**

- (1) Pankajbhai read a story book from 2:40 to 5:15 in the afternoon. Calculate the time Pankajbhai spent in reading ? (One can get the duration by subtracting the time of beginning from time of completion.)

4 hrs	60 mins	}	75 mins
5 hrs	15 mins		
- 2 hrs    40 mins			
2 hrs	35 mins		

We can't subtract 40 minutes from 15 minutes, so we subtract 1 hour from 5 hours and place 4 hours above it. Adding 60 minutes to 15 minutes we get 75 minutes. When we subtract 40 minutes from 75 minutes, 15 minutes remain.

- (2) Students of standard 4 visited Gram Panchayat from 11:30 to 12:25. How much time did they spend for the visit of Gram Panchayat ?

<i>hrs.</i>	<i>mins.</i>	
11	60	85
12	25	
- 11	30	
00	55	

30 minutes can't be subtracted from 25 minutes. So, 1 hour is subtracted from 12 hours and its 60 minutes is added to 25 minutes we get 85 minutes. If we subtract 1 hour from 12 hours, 11 hours remain. If we subtract 30 minutes from 85 minutes, 55 minutes remain.

- (3) If Alkababen cooked the food from 9:35 to 11:15, then how much time did she spend for cooking ?

<i>hrs.</i>	<i>mins.</i>	
10	60	75
11	15	
- 9	35	
1	40	

35 minutes can't be subtracted from 15 minutes. So, 1 hour is subtracted from 11 hours and its 60 minutes is added to 15 minutes we get 75 minutes. If we subtract 1 hour from 11 hours, 10 hours remain. If we subtract 35 minutes from 75 minutes, 40 minutes remain.

## Practice 3

## 1. Solve the following sums :

- (1) Anisha did exercise work of mathematics from 6:45 to 7:10 in the evening. How long did she do the exercise work ?
- (2) The prayer assembly of a school is held from 10:50 to 11:20. Calculate the total time of the prayer assembly.
- (3) The prayer assembly of a school is held from 7:10 to 7:25. Calculate the total time of the prayer assembly.

## 2. See the timetable and write answers :

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Time	Saturday
11:05 to 11:45	English	English	English	English	English	7:30 to 8:10	P.E.
11:45 to 12:20	English	English	English	English	English	8:10 to 8:50	English
12:20 to 1:05	Mathematics	Mathematics	Mathematics	Mathematics	Mathematics	8:50 to 9:30	Mathematics
1:05 to 1:40	Mathematics	Mathematics	Mathematics	Mathematics	Mathematics		Environment
1:40 to 2:30	Recess					9:30 to 9:50	
2:30 to 3:05	Environment	Environment	Environment	Environment	Environment	9:50 to 10:25	Mathematics
3:05 to 3:40	Environment	Environment	Environment	Environment	Environment	10:25 to 11:00	Mathematics
3:40 to 4:25	English	Music	Drawing	Art Edu.	P.E.		
4:25 to 5:00	Art Edu.	Music	P.E.	Oral reading	Drawing		

- (1) How much time do the Mathematics classes take on Tuesday ?  
.....
- (2) What is the total duration of English class from Monday to Saturday ?  
.....
- (3) What is the duration of oral reading class ?  
.....
- (4) How much time is kept for recess on a day from Monday to Friday ?  
.....
- (5) What is the total duration of recess from Monday to Friday ?  
.....

(6) How much time is allotted for physical education on Friday ? .....

(7) How much time is allotted for music period in a week ? .....

### Practice 4

**Study the Railway Time-table and answer the following questions :**



Train		Travelling from and to	Departure Time	Arrival Time	Runs on
Number	Name				
22971	Bhavnagar Express	Ahmedabad to Bhavnagar	05:45	08:30	Mon, Tue, Thu, Fri, Sat
25636	Okha Express	Ahmedabad to Okha	16:15	22:30	Monday
26614	Rajkot Express	Ahmedabad to Rajkot	14:40	16:30	Wednesday
29017	Gujarat Express	Ahmedabad to Mumbai	14:55	00:15	Daily
29168	Sabarmati Express	Ahmedabad to Delhi	05:25	20:00	Tue, wed
27579	Haridwar Express	Ahmedabad to Haridwar	07:15	23:30	Thu, Fri, Sat

- (1) How much time will the Rajkot Express take to reach Rajkot from Ahmedabad ? .....
- (2) How much time will the Bhavnagar Express take to reach Bhavnagar from Ahmedabad ? .....
- (3) How much time will the Gujarat Express take to reach Mumbai from Ahmedabad ? .....
- (4) How much time will the Sabarmati Express take to reach Delhi ? .....
- (5) How much time will the Train No. 25636 take to reach Okha from Ahmedabad ? .....
- (6) How much time will the Haridwar Express take to reach Haridwar from Ahmedabad ? .....

### Practice 5

**Study the Aeroplane Time-Table and fill in the blanks in the table :**

Flight		Departure	Departure	Destination	Arrival	Duration
Number	Name	Place	Time		Time	
541	Air India	Surat	9:30	Ahmedabad	10:15	.....
3446	Indigo	Bhavnagar	10:15	Ahmedabad	10:55	.....
101	Go-Air	Ahmedabad	12:30	Jamnagar	1:45	.....
3525	Jet Airways	Rajkot	08:20	Ahmedabad	9:10	.....
4449	Deccan 360	Bhuj	15:00	Ahmedabad	16:35	.....

### Exercise

**1. Fill in the following blanks :**

- (1) 6 hours = ..... minutes
- (2) 4 hours 45 minutes = ..... minutes

- (3) 3 hours 20 minutes = ..... minutes
- (4) 430 minutes = ..... hours and ..... minutes
- (5) 335 minutes = ..... hours and ..... minutes

**2. Add :**

- (1) 1 hour 33 minutes and 3 hours 52 minutes
- (2) 2 hours 20 minutes + 2 hours 45 minutes + 6 hours 18 minutes
- (3) 9 hours 30 minutes + 4 hours 12 minutes + 7 hours 36 minutes
- (4) 8 hours 20 minutes + 1 hour 10 minutes + 6 hours 15 minutes

**3. Solve :**

- (1) Children of Anupam Primary School start at 7:45 O'clock and reach the picnic spot at 9:30 in morning, so how much time do they take to reach the picnic spot ?
- (2) A movie began at 1:45 O'clock and ended at 3:45 O'clock. For how much time did the movie run ?
- (3) A birthday party began at 7:25 in the evening and ended at 10:15 at night. How long did the birthday party take ?
- (4) Vasudev helped his father in his work from 7:30 O'clock to 9:45 O'clock in the morning. How long did he help his father ?
- (5) Children of standard 4 visited the zoo in Vadodara from 10:45 O'clock to 11:30 O'clock. How much time did they spend at the zoo ?

**Answers****Practice 1**

1. (1) 1 hour 30 minutes      (2) 150 minutes      (5) 30 minutes
2. (1) 2 hours 40 minutes      (2) 3 hours 30 minutes
- (3) 4 hours 15 minutes      (4) 200 minutes      (5) 340 minutes
- (6) 150 minutes

**Practice 2**

1. (1) 6 hours 10 minutes      (2) 6 hours 40 minutes
- (3) 21 hours 13 minutes      (4) 16 hours 40 minutes
- (5) 11 hours 15 minutes

**Practice 3**

1. (1) 25 minutes      (2) 30 minutes      (3) 15 minutes
2. (1) 80 minutes or 1 hour 20 minutes
- (2) 460 minutes or 7 hours 40 minutes
- (3) 35 minutes      (4) 50 minutes      (5) 250 minutes or 4 hours 10 minutes
- (6) 45 minutes      (7) 80 minutes or 1 hour 20 minutes

**Practice 4**

1. (1) 110 minutes or 1 hour 50 minutes
- (2) 165 minutes or 2 hours 45 minutes

- (3) 9 hours 20 minutes      (4) 14 hours 35 minutes  
(5) 6 hours 15 minutes      (6) 16 hours 15 minutes

**Practice 5**

1. (1) 45 minutes      (2) 40 minutes      (3) 1 hour 15 minutes  
(4) 50 minutes      (5) 1 hour 35 minutes

**Exercise**

1. (1) 360 minutes      (2) 285 minutes      (3) 200 minutes  
(4) 7 hours 10 minutes      (5) 5 hours 35 minutes
2. (1) 5 hours 25 minutes      (2) 11 hours 23 minutes  
(3) 21 hours 18 minutes      (4) 15 hours 45 minutes
3. (1) 1 hour 45 minutes      (2) 2 hours      (3) 2 hours 50 minutes  
(4) 2 hours 15 minutes      (5) 45 minutes
- ◆

Let us learn something new :

**Point :**

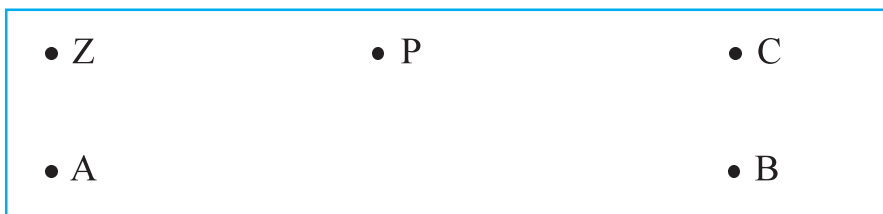
♦ **Activity 1 :**

Sharpen a pencil and mark some dots in your notebook.



These dots give an idea of point. These dots are the pictures of points. Such points are denoted by English capital alphabets.

For example,



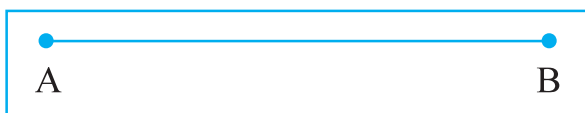
The points shown in the above box are different. Two different points are called **Distinct Points**.

**Line-segment :**

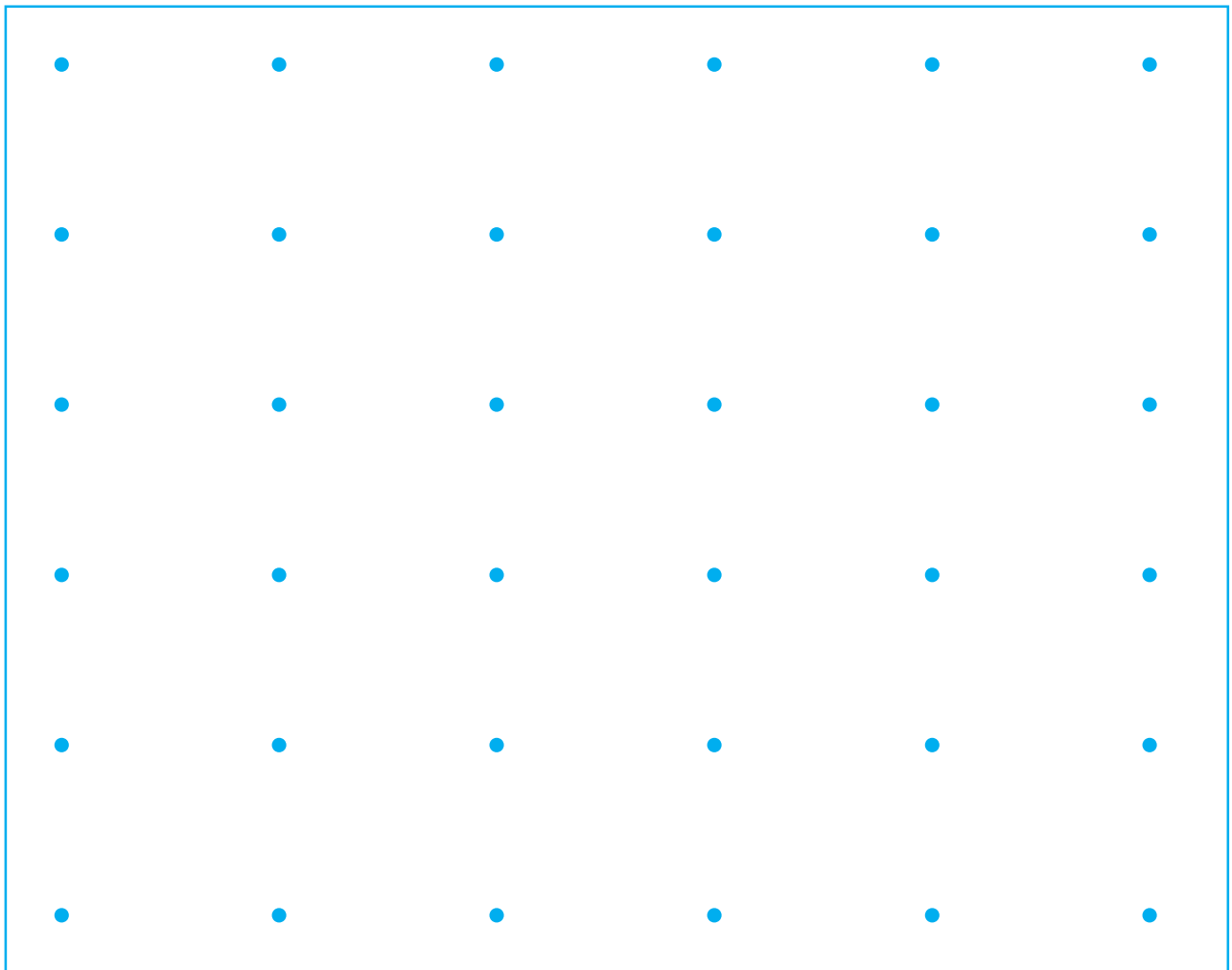
A figure obtained by joining any such two distinct points with a ruler is called **Line-segment**. See the following example.

For example,

Here is a line segment AB.



♦ Activity 2 :



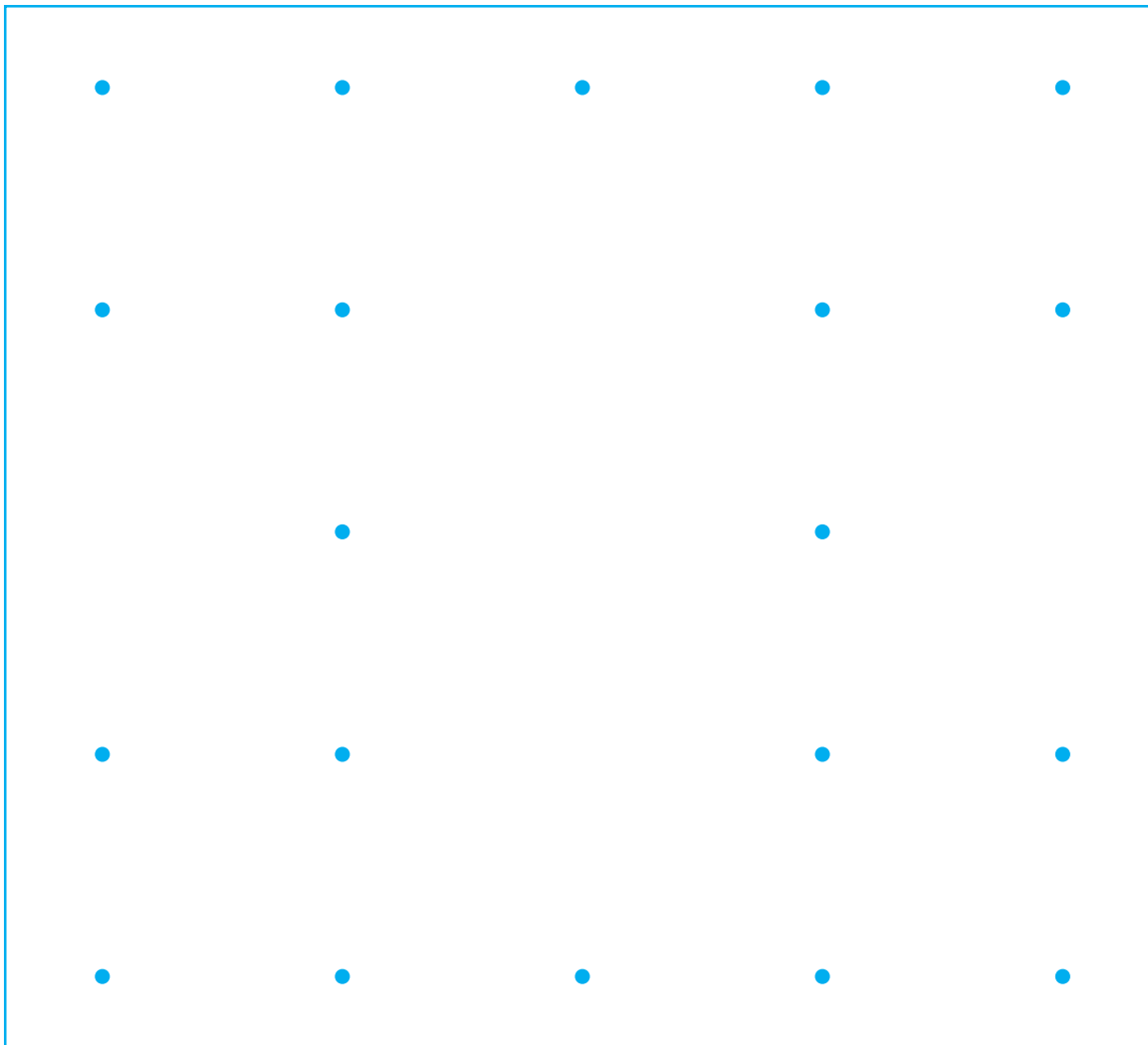
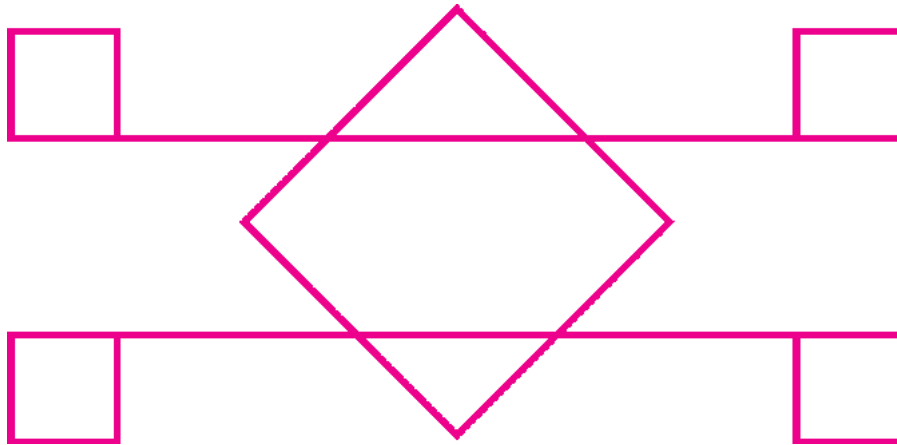
Make triangle, square, rectangle, pentagon and hexagon by joining points given in above rectangle.

**Fill in the following blanks :**

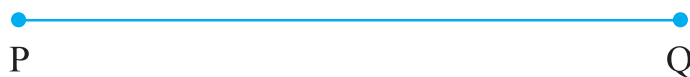
- (1) How many line-segments did you draw to make a triangle ? .....
- (2) How many line-segments did you draw to make a square ? .....
- (3) How many line-segments did you draw to make a pentagon ? .....
- (4) How many line-segments did you draw to make a hexagon ? .....
- (5) How many line-segments did you draw to make a rectangle ? .....

♦ Activity 3 :

Draw a figure as shown below with the help a ruler in the rectangle given below it and fill in the colours of your choice :



Children, you must have enjoyed Activities 2 and 3, haven't you ? You have drawn different line-segments in these activities. Remember the following points about line-segments.



- Points P and Q are the end-points of line-segment PQ.
- So, every line-segment has two end-points.
- Line-segment PQ is denoted as  $\overline{PQ}$  symbolically.
- The name of a line-segment is determined by its end-points.

As for example,  $\overline{AB}$  is read as line-segment AB.

$\overline{AB}$  and  $\overline{BA}$  are same line-segments.

◆ **Think and do :**

(1) Draw a line-segment, name it in different ways and read.

□ **Measuring a line-segment :**

◆ **Activity 4 :**

Measure the length of any one edge of a table, notebook, mathematics textbook, geometry box, pencil, duster etc. with the help of a ruler and write its length in the blanks given below :

Note-book ..... *cm*

Geometry box ..... *cm*

Pencil ..... *cm*

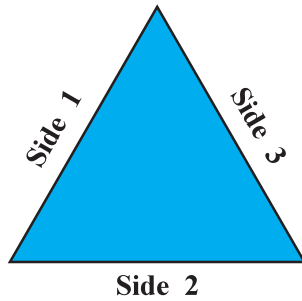
Table ..... *cm*

Duster ..... *cm*

Textbook ..... *cm*

◆ **Activity 5 :**

Measure the sides of the triangle and square given in the figure with the help of a ruler and write the measurements in the blanks given below :

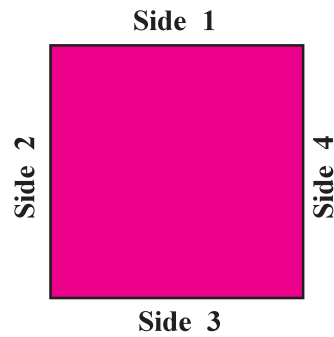


Triangle

Side 1 ..... *cm*

Side 2 ..... *cm*

Side 3 ..... *cm*



Square

Side 1 ..... *cm*

Side 2 ..... *cm*

Side 3 ..... *cm*

Side 4 ..... *cm*

The sides measured by you in the above activity are the lengths of line-segments.



Here, the length of  $\overline{XY}$  is 5 *cm*. It is written as  $XY = 5 \text{ cm}$ .

Practice 1

- ◆ Measure the lengths of the line-segments given below with the help of a ruler and write its measurements :



$AB = \text{..... cm}$



$PQ = \text{..... cm}$



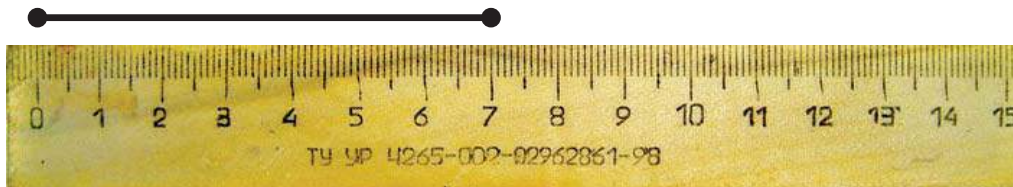
$CD = \text{..... cm}$

(4)   $RS = \dots\dots\dots \text{ cm}$

(5)   $XY = \dots\dots\dots \text{ cm}$

□ **Drawing a line-segment with the help of a ruler :**







◆ **Activity 6 :**



Put a point against the mark zero (0) of a ruler. Put another point against the mark corresponding to 7 of the ruler. Draw a line-segment joining the two points. Denote the two points by A and B respectively. Thus, you will get a line-segment of length 7 *cm*.

◆ **Activity 7 :**

Draw a line-segment joining the given points with the help of a ruler and measure it :

- (1)  
- (2)  
- (3)  

**Questions :**

- (1) Which line-segment has the least measurement ?
- (2) What is the measurement of  $\overline{CD}$  ?
- (3) What is the measurement of  $\overline{EF}$  ?

Practice 2

♦ Draw the line-segment of given measure with the help of a scale :

(1) 4 cm    (2) 3 cm    (3) 2 cm    (4) 6 cm    (5) 5 cm

□ Line :



Children, here (above)  $\overline{PQ}$  is given. Suppose that, if this line-segment is extended endlessly in the direction from P to Q, can it be shown in the note-book ?



Now, the line-segment is extended infinitely in the direction from P to Q, so it can not be shown in the note-book completely.

Similarly what will happen if this line-segment is extended infinitely in the direction from Q to P ?



Now, if the line segment PQ extends endlessly in both the directions, its end-points cannot be obtained. To show this in a note-book, we shall draw arrows on both the sides.



The figure above shows line PQ. A line extending endlessly on both the sides cannot be measured. Line does not have any end-points. Symbolically, it is denoted as  $\overleftrightarrow{PQ}$ . It is also called  $\overleftrightarrow{QP}$ .

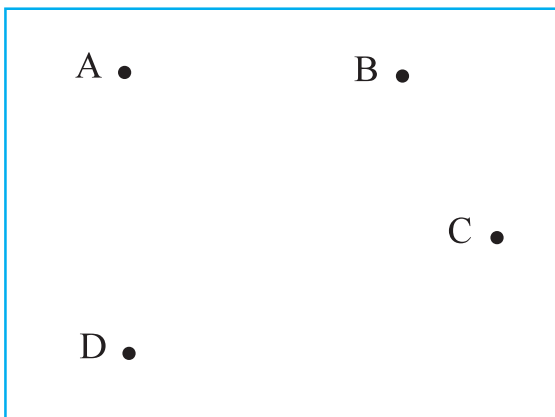
It is read as line PQ or line QP. The line can also be denoted as line ' $l$ ' and it is read as line  $l$ . In this way, a line can be denoted by a single small letter like  $l$ ,  $m$ ,  $t$  etc. In the above figure  $\overleftrightarrow{PQ} = l$  is shown, so it is also known as line  $l$ .

- At least two distinct points are required to determine a line.
- Infinite number of points lie on a line.
- Infinite number of lines pass through one point.
- Line-segment is a part of line.

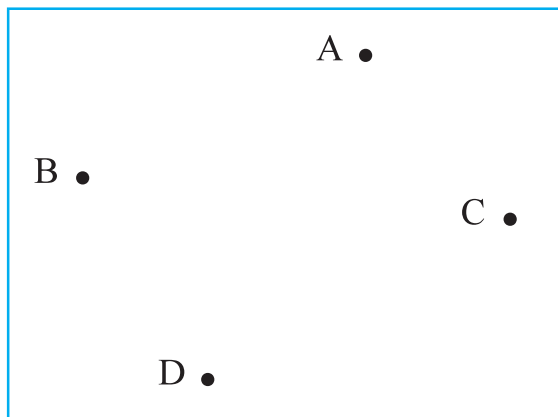
♦ **Activity 8 :**

Draw a line containing any two points given in the following figures.

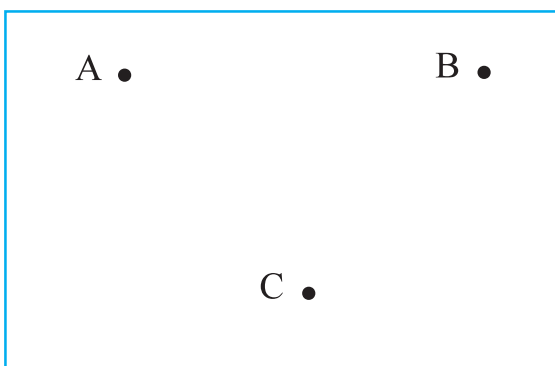
Try to draw maximum number of lines :



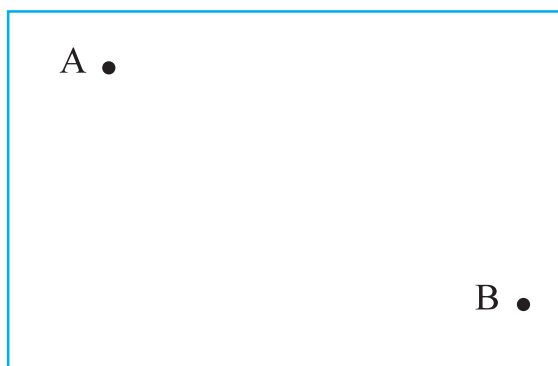
(A)



(B)

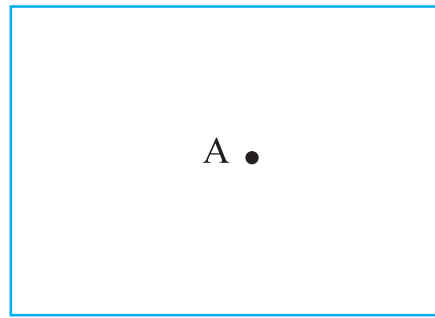


(C)



(D)

Draw maximum number of lines passing through the point A given in the figure below.



(E)

Answer the following questions based on the above activity :

- (1) In which figure could you draw a maximum number of lines? Why?
- (2) In which figure could only one line be drawn ?
- (3) How many lines could be drawn passing through the points A, B and C ?

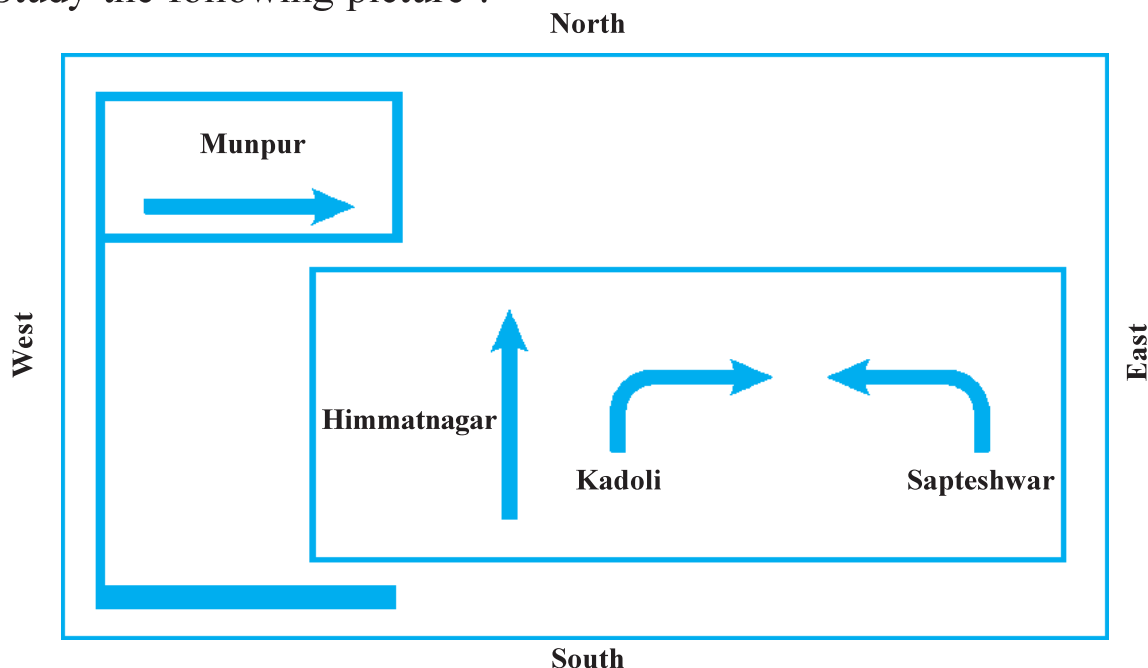
**Think and do :**

Mark two distinct points in your note-book and draw a line passing through them. Give a name of your choice.

□ **Ray :**

♦ **Activity 9 :**

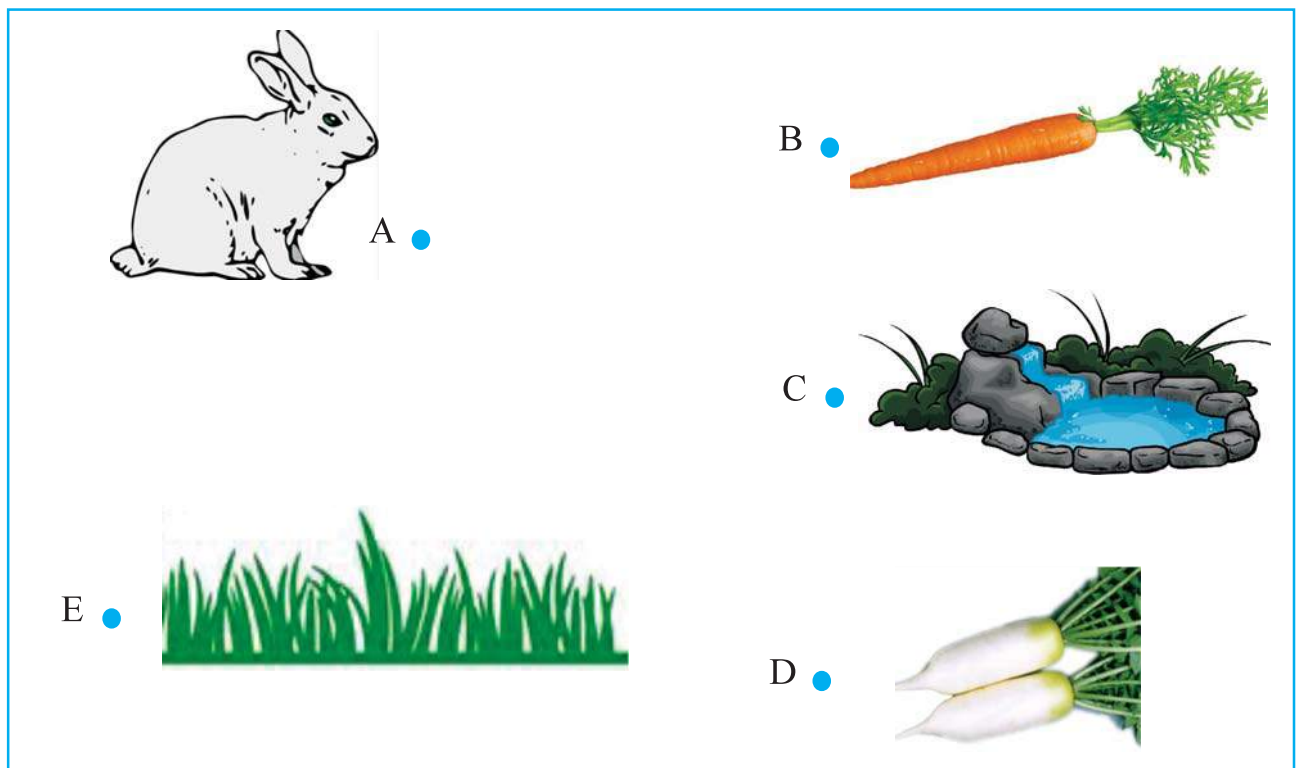
Study the following picture :



- (1) Where have you seen the boards as given above ? Make a list of five names.
- (2) What does an arrow indicate in the above picture ?
- (3) In which direction should we go to go to Himmatnagar ?
- (4) In which direction should we go for Kadoli ?
- (5) In which direction is an arrow indicated to go to Sapteshwar ?

♦ **Activity 10 :**

**Think and do :**

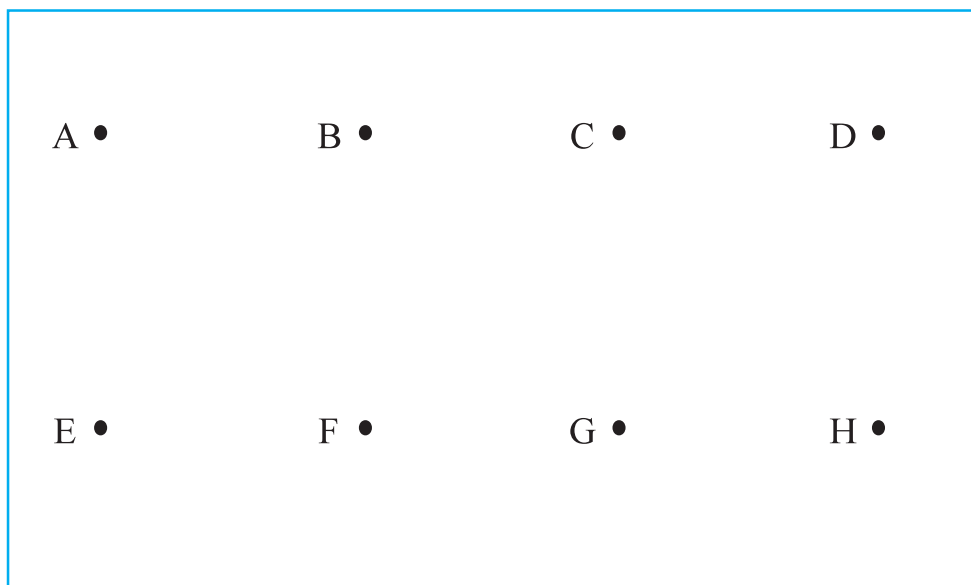


- (1) Draw an arrow showing the path to Rabbit to eat radish.
- (2) Draw an arrow showing the path to Rabbit to eat grass.
- (3) Draw an arrow showing the path to Rabbit to eat carrot.
- (4) Draw an arrow showing the path to Rabbit to drink water.

In above activity, you have drawn various arrows showing direction to various things to the Rabbit. All the arrows emerge from the point where Rabbit is. So, this point is said to be the initial point of all the arrows. This is also called the origin of the arrow.

**Think and Do :**

- Draw an arrow with the help of a ruler taking A as its origin and passing through H.
- Draw an arrow with the help of a ruler taking C as its origin and passing through G.
- Draw an arrow with the help of a ruler taking D as its origin and passing through F.



♦ **Study the following figure :**



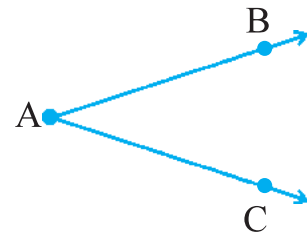
This arrow like figure is of a ray. Symbolically, it is denoted as  $\overrightarrow{AB}$  and read as ray AB. The point from which a ray emerges is called an initial point or origin of the ray. A ray is a part of a line. A ray has only one end-point.

### Distinct Rays :



Here, initial point and direction of  $\overrightarrow{AB}$  and  $\overrightarrow{AC}$  are same. So,  $\overrightarrow{AB}$  and  $\overrightarrow{AC}$  are same rays and not distinct.

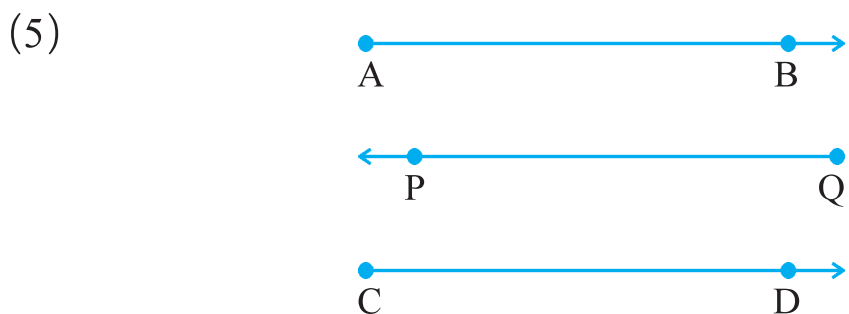
(2) Here, initial point A of  $\overrightarrow{AB}$  and  $\overrightarrow{AC}$  is same, but their directions are not same. So,  $\overrightarrow{AB}$  and  $\overrightarrow{AC}$  are distinct Rays.



Here, initial point A of  $\overrightarrow{AB}$  and  $\overrightarrow{AC}$  is same and direction of both the rays are opposite. So,  $\overrightarrow{AB}$  and  $\overrightarrow{AC}$  are distinct Rays.



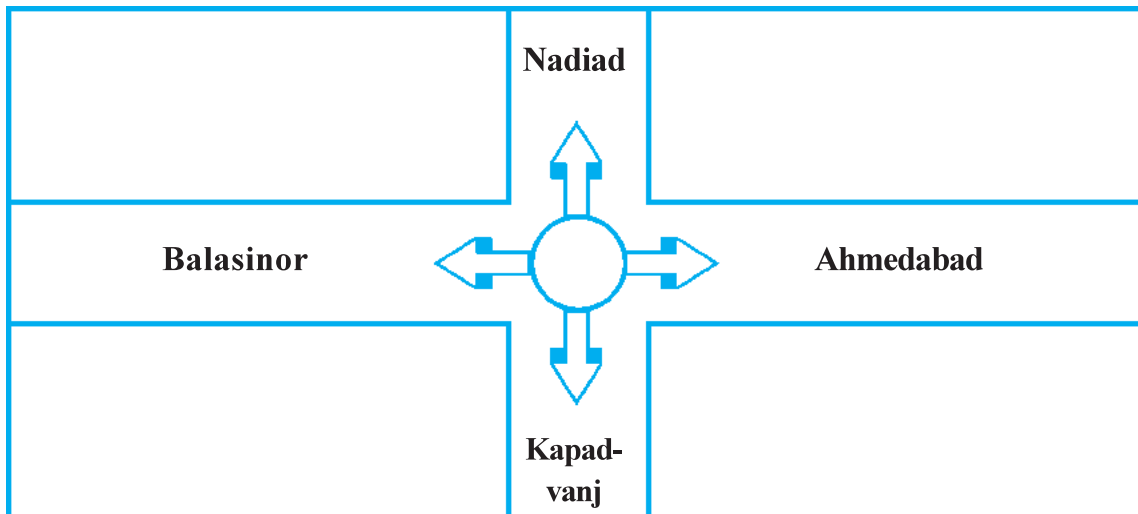
Here, direction of  $\overrightarrow{AB}$  and  $\overrightarrow{BC}$  are same but their initial points are not same. So,  $\overrightarrow{AB}$  and  $\overrightarrow{BC}$  are distinct Rays.



Here, initial point and direction of  $\overrightarrow{AB}$  and  $\overrightarrow{QP}$  are distinct. So, they are distinct Rays. Similarly,  $\overrightarrow{AB}$  and  $\overrightarrow{CD}$  are also distinct Rays.

♦ Activity 11 :

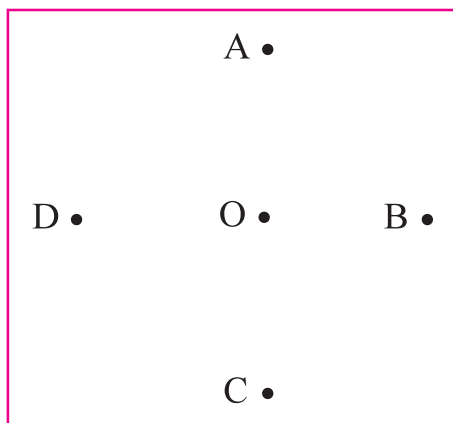
Study the following picture and answer the following questions :



- (1) Which place is located in the direction opposite to Ahmedabad ?
- (2) Which place is located in the direction opposite to Nadiad ?

**Think and do :**

Draw  $\vec{OA}$ ,  $\vec{OB}$ ,  $\vec{OC}$  and  $\vec{OD}$  with the help of ruler.



- (1) Which is the initial point of  $\vec{OB}$  ?
- (2) Which is the initial point of  $\vec{OD}$  ?
- (3) How is the mutual direction of  $\vec{OB}$  and  $\vec{OD}$  ?
- (4) Which line is formed by joining  $\vec{OA}$  and  $\vec{OC}$  ?

**Opposite Ray :** If two distinct rays having same initial point determine a line, then they are called opposite rays.

**Think and do :** Find out the pairs of opposite rays from the above figure.

**Exercise**




1. State whether the following statements are true or false :

- (1) A line-segment has three end-points.
- (2) A line-segment AB is denoted as  $\overline{AB}$ .
- (3) Many lines can pass through one point.
- (4) A ray has two initial points.
- (5) Line-segment and rays are parts of a line.

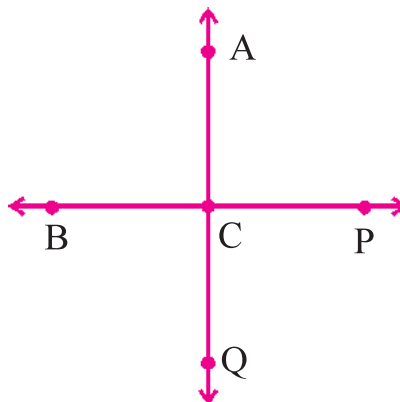
2. Draw the line-segments of given measure with the help of a scale :

- (1) 9 cm      (2) 8 cm

3. Measure the length of the given line-segment and write their measure in the blanks :

- (1)  AB = ..... cm
- (2)  PQ = ..... cm
- (3)  XY = ..... cm

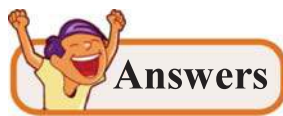
4. Find out the pairs of opposite rays from the figure given below :



5. Answer the following questions with the help of the figure :



- (1) Write line  $m$  in three different ways.
- (2) State any three pairs of opposite rays.
- (3) Write the names of any three line-segments.



### Exercise

1. (1) False (2) True (3) True (4) False (5) True

4.  $\vec{CA}$  and  $\vec{CQ}$ ,  $\vec{CB}$  and  $\vec{CP}$





## Revision : 2

### 1. Do as directed :

- (1) Write 4932 in words.
- (2) Write seven thousand five hundred and ninety eight in numbers.
- (3) Write the place value of the underlined number in 9475.
- (4) 7439 means ..... thousands ..... hundreds ..... tens ..... units.
- (5) ..... means 8 thousands 1 hundreds 2 tens 3 units.
- (6) The number between 7946 and 7948 is ..... .
- (7) ..... is the number immediately preceding 4563.
- (8) ..... is the number immediately succeeding 8403.
- (9) Put a correct symbol ( $<$  or  $>$ ) in  $\square$  : 6354  $\square$  4356
- (10) Arrange in descending order : 2135, 2130, 2137
- (11) Arrange in ascending order : 9475, 6354, 7948

### 2. Add :

- |   |   |   |
|---|---|---|
| (1)   | (2)   | (3)   |
| $\begin{array}{r} 4\ 3\ 2\ 1 \\ + 2\ 1\ 3\ 5 \\ \hline \end{array}$ | $\begin{array}{r} 3\ 2\ 5\ 8 \\ + 2\ 4\ 2\ 6 \\ + 3\ 2\ 5\ 8 \\ \hline \end{array}$ | $\begin{array}{r} 4\ 3\ 7\ 4 \\ + 1\ 6\ 3\ 8 \\ + 1\ 2\ 0\ 4 \\ \hline \end{array}$ |
| (4)   | (5)   | (6)   |
| $\begin{array}{r} 9\ 0\ 0\ 0 \\ - 5\ 5\ 5\ 5 \\ \hline \end{array}$ | $\begin{array}{r} 9\ 5\ 4\ 7 \\ - 3\ 9\ 7\ 2 \\ \hline \end{array}$                 | $\begin{array}{r} 7\ 4\ 0\ 2 \\ - 2\ 3\ 6\ 4 \\ \hline \end{array}$                 |

**3. Solve the sums :**

(1)  $4327 + 3251 - 4529$

(2)  $8427 - 4257 + 5326$

**4.** In a library, there are 7439 story books, 1221 picture-story books and 425 books of nursery rhymes. Total how many books are there in the library ?

**5.** Rakeshbhai bought a TV for ₹ 9835 and Nareshbhai bought a TV for ₹ 8987. Whose TV is costlier, how much ?

**6. Fill in the blanks :**

(1)  $12 \times 10 = \dots\dots\dots$

(2)  $17 \times 9 = \dots\dots\dots$

(3)  $100 \times 57 = \dots\dots\dots$

(4)  $6 \times 1000 = \dots\dots\dots$

(5) There are 13 chocolates in one Jar, so there are  $\dots\dots\dots$  chocolates in 6 such jars.

(6) 7 hours =  $\dots\dots\dots$  minutes

(7) 4 hours 20 minutes =  $\dots\dots\dots$  minutes

(8) 215 minutes =  $\dots\dots\dots$  hours  $\dots\dots\dots$  minutes

(9) Number of factors of 13 are  $\dots\dots\dots$  , so, it is  $\dots\dots\dots$  number.

(10)  $12 \times 7 = 84$ , so, 84 is a multiple of  $\dots\dots\dots$  and  $\dots\dots\dots$  .

(11)  $\dots\dots\dots$  is a prime number from 21, 23 and 27.

**7. Multiply :**

$$\begin{array}{r} (1) \quad 16 \\ \times 15 \\ \hline \end{array}$$

$$\begin{array}{r} (2) \quad 324 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} (3) \quad 578 \\ \times 12 \\ \hline \end{array}$$

**8.** The cost of a museum ticket is ₹ 50. How much money should be paid for 138 school-children ?

**9.** If a potter sells 155 pots at the rate of ₹ 45 each, then how much money does he earn ?

**10.** Write all the factors of the following numbers :

(1) 6    (2) 14    (3) 36    (4) 48    (5) 34

**11.** Write all the prime numbers occurring between 25 and 35.

**12.** Write first five multiples of following numbers :

(1) 11    (2) 8    (3) 15    (4) 14    (5) 18

**13. Add :**

(1) 5 hours 30 minutes and 3 hours 20 minutes

(2) 4 hours 25 minutes, 2 hours 10 minutes and 7 hours 45 minutes

**14. Subtract :**

(1) 6 hours 20 minutes from 8 hours 15 minutes

(2) 2 hours 45 minutes from 4 hours 30 minutes

**15.** Komal studies mathematics for 1 hour and 10 minutes and environment for 30 minutes. How long does she study in all ?

**16.** Gayatriben teaches in std. 4 from 11:30 to 12:05. How much time does she teach for ?

**17. Draw the following line-segments and give their names and indicate their symbols :**

- (1) 4 cm      (2) 6 cm      (3) 5 cm

**18. Measure the following line-segments :**

(1) 

(2) 

(3) 



**1.** (1) Four thousand nine hundred and thirty two    (2) 7598    (3) 9000

(4) 7, 4, 3, 9    (5) 8123    (6) 7947    (7) 4564    (8) 8402

(9) >    (10) 2137, 2135, 2130    (11) 6354, 7948, 9475

**2.** (1) 6456    (2) 8942    (3) 7216    (4) 3445    (5) 5575    (6) 5038

**3.** (1) 3049    (2) 9497    **4.** 9085

**5.** Rakeshbhai's T.V. is more costlier, ₹ 848

**6.** (1) 120    (2) 153    (3) 5700    (4) 6000    (5) 78    (6) 420    (7) 260

(8) 3 hours, 35 minutes    (9) 2, Prime number    (10) 12, 7    (11) 23

**7.** (1) 240    (2) 972    (3) 6936    **8.** ₹ 6900

**9.** ₹ 6975

**10.** (1) 1, 2, 3, 6    (2) 1, 2, 7, 14    (3) 1, 2, 3, 4, 6, 9, 12, 18, 36

(4) 1, 2, 3, 4, 6, 8, 12, 16, 24, 48    (5) 1, 2, 17, 34

**11.** 29, 31

**12.** (1) 11, 22, 33, 44, 55      (2) 8, 16, 24, 32, 40

(3) 15, 30, 45, 60, 75      (4) 14, 28, 42, 56, 70

(5) 18, 36, 54, 72, 90

**13.** (1) 8 hours 50 minutes      (2) 14 hours 20 minutes

**14.** (1) 1 hour 55 minutes      (2) 1 hour 45 minutes

**15.** 1 hour 40 minutes      **16.** 35 minutes



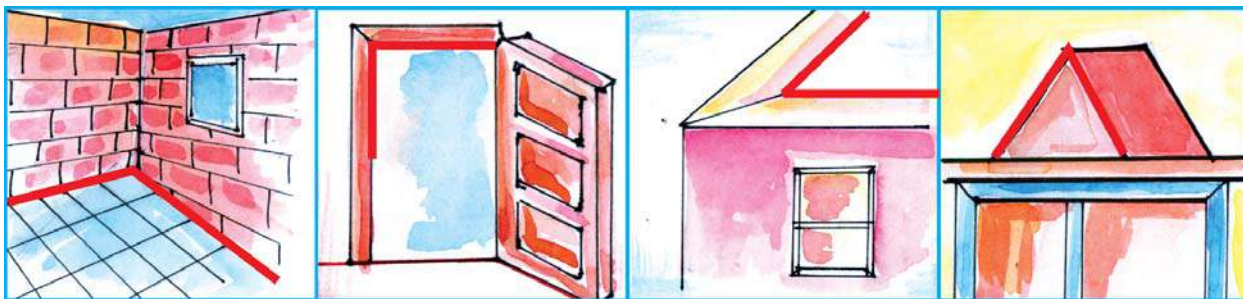


# MATHEMATICS

**Standard 4**

**(Second Semester)**





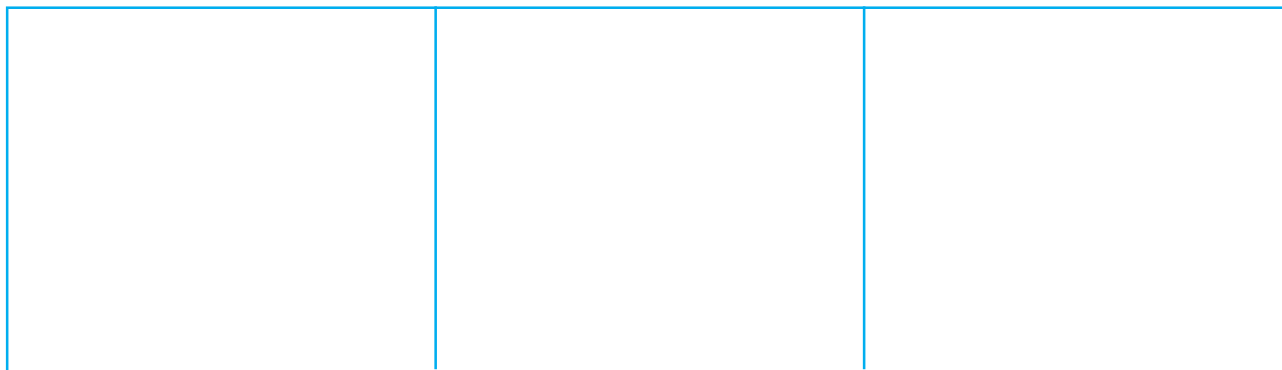
Use match-sticks to form images of the shapes made using red colour in the above pictures.



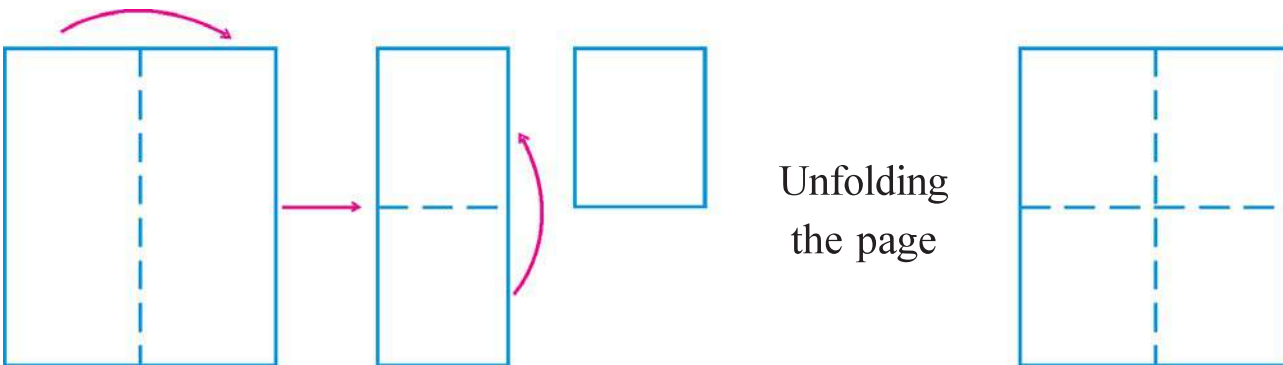
- An angle is formed in all the above diagrams. Where else do you see such angles ? Write names of such objects in the following table.

In tiles of floor		

Where do you see such angles formed in your school building ? Draw any three pictures of your choice.



**Activity 1 :** Fold a paper as shown in the figure below.



How many angles do you see in the paper ?

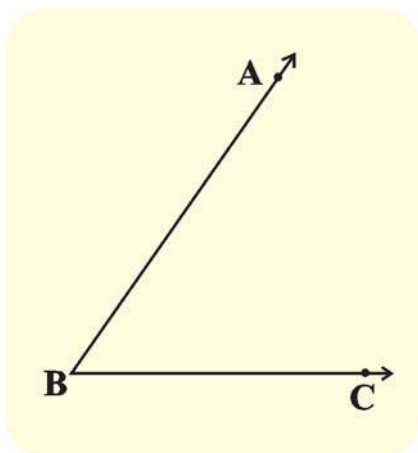
- Now take another paper and fold it four times.
- In which paper do you see more angles out of the two ? Observe them.

### Practice 1

- Do the paper art by folding paper in different ways. See how many angles are formed unfolding the paper. Write them in the following table :

	Plane	Boat	Purse	Camera	Steamer	Ball
Number of Angles						

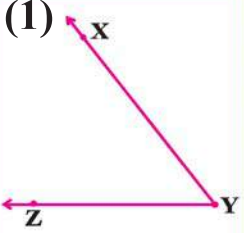
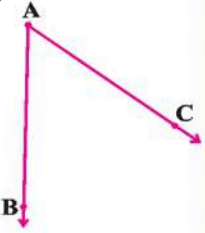
**See and understand :**



- $\vec{BA}$  and  $\vec{BC}$  are two different rays. Both the rays have the same origin 'B'. Such rays are called arms or sides of angles.
- An angle is formed only if these two rays are not same.
- An angle can be read as :** angle ABC; angle CBA or angle B. Notation for angle is “ $\angle$ ”.
- This angle is denoted by  $\angle ABC$  or  $\angle CBA$  or  $\angle B$ .

The point from which two rays originate is called the vertex of the angle.  
Here B is the vertex of  $\angle ABC$ .

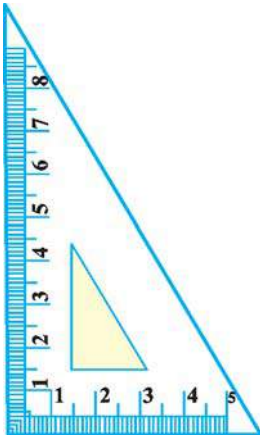
Practice 2

Angle	An angle read as	In Symbol	Vertex	Arms/Sides
(1) 	(1) Angle XYZ (2) _____ (3) _____	(1) $\angle XYZ$ (2) _____ (3) _____		(1) _____ (2) _____
(2) 	(1) _____ (2) _____ (3) _____	(1) _____ (2) _____ (3) _____		(1) _____ (2) _____

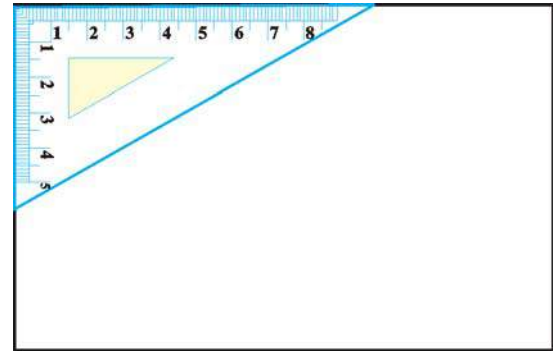
**Activity 2 :** Adjust your book of Mathematics as shown in the picture.  
Where else can your book get adjusted at the angles of different objects in your classroom? Mention the places in the following table.



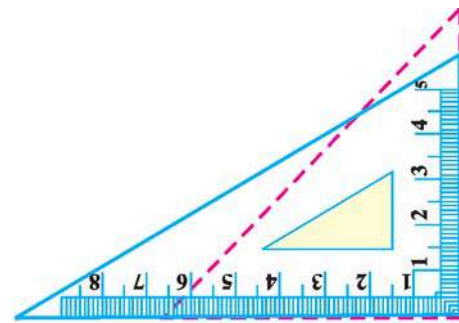
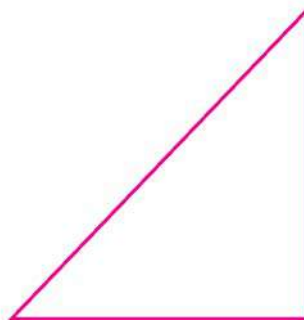
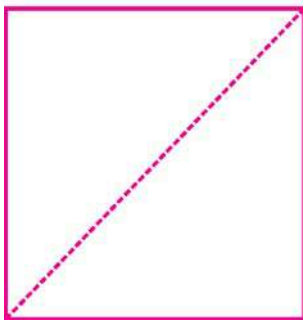

## 8 : Types and Measurement of Angle




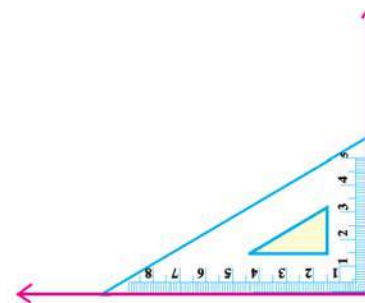
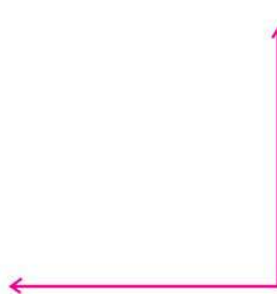
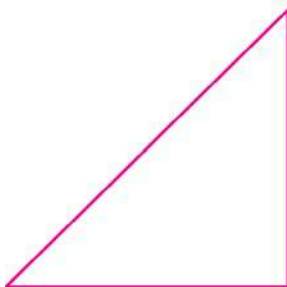
- Take out the instrument as shown in the figure from your geometry box.
- This instrument is known as **set square**.
- Adjust this set square on a page of a book as shown in the figure.



- Adjust the set square at all the four corners and study the angles.
- Take a square paper. Fold it and cut it as shown in the figure below. Place the set square at a corner of the page.



Now, place the cut page  on a card board and cut the card board accordingly. Now put this card board on another page and draw two rays as shown in the figure. Now take away the card board.



Adjusting the set square at the angle drawn, it gets adjusted accordingly. So, this angle is said to be “Right Angle”.

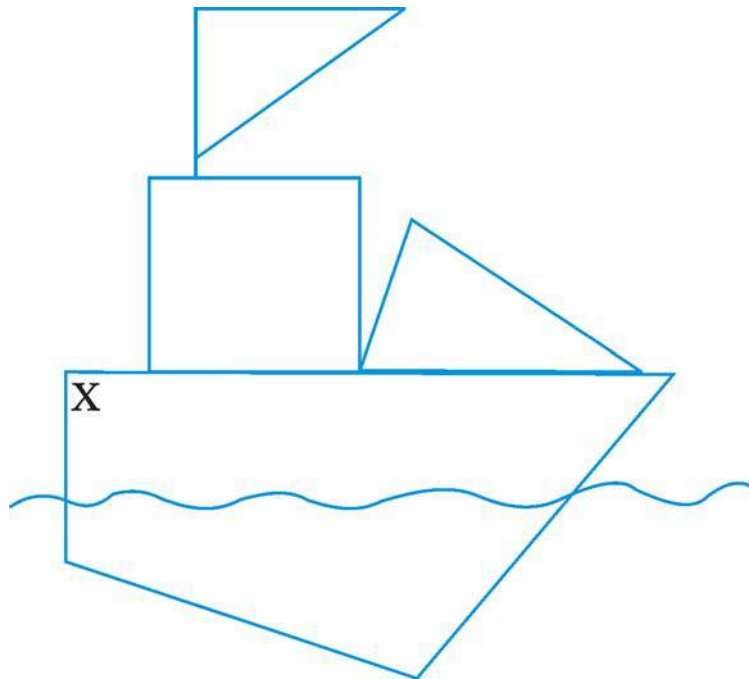
## 8 : Types and Measurement of Angle

Place the set square at the angles of different objects you find around your place. Write the names of the objects in the following table which has only right angle.

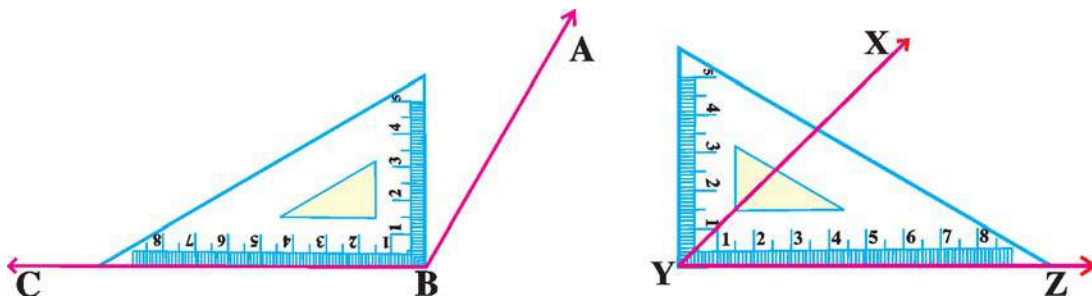
Corner of Table		

### Practice 3

Check the angles of the following figure by placing set square. Which angles are right angles ? Denote the right angle by red X sign.



Observe what happens by placing set square in the following figures ?



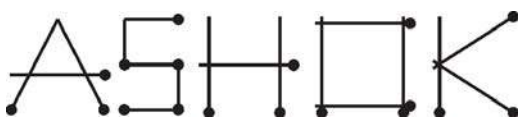
- Place set square at  $\angle ABC$ .
- What do you observe ?
- From the figure; it can be observed that  $\angle ABC$  is larger than a right angle.

An angle greater than a right angle is called an obtuse angle.

- Place set square at  $\angle XYZ$ .
- What do you observe ?
- From the figure; it can be observed that  $\angle XYZ$  is smaller than right angle.

An angle smaller than a right angle is called an acute angle.

**Activity 3 :** Write your name using matchsticks.



- Which types of angles are formed in writing your name ? Write the total number of different angles. Compare them with the angles in your friends' name.

Right angle	Acute angle	Obtuse angle

- Whose name has more number of right angles ?
- Whose name has more number of acute angles ?
- Whose name has more number of obtuse angles ?

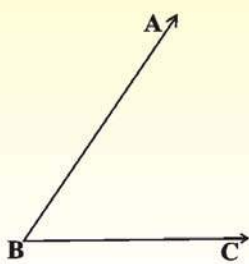



Who uses set square in their professions ? Draw the pictures of their set squares.

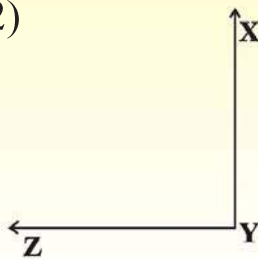
Practice 4

1. Determine the type of each of the following angles using a set square :

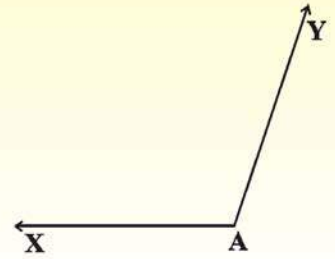
(1)



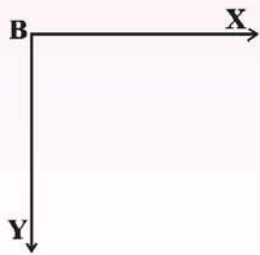
(2)



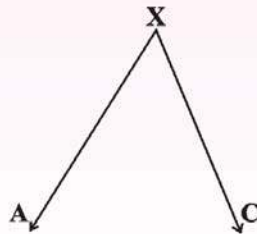
(3)



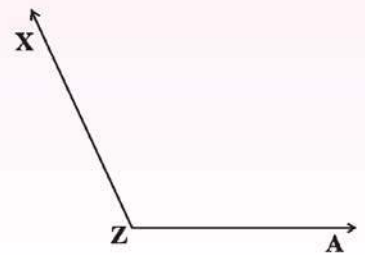
(4)



(5)

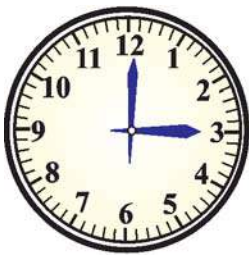


(6)

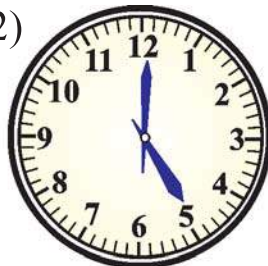


2. Which type of angle is formed by the two hands in the following clocks :

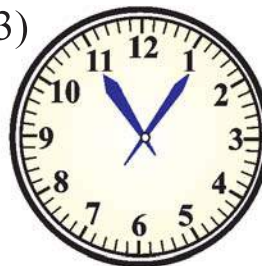
(1)



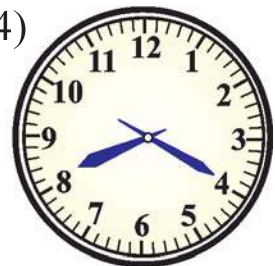
(2)



(3)

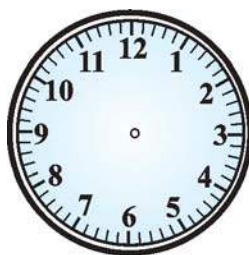


(4)

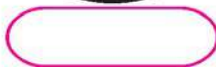


3. Draw the hands as per the time mentioned. Write the type of angle accordingly.

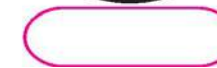
12:15



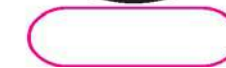
1:45



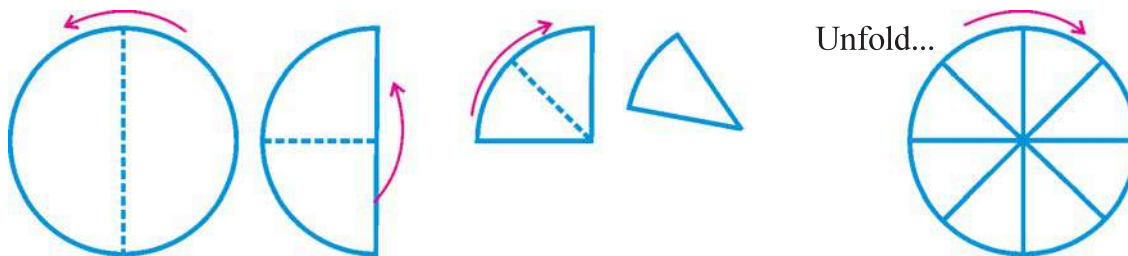
3:30



7:00



**Activity 4 :** Take a circular paper and fold it as shown in the following :

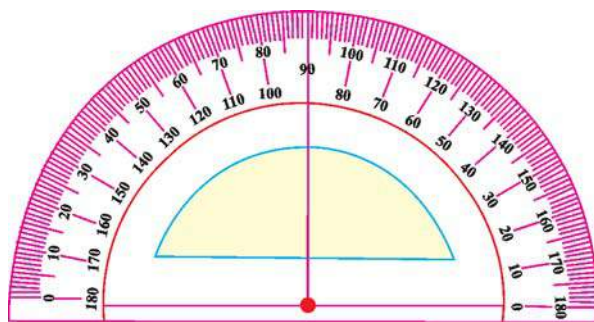


- Read the following instructions and fill in the colour in the different sections clockwise.
- Fill in yellow colour in one box.
- Fill in green colour in the next two boxes.
- Fill in red colour in the next three boxes.
- Fill in black colour in the remaining boxes.

**Say...**

- Which type of angle does the yellow coloured box formed?

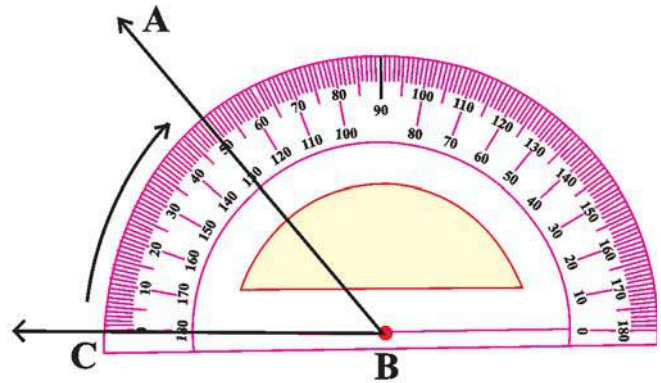
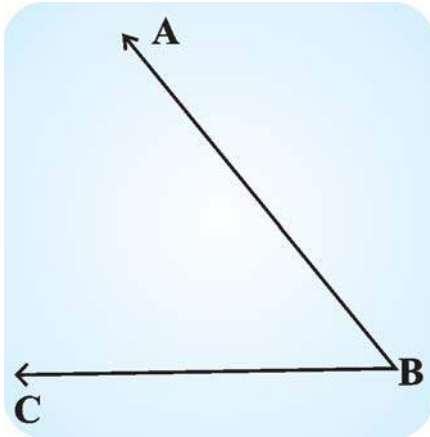
Ask such questions to your friend.



- Take out the instrument from your geometry box as shown in this figure. This instrument is known as **protractor**.
  - A protractor is used to measure an angle and to draw an angle of the given measure.
- There are 180 equal parts in a protractor. Each part is known as "Degree" and it is denoted as  $1^\circ$ .
- There are numbers from  $0^\circ$  to  $180^\circ$  are denoted from left hand to right hand side and vice versa. Therefore an angle can be measured from any side .

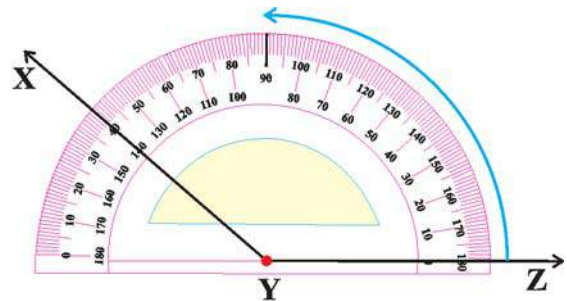
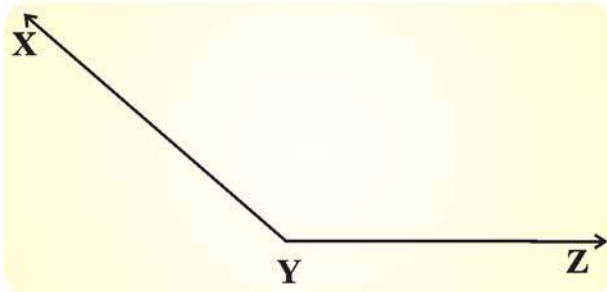
## ● Measurement of an angle :

1. Let us measure  $\angle ABC$ .



- Place the centre of the protractor at vertex B of  $\angle ABC$ .
- Adjust the base line of the protractor in such a way that  $\vec{BC}$  passes through zero (0).
- Considering  $0^\circ$  from C side, note the number through which the  $\vec{BA}$  passes.
- Here,  $\vec{BA}$  passes through the number '50'. Therefore measure  $\angle ABC = 50^\circ$ .

2. Measure  $\angle XYZ$ .



- Place the centre of the protractor at vertex Y.
- Adjust  $\vec{YZ}$  in such a way that  $\vec{YZ}$  passes through zero.
- Considering  $0^\circ$  from Z side, note the number through which the  $\vec{YX}$  passes.
- $\vec{YX}$  passes through the number '140' of the protractor and hence  $m\angle XYZ = 140^\circ$ .

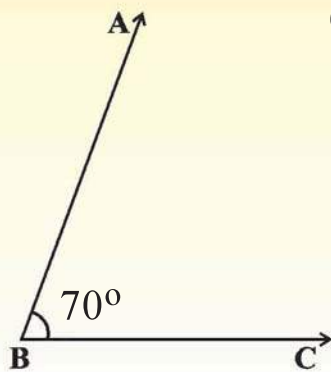
☞ There are three types of angles according to the measure of the angles :

- (1) Measure of the right angle is  $90^\circ$ .
- (2) Measure of an acute angle is between  $0^\circ$  and  $90^\circ$ .
- (3) Measure of an obtuse angle is more than  $90^\circ$  and less than  $180^\circ$ .

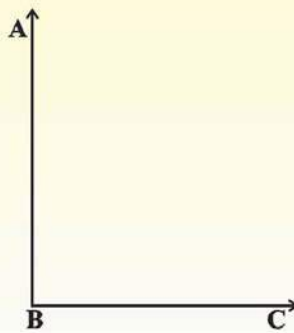
## Practice 5

1. Write the measure of each of the following angle :

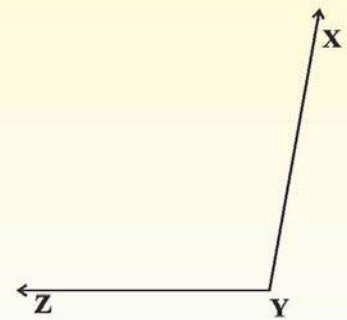
(1)



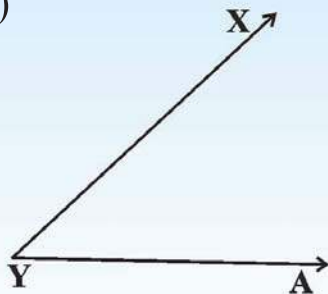
(2)



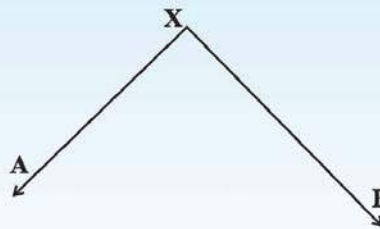
(3)



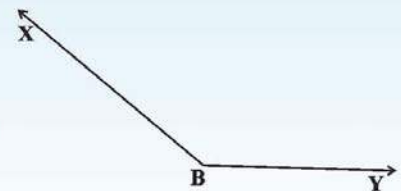
(4)



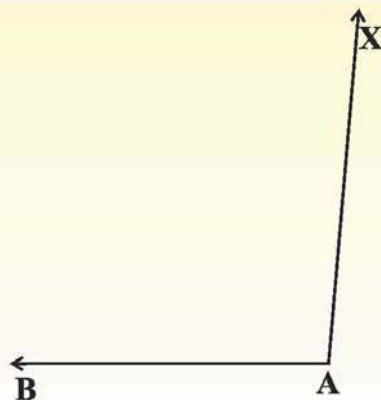
(5)



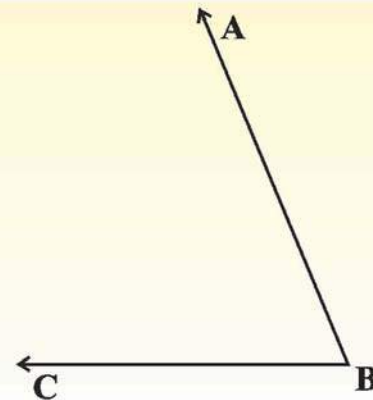
(6)



(7)



(8)



2. Find the type of the angle from the following measure of the angles :

(1)  $m\angle ABC = 80^\circ$  \_\_\_\_\_ (2)  $m\angle XAY = 130^\circ$  \_\_\_\_\_

(3)  $m\angle XYZ = 110^\circ$  \_\_\_\_\_ (4)  $m\angle AXB = 90^\circ$  \_\_\_\_\_

(5)  $m\angle AXB = 140^\circ$  \_\_\_\_\_ (6)  $m\angle BYX = 65^\circ$  \_\_\_\_\_

3. Fill in the following blanks on the basis of activity 4 :

(1) The measure of the yellow coloured angle is \_\_\_\_\_ and hence it is \_\_\_\_\_.

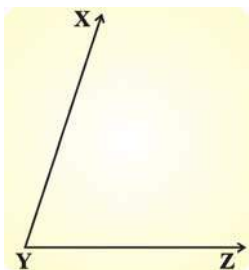
(2) The measure of the green coloured angle is \_\_\_\_\_ and hence it is \_\_\_\_\_.

(3) The measure of the red coloured angle is \_\_\_\_\_ and hence it is \_\_\_\_\_.

(4) The measure of the black coloured angle is \_\_\_\_\_ and hence it is \_\_\_\_\_.

### Exercise

1. Fill in the blanks with the help of the figure :



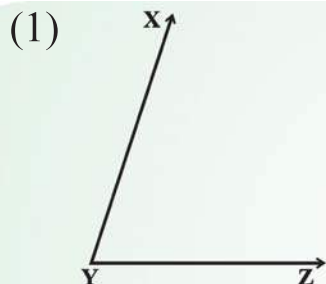
(1) The vertex of angle is \_\_\_\_\_.

(2) This angle can be named as \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_.

(3)  $\angle XYZ$  has \_\_\_\_\_ and \_\_\_\_\_ arms/sides.

(4) The type of  $\angle XYZ$  is \_\_\_\_\_ angle.

2. Name the following angles in three different ways and write the type of the angle.

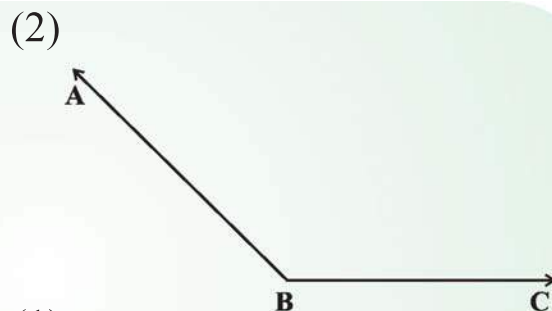


(1) \_\_\_\_\_

(2) \_\_\_\_\_

(3) \_\_\_\_\_

Type : \_\_\_\_\_



(1) \_\_\_\_\_

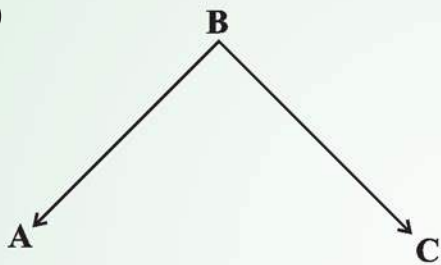
(2) \_\_\_\_\_

(3) \_\_\_\_\_

Type : \_\_\_\_\_

## 8 : Types and Measurement of Angle

(3)



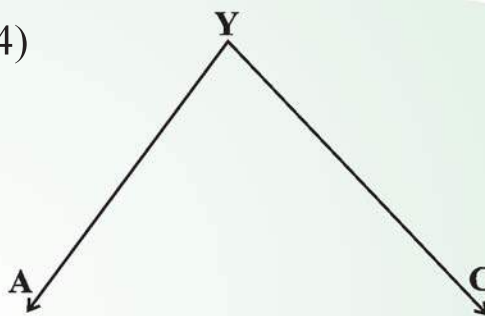
(1) \_\_\_\_\_

(2) \_\_\_\_\_

(3) \_\_\_\_\_

Type : \_\_\_\_\_

(4)



(1) \_\_\_\_\_

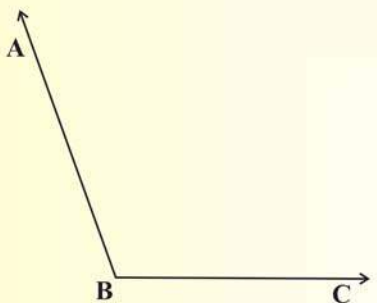
(2) \_\_\_\_\_

(3) \_\_\_\_\_

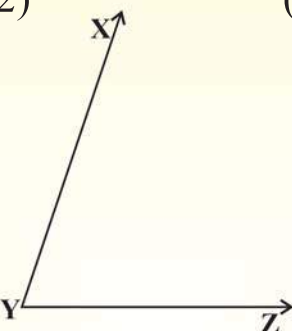
Type : \_\_\_\_\_

3. Measure the following angles using a protractor and note the measure in your note-book :

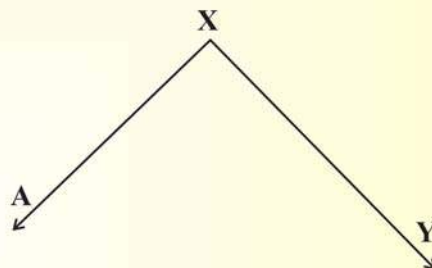
(1)



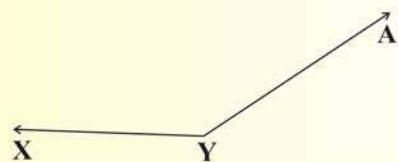
(2)



(3)



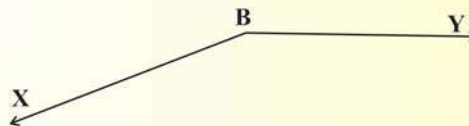
(4)



(5)



(6)



4. Find out the type of the angle from the measure given below :

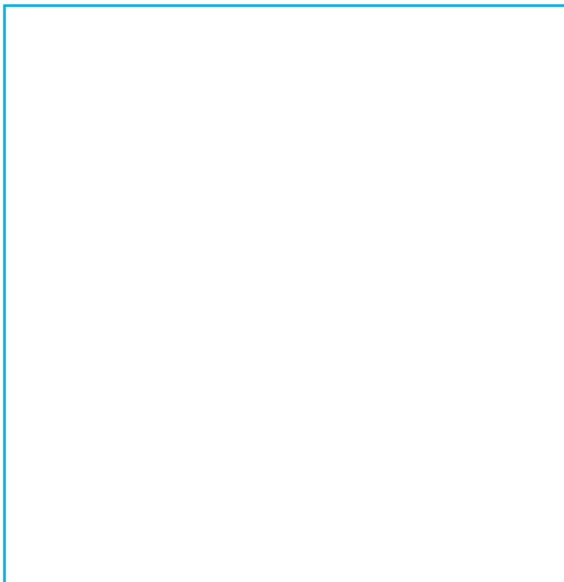
(1)  $m\angle ABC = 70^\circ$  \_\_\_\_\_

(2)  $m\angle XYZ = 90^\circ$  \_\_\_\_\_

(3)  $m\angle XBC = 140^\circ$  \_\_\_\_\_

(4)  $m\angle XAZ = 85^\circ$  \_\_\_\_\_

5. Draw a diagram of your house and mention the types and number of the different angles :

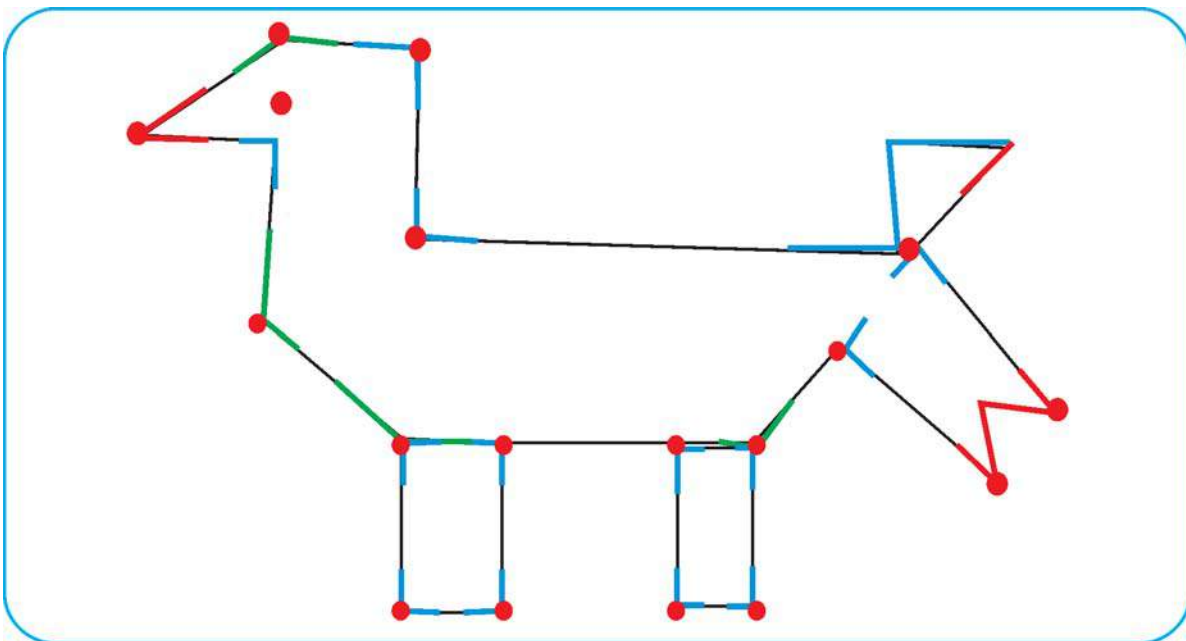


Right angle : \_\_\_\_\_

Acute angle : \_\_\_\_\_

Obtuse angle : \_\_\_\_\_

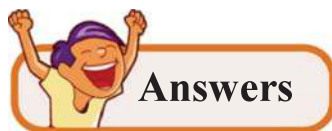
6. Here, you see a picture which is made by joining the dots. Acute angles, obtuse angles and right angles are denoted by red colour, green colour and blue colour respectively :



Search for similar activity based pictures from news-paper where you find different types of angles. Now, colour acute angle, obtuse angle and right angle with red, yellow and pink respectively.

7. Select correct option and answer in .

- (1) What is the vertex of  $\angle ABC$  ?   
 (a) A (b) B (c) C (d) None of these
- (2) Which one is an arm of  $\angle XYZ$  ?   
 (a)  $\vec{XY}$  (b)  $\vec{YZ}$  (c)  $\vec{ZY}$  (d)  $\vec{XZ}$
- (3) What is the measure of the largest angle in a set square ?   
 (a)  $30^\circ$  (b)  $60^\circ$  (c)  $180^\circ$  (d)  $90^\circ$
- (4) Which one is not an acute angle ?   
 (a)  $50^\circ$  (b)  $70^\circ$  (c)  $92^\circ$  (d)  $80^\circ$
- (5) If  $m\angle ABC = 130^\circ$ ; which type of angle is it ?   
 (a) Obtuse angle (b) Right angle (c) Acute angle (d) None of these
- (6) If it is 9 O'clock in a clock; which type of angle is formed by two hands ?   
 (a) Acute angle (b) Obtuse angle (c) Right angle (d) None of these
- (7) Angle ABC cannot be written as : .  
 (a)  $\angle ABC$  (b)  $\angle CBA$  (c)  $\angle B$  (d)  $\angle CAB$



Practice 2

<b>(1)</b> (1) Angle XYZ (2) Angle ZYX (3) Angle Y	(1) $\angle XYZ$ (2) $\angle ZYX$ (3) $\angle Y$	Y	$\vec{YX}$ $\vec{YZ}$
<b>(2)</b> (1) Angle BAC (2) Angle CAB (3) Angle A	(1) $\angle BAC$ (2) $\angle CAB$ (3) $\angle A$	A	$\vec{AC}$ $\vec{AB}$

Practice 4

1. (1) Acute angle (2) Right angle (3) Obtuse angle  
(4) Right angle (5) Acute angle (6) Obtuse angle
2. (1) Right angle (2) Obtuse angle (3) Acute angle  
(4) Obtuse angle
3. (1) Acute angle (2) Obtuse angle (3) Acute angle  
(4) Obtuse angle

Practice 5

1. (1) Acute angle (2) Obtuse angle (3) Obtuse angle  
(4) Right angle (5) Obtuse angle (6) Acute angle
2. (1)  $45^\circ$ , Acute angle (2)  $90^\circ$ , Right angle (3)  $135^\circ$ , Obtuse angle  
(4)  $90^\circ$ , Right angle

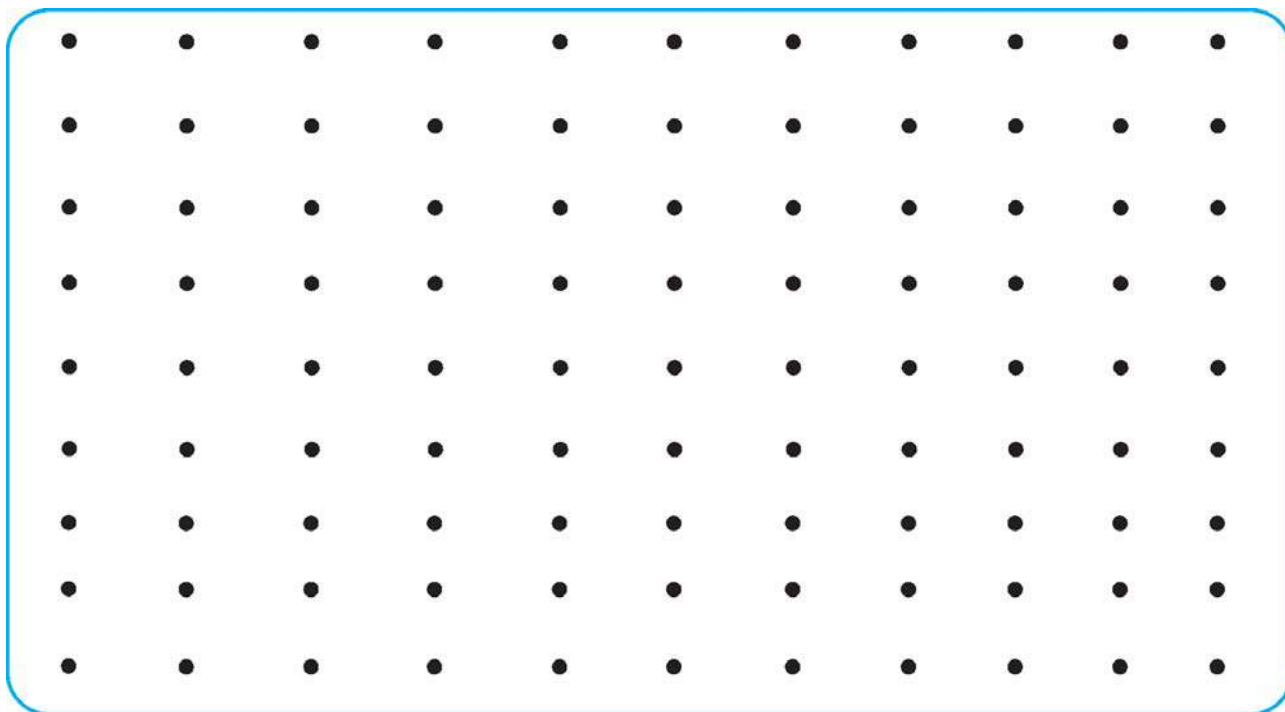
Exercise

1. (1) Y (2)  $\angle XYZ, \angle ZYX, \angle Y$  (3)  $\vec{YX}, \vec{YZ}$  (4) Acute angle
2. (1)  $\angle XYZ, \angle ZYX, \angle Y$ , Acute angle  
(2)  $\angle ABC, \angle CBA, \angle B$ , Obtuse angle  
(3)  $\angle ABC, \angle CBA, \angle B$ , Right angle  
(4)  $\angle AYC, \angle CYA, \angle Y$ , Acute angle
4. (1) Acute angle (2) Right angle (3) Obtuse angle (4) Acute angle
5. (1) b (2) b (3) d (4) c (5) a (6) c (7) d



👉 Let us recall :

- Draw a triangle, a square, a rectangle, a pentagon and a hexagon by joining points given in the box below :



- Now answer the following questions on the basis of your activity :

(1) How many line segments did you draw to draw a triangle ?

\_\_\_\_\_

(2) How many line segments did you draw to draw a square ?

\_\_\_\_\_

(3) How many line segments did you draw to draw a pentagon ?

\_\_\_\_\_

(4) How many line segments did you draw to draw a hexagon ?

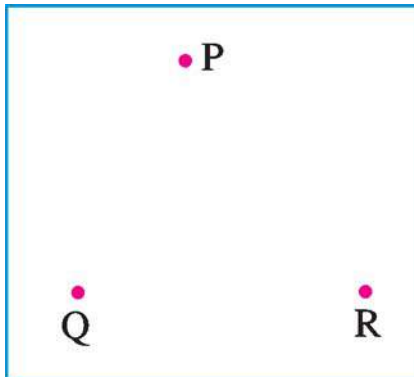
\_\_\_\_\_

(5) How many triangles did you draw in this box ?

\_\_\_\_\_

Let us learn something new :

### Activity 1 :

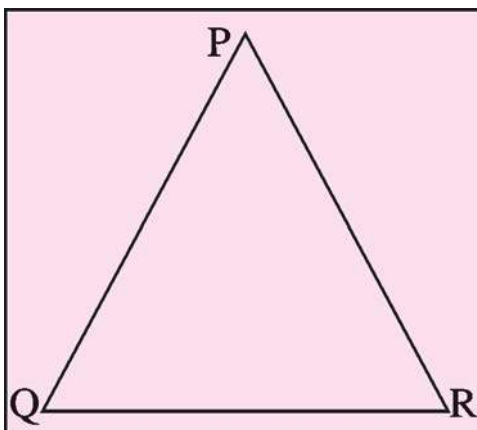


Points P, Q and R are given in the adjacent box. Draw  $\overline{PQ}$ ,  $\overline{QR}$  and  $\overline{RP}$  with the help of the scale. Which figure is formed ? Think.

Friends, a triangle has been formed ! Thus, a closed figure formed by three line segments is a triangle. Here, the triangle formed is the triangle PQR. Symbol for triangle is ' $\Delta$ '. Therefore, triangle PQR can be written as  $\Delta PQR$  in symbol.

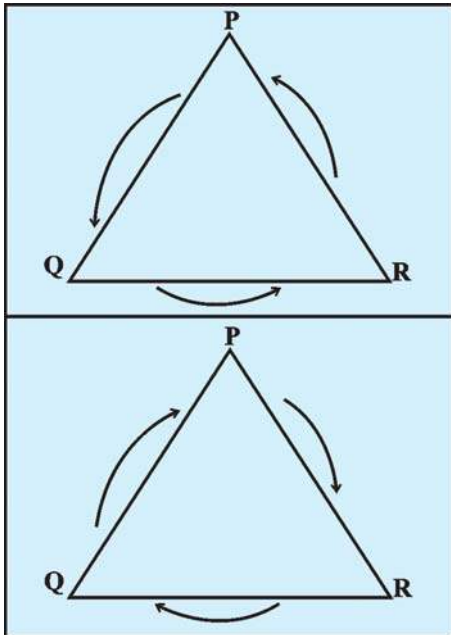
Answer the following questions based on activity 1.

- (1) How many points did you join to form  $\Delta PQR$  ? Which are they ? \_\_\_\_\_
- (2) Which line segments did you draw to form  $\Delta PQR$  ? Which are they ? \_\_\_\_\_
- (3) How many angles were formed after drawing  $\Delta PQR$  ? Which are they ? \_\_\_\_\_



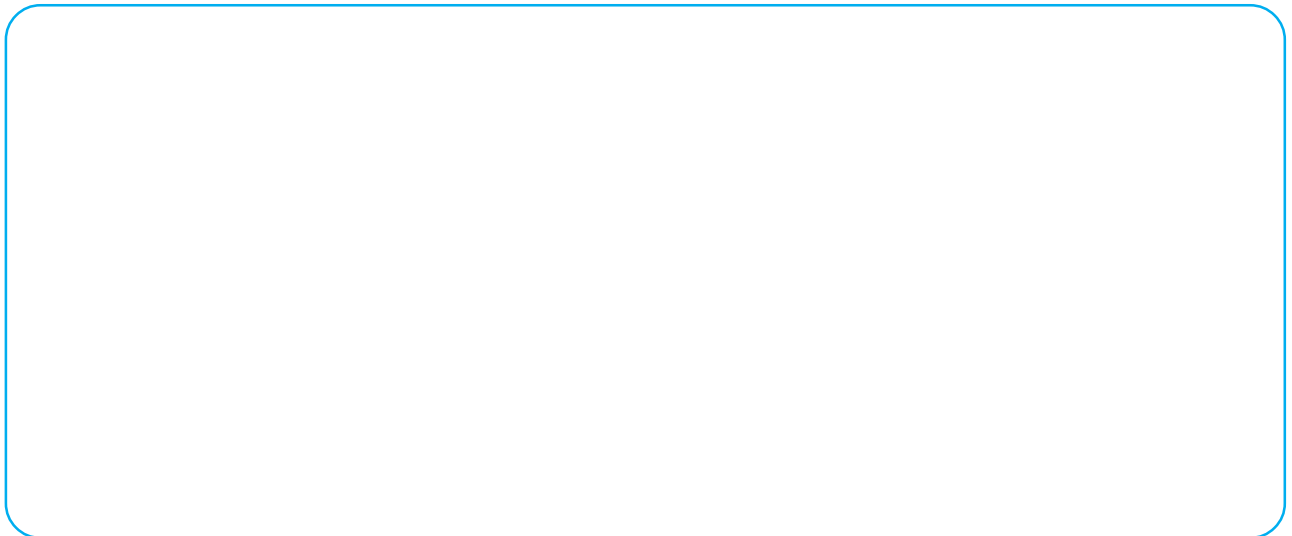
- This is a figure of  $\Delta PQR$ .
- P, Q and R are the vertices of  $\Delta PQR$ .
- $\overline{PQ}$ ,  $\overline{QR}$  and  $\overline{RP}$  are the sides of  $\Delta PQR$ .
- $\angle P$ ,  $\angle Q$  and  $\angle R$  are three angles of  $\Delta PQR$  which also can be denoted as  $\angle QPR$ ,  $\angle PQR$  and  $\angle QRP$  respectively.

- Thus, any triangle has three sides, three angles and three vertices.
- Sides and angles are parts of triangles.



- Let us understand that the name of a triangle can be written beginning with any vertex.
- From the figure it can be understood that if we start with P, the triangle is called  $\triangle PQR$  and  $\triangle PRQ$ .
- If we start with Q, the triangle is called  $\triangle QRP$  and  $\triangle QPR$ .
- If we start with R, the triangle is called  $\triangle RQP$  and  $\triangle RPQ$ .

Thus, a triangle can be named in six different ways.



- Close your eyes and plot points (dots) in the above box. Now draw a triangle by joining 3 points which are not on a straight line. Form at least 25 triangles. Fill in every triangle with different colour. Are all the triangles same ? They are not ! Thus, there are different types of triangles. Let's know more about them.

### Types of triangle :

Types of triangle can be decided in two ways :

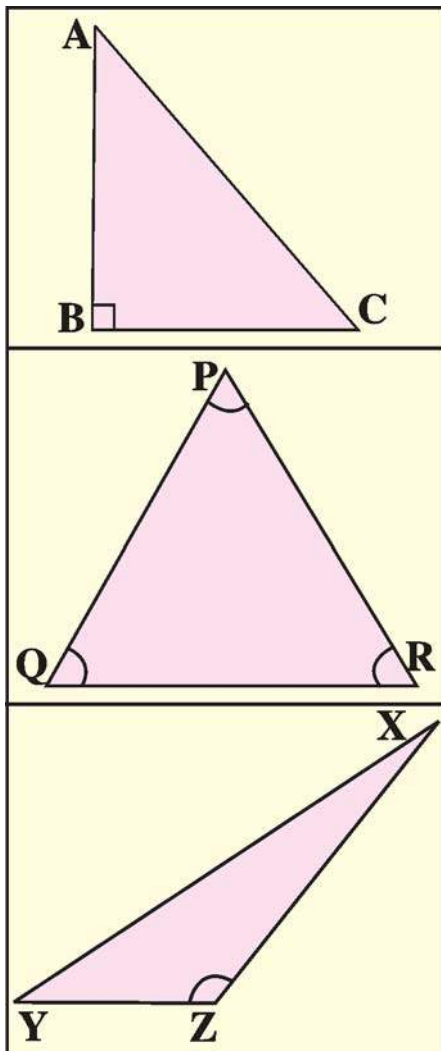
- (1) On the basis of measures of angles.
- (2) On the basis of measures of sides.

### Types of triangle on the basis of measure of angles :

There are three types of triangles on the basis of angles. Let us understand this by activity.

### Activity 2 :

Measure the angles of the triangles using protractor and fill in the blanks :



In  $\triangle ABC$ ,  $m\angle BAC =$  \_\_\_\_\_

$m\angle ABC =$  \_\_\_\_\_

$m\angle ACB =$  \_\_\_\_\_

In  $\triangle PQR$ ,  $m\angle PQR =$  \_\_\_\_\_

$m\angle QRP =$  \_\_\_\_\_

$m\angle RPQ =$  \_\_\_\_\_

In  $\triangle XYZ$ ,  $m\angle XYZ =$  \_\_\_\_\_

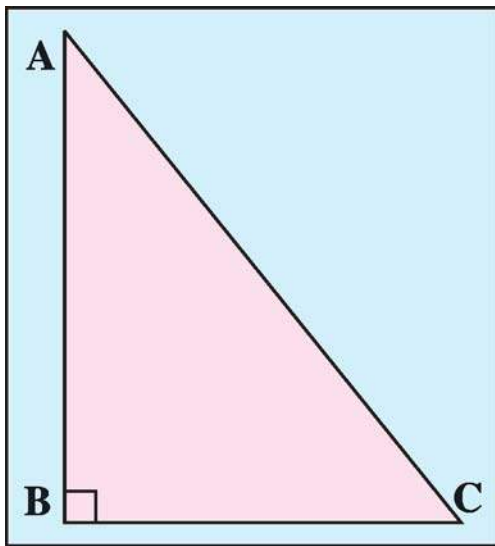
$m\angle YZX =$  \_\_\_\_\_

$m\angle ZXY =$  \_\_\_\_\_

Answer the following questions based on activity 2 :

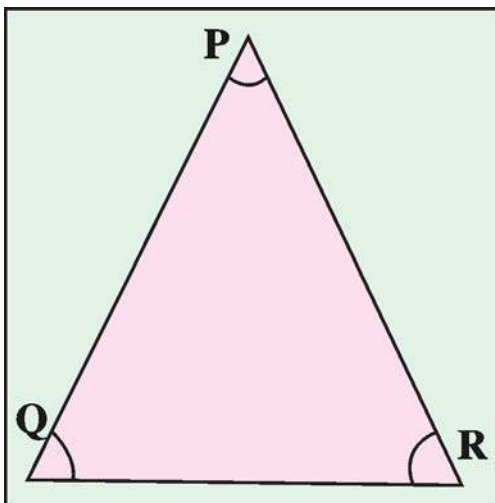
- (1) In which triangle, a right angle is formed ? \_\_\_\_\_
- (2) In which triangle, all the angles are acute ? \_\_\_\_\_
- (3) In which triangle, an obtuse angle is formed ? \_\_\_\_\_

### 1. Right angled triangle (Right Triangle) :



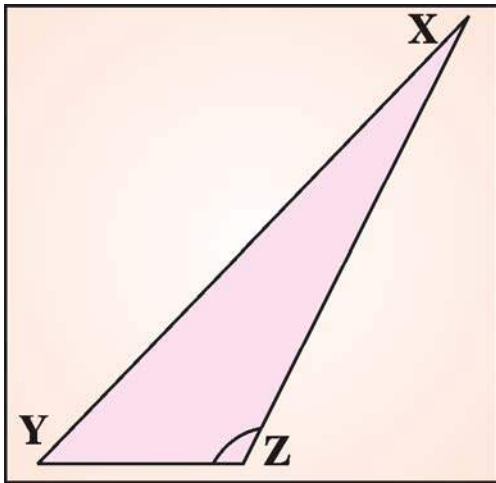
- If one angle of a triangle is a right angle; the triangle is called a right triangle or right angled triangle.
- Here in  $\triangle ABC$ ;  $\angle B$  is right angle. So,  $\triangle ABC$  is a right triangle.
- In a right triangle, the two angles other than the right angle are always acute angles. Here,  $\angle A$  and  $\angle C$  are acute angle.

### 2. Acute angled triangle :



- A triangle, in which all the three angles are acute, is called an acute angled triangle
- Here, in  $\triangle PQR$ ;  $\angle P$ ,  $\angle Q$  and  $\angle R$  are all acute angles which we understood in activity 2.
- Therefore,  $\triangle PQR$  is an acute angled triangle.

### 3. Obtuse angled triangle :



- If one angle of a triangle is an obtuse angle, the triangle is called an obtuse angled triangle.
- Here in  $\triangle XYZ$ ,  $\angle Z$  is an obtuse angle. Therefore,  $\triangle XYZ$  is an obtuse angled triangle.
- In an obtuse angled triangle, the two angles other than the obtuse angle are always acute angles. Here,  $\angle X$  and  $\angle Y$  are acute angles.

#### Practice 1

#### 1. Fill in the following blanks :

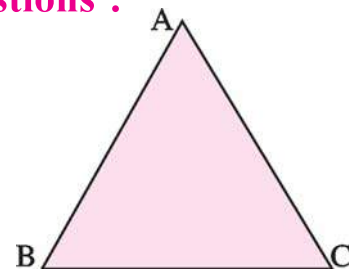
- (1) A triangle is a closed figure formed by \_\_\_\_\_ line segments.
- (2) The symbol for a triangle is \_\_\_\_\_ .
- (3) A triangle can be named in \_\_\_\_\_ different ways.
- (4) A triangle has total \_\_\_\_\_ parts.
- (5) In a right angled triangle \_\_\_\_\_ angles are acute angles.

#### 2. Write the name and type of triangle as per the measures given below :

- (1)  $m\angle A = 30^\circ$ ,  $m\angle B = 90^\circ$ ,  $m\angle C = 60^\circ$
- (2)  $m\angle G = 120^\circ$ ,  $m\angle B = 25^\circ$ ,  $m\angle P = 35^\circ$
- (3)  $m\angle D = 60^\circ$ ,  $m\angle E = 60^\circ$ ,  $m\angle F = 60^\circ$
- (4)  $m\angle X = 72^\circ$ ,  $m\angle Y = 28^\circ$ ,  $m\angle Z = 80^\circ$

#### 3. See the figure below and answer the following questions :

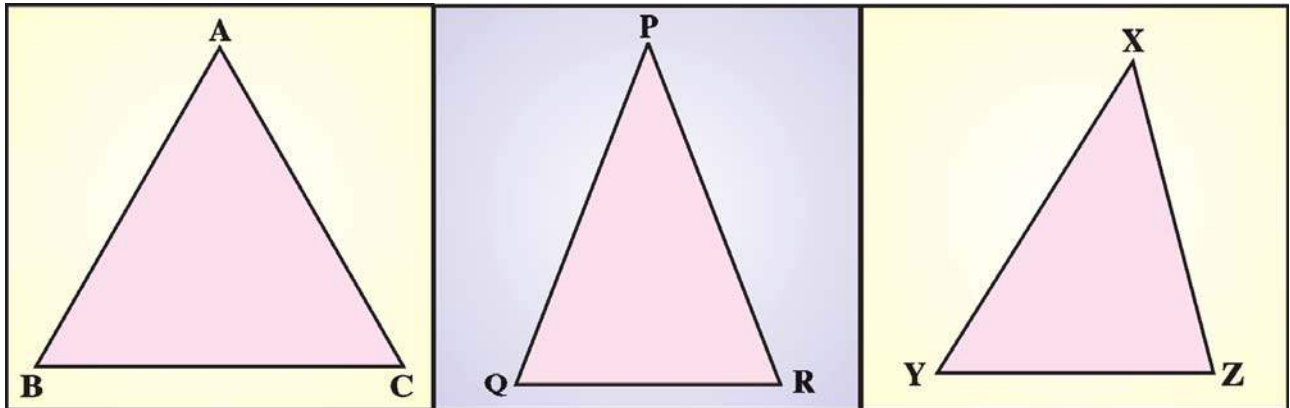
- (1) Write any two vertices of  $\triangle ABC$ .
- (2) Express  $\triangle ABC$  in two different ways.
- (3) Write any two parts of  $\triangle ABC$ .



**Types of triangle according to measures of sides :**

Let us understand that on the basis of measures of sides there are three types of triangle.

**Activity 3 :**



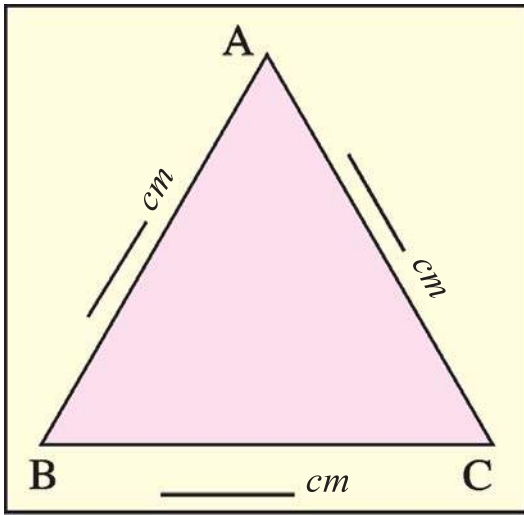
**Fill in the following blanks by measuring the sides of triangle using a scale :**

- In  $\triangle ABC$ ;  $AB =$  \_\_\_\_\_,  $BC =$  \_\_\_\_\_,  $AC =$  \_\_\_\_\_.
- In  $\triangle PQR$ ;  $PQ =$  \_\_\_\_\_,  $QR =$  \_\_\_\_\_,  $PR =$  \_\_\_\_\_.
- In  $\triangle XYZ$ ;  $XY =$  \_\_\_\_\_,  $YZ =$  \_\_\_\_\_,  $XZ =$  \_\_\_\_\_.

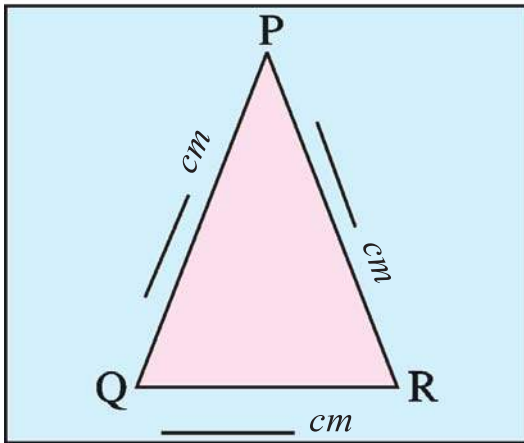
**Answer the following questions on the basis of Activity 3 :**

- (1) In which triangle, all the three sides have equal measure ? \_\_\_\_\_  
\_\_\_\_\_
- (2) In which triangle, exactly two sides have same measure ? \_\_\_\_\_  
\_\_\_\_\_
- (3) In which triangle, all the three sides have different measures ? \_\_\_\_\_  
\_\_\_\_\_

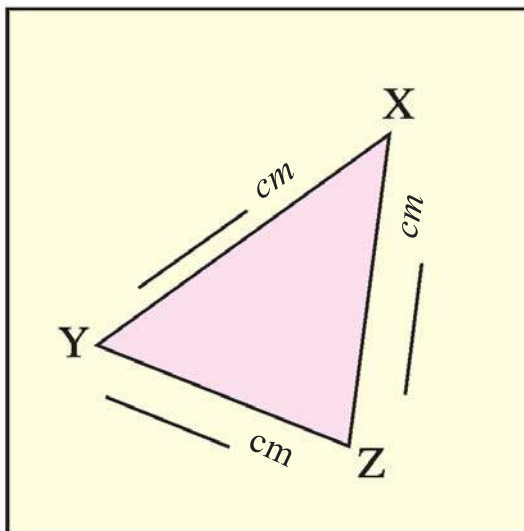
### 1. Equilateral triangle :



### 2. Isosceles triangle :



### 3. Scalene triangle :



- Using activity 3 and on the basis of measures of sides of the given triangle we come to know that in  $\triangle ABC$  all the three sides have equal measure. (length)
- Thus, a triangle whose all the three sides have same measure (length), is known as an equilateral triangle.
- Here is  $\triangle ABC$ , measures (length) of sides  $\overline{AB}$ ,  $\overline{BC}$  and  $\overline{AC}$  are equal.
- Therefore,  $\triangle ABC$  is an equilateral triangle.
- Using activity 3 and on the basis of measures of sides of the given triangle we come to know that in  $\triangle PQR$  measure (length) of  $\overline{PQ}$  and  $\overline{PR}$  are equal.
- Thus, a triangle whose any two sides have exactly same measure (length) is known as an isosceles triangle.
- Therefore,  $\triangle PQR$  is an isosceles triangle.
- Using activity 3 and on the basis of measures of sides of the given triangle we come to know that in  $\triangle XYZ$  all the three sides have different measures (length).
- Thus, a triangle whose all the three sides have different measures is called scalene triangle.
- Here measures (lengths) of  $\overline{XY}$ ,  $\overline{YZ}$ ,  $\overline{ZX}$  in  $\triangle XYZ$  are different.
- Therefore,  $\triangle XYZ$  is a scalene triangle.

**Types of triangle :**

According to measure of angle	According to measures of side
(1) Right angled triangle	(1) Equilateral triangle
(2) Acute angled triangle	(2) Isosceles triangle
(3) Obtuse angled triangle	(3) Scalene triangle

**Exercise**

**1. State whether each of the following statements is true or false :**

- (1) All the angles of obtuse angled triangle are obtuse.
- (2) All the angles of acute angled triangle are equal.
- (3) All the sides of equilateral triangle have same measure (length).
- (4) Measures (lengths) of two sides of isosceles triangle are equal.

**2. Draw any one triangle and write the type of triangle on the basis of its sides and on the basis of measures of angles.**

**3. Draw an isosceles triangle and write the measures (lengths) of its sides :**

4. Write the type of triangle on the basis of the measures (lengths) of sides of  $\triangle ABC$ .

(1)  $AB = 6 \text{ cm}$ ;  $BC = 7 \text{ cm}$ ,  $AC = 6 \text{ cm}$

(2)  $AB = 5 \text{ cm}$ ;  $BC = 5 \text{ cm}$ ,  $AC = 5 \text{ cm}$

(3)  $AB = 3 \text{ cm}$ ;  $BC = 5 \text{ cm}$ ,  $AC = 4 \text{ cm}$

5. Write the type of triangle on the basis of the measures of angles of  $\triangle ABC$ .

(1)  $m\angle A = 35^\circ$ ,  $m\angle B = 65^\circ$ ,  $m\angle C = 80^\circ$

(2)  $m\angle A = 30^\circ$ ,  $m\angle B = 90^\circ$ ,  $m\angle C = 60^\circ$

(3)  $m\angle A = 100^\circ$ ,  $m\angle B = 40^\circ$ ,  $m\angle C = 40^\circ$



### Answers

### Practice 1

1. (1) Three (2)  $\Delta$  (3) six (4) six (5) two

2. (1) Right angled triangle,  $\triangle ABC$  (2) Obtuse angled triangle,  $\triangle GBP$

(3) Acute angled triangle,  $\triangle DEF$  (4) Acute angled triangle,  $\triangle XYZ$

### Exercise

1. (1) False (2) False (3) True (4) True

4. (1) Isosceles triangle (2) Equilateral triangle (3) Scalene triangle

5. (1) Acute angled triangle

(2) Right angled triangle

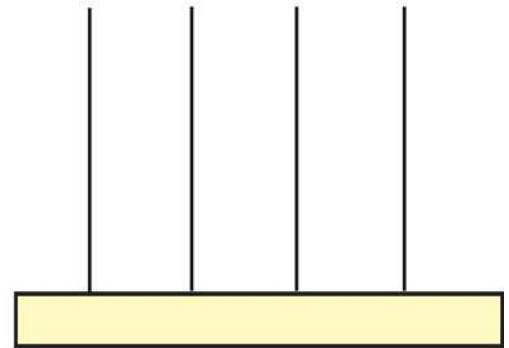
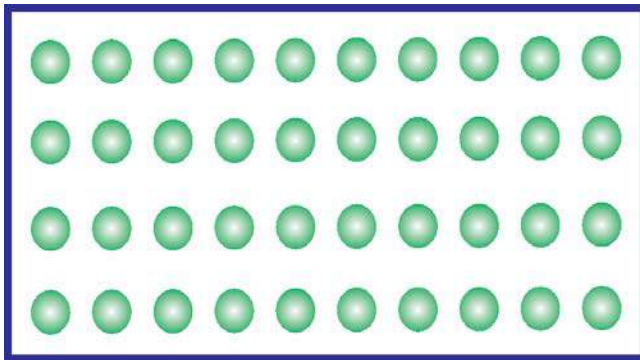
(3) Obtuse angled triangle



 Let us recall :

**Activity 1 :** Look at the pictures and understand :

(1)

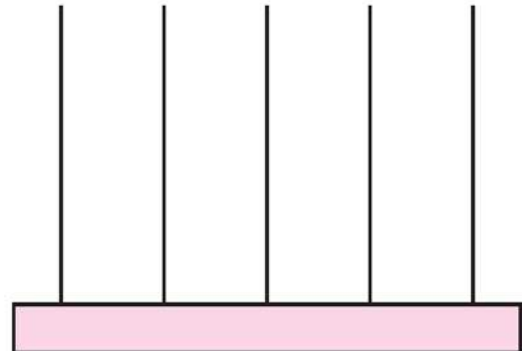
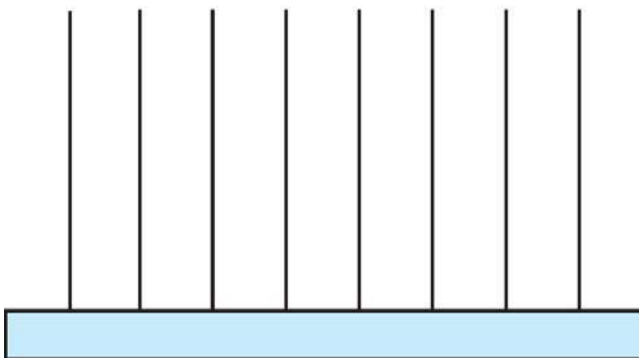


Count beads given in the box  
and draw on the rods, in such a way  
that each rod gets equal number  
of beads.

- The box has \_\_\_\_\_ beads.
- In how many equal parts have you divided beads ? \_\_\_\_\_
- Each part has \_\_\_\_\_ beads.

(2)

Friends ! Now arrange these  
beads equally in each rod in the following  
abacus in turn and understand.



**Activity 2 :** Select three colours of your choice and fill in the boxes equally with each colour :


**1. Distribute the following things to each one equally, write that number in  :**

(1) 9 pencils among 9 kids

(2) 45 kites among 5 kids

(3) 42 chocolates among 6 kids

(4) 32 sweets among 8 persons

(5) 76 bananas among 4 monkeys.

**2. Divide :**

(1)  $205 \div 5$

(2)  $264 \div 2$

(3)  $368 \div 4$

(4)  $905 \div 5$

(5)  $800 \div 8$

(6)  $675 \div 9$

**3. Evaluate :**

(1) If we distribute ₹ 100 among 10 persons; then how many rupees does each person get ?

(2) If 175 mangoes are equally distributed in 7 boxes; how many mangoes does each box contain ?

(3) How many bunches of plums can be made from 144 plums if each bunch contains 9 plums ?

(4) Akshay purchases chocolates worth ₹ 135 to distribute among his friends on his birthday. If each chocolate costs ₹ 9; how many chocolates does Akshay purchase ?

☞ Let us learn something new :

### Activity 3 :



I have brought 85 flowers in this basket. I want to make garlands with 20 flowers each. Please help me.

- She makes a garland of 20 flowers. Now  $85 - 20 = \underline{\hspace{2cm}}$  flowers are left.
- She makes a second garland of 20 flowers. Now she is left with  $\underline{\hspace{2cm}} - 20 = \underline{\hspace{2cm}}$  flowers.
- With the remaining flowers, she makes a third garland of 20 flowers. Now  $\underline{\hspace{2cm}} - 20 = \underline{\hspace{2cm}}$  flowers remain.
- Now, she makes a fourth garland of 20 flowers. She has  $\underline{\hspace{2cm}} - 20 = \underline{\hspace{2cm}}$  flowers.

☞ Think :

- (1) Now can a fifth garland be made of 20 flowers ?  $\underline{\hspace{2cm}}$
- (2) With 85 flowers, how many garlands are made ?  $\underline{\hspace{2cm}}$
- (3) How many flowers were left in the end ?  $\underline{\hspace{2cm}}$

☞ Try this :

- (1) Collect 97 stones from a play ground and distribute equally among 10 kids.
- (2) Collect and distribute 100 stones equally among 12 friends.

☞ Observe the following division and understand the difference between them :

(1)  $81 \div 3$

$$\begin{array}{r} 27 \\ 3 \overline{) 81} \\ \underline{-6} \phantom{00} \\ 21 \\ \underline{-21} \\ 00 \end{array}$$

(2)  $82 \div 3$

$$\begin{array}{r} 27 \\ 3 \overline{) 82} \\ \underline{-6} \phantom{00} \\ 22 \\ \underline{-21} \\ 01 \end{array}$$

- Nothing is left at the end in  $81 \div 3$ .
- 1 is left at the end in  $82 \div 3$ .
- **The number that remains is called the remainder.**
- In  $81 \div 3$  the remainder is '0'.
- **When zero is the remainder; the division is called the 'division without remainder'.**
- In  $82 \div 3$ ; 1 is the remainder. 82 is the **dividend**, 3 is the **divisor** and 27 is the **quotient** and 1 is the **remainder**.

### Form of Division

$$\begin{array}{r} \boxed{\text{Divisor}} \rightarrow 3 \overline{) \begin{array}{l} 27 \leftarrow \boxed{\text{Quotient}} \\ 82 \leftarrow \boxed{\text{Dividend}} \\ \underline{-6} \\ 22 \\ \underline{-21} \\ 01 \leftarrow \boxed{\text{Remainder}} \end{array}} \end{array}$$

- Remainder is always smaller than divisor.
- $81 \div 3 = 27$ , therefore  $81 = 3 \times 27$
- In 82 divided by 3, 27 is the quotient and 1 is the remainder. Therefore,  $82 = 3 \times 27 + 1$ , hence it can be said that,  
Dividend = Divisor  $\times$  Quotient + Remainder.

Practice 1

1. Denote dividend, divisor, quotient and remainder :

(1)

$$\begin{array}{r}
 16 \leftarrow \boxed{\phantom{000}} \\
 \boxed{\phantom{000}} \rightarrow 3 \overline{) 49} \leftarrow \boxed{\phantom{000}} \\
 \underline{-3} \\
 19 \\
 \underline{-18} \\
 01 \leftarrow \boxed{\phantom{000}}
 \end{array}$$

(2)

$$\begin{array}{r}
 125 \leftarrow \boxed{\phantom{000}} \\
 \boxed{\phantom{000}} \rightarrow 5 \overline{) 629} \leftarrow \boxed{\phantom{000}} \\
 \underline{-5} \\
 12 \\
 \underline{-10} \\
 29 \\
 \underline{-25} \\
 04 \leftarrow \boxed{\phantom{000}}
 \end{array}$$

2. Divide and denote dividend, divisor, quotient and remainder :

(1)  $75 \div 6$

(2)  $67 \div 2$

(3)  $95 \div 8$

(4)  $90 \div 7$

(5)  $105 \div 4$

(6)  $100 \div 3$

(7)  $208 \div 5$

(8)  $500 \div 9$

(9)  $49 \div 7$

 **Division of a three-digit number by a single-digit number :**

● **Observe and understand :**

**Example 1 :**  $946 \div 5$

$$\begin{array}{r}
 189 \\
 5 \overline{) 946} \\
 \underline{-5} \phantom{00} \\
 44 \phantom{0} \\
 \underline{-40} \phantom{0} \\
 046 \\
 \underline{-45} \\
 01
 \end{array}$$

Quotient : 189

Remainder : 1

**Example 2 :**  $629 \div 3$

$$\begin{array}{r}
 209 \\
 3 \overline{) 629} \\
 \underline{-6} \phantom{00} \\
 029 \\
 \underline{-27} \\
 02
 \end{array}$$

Quotient : 209

Remainder : 2

Let us verify whether the above answer is correct or not !

$$\begin{aligned}
 \text{Dividend} &= \text{Divisor} \times \text{Quotient} + \text{Remainder} \\
 &= 3 \times 209 + 2 \\
 &= 627 + 2 \\
 &= 629
 \end{aligned}$$

Dividend is 629 and hence the division is correct.

From now onwards, we will not put '-' sign for subtraction when subtraction is done during division operation.

**Practice 2**

**1. Divide the following and denote quotient and remainder :**

(1)  $325 \div 4$

(2)  $557 \div 8$

(3)  $574 \div 6$

(4)  $575 \div 4$

(5)  $820 \div 9$

(6)  $848 \div 5$

**2. Divide the following and verify using**

**'Dividend = Divisor  $\times$  Quotient + Remainder'.**

(1)  $564 \div 7$

(2)  $841 \div 4$

(3)  $454 \div 5$

**Division of a two-digit number by a two-digit number :**

**Observe and understand :**

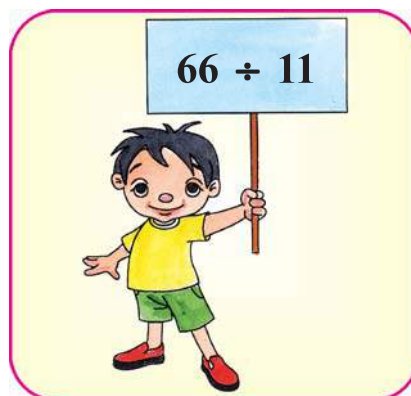


Khushi does  $66 \div 6$  as follows.

$$\begin{array}{r} 11 \\ 6 \overline{) 66} \\ \underline{6} \phantom{0} \\ 06 \\ \underline{-6} \\ 0 \end{array}$$

Quotient : .....

Remainder : .....



Help Sadik to do  $66 \div 11$ .

$$11 \overline{) 66}$$

Quotient : .....

Remainder : .....

- Which number of table does Sadik need to recite ?
- The answer is 66, if Sadik multiply  $11 \times \underline{\quad}$ .
- Think and try division yourself.

**Example 3 :  $81 \div 13$**

**Solution :**

$$\begin{array}{r} 6 \\ 13 \overline{) 81} \\ \underline{78} \\ 3 \end{array}$$

- Recite the table of 13.  
 $13 \times 1 = 13$ ,  $13 \times 2 = 26$ ,  $13 \times 3 = 39$ ,  $13 \times 4 = 52$ ,  
 $13 \times 5 = 65$ ,  $13 \times 6 = 78$ ,  $13 \times 7 = 91$ ,...
- Hence  $13 \times 7 = 91$  is greater than 81 where as  $13 \times 6 = 78$  is less than 81. Therefore, we can consider that 6 can be used as a divisor.
- Subtracting 78 from 81; remainder is 3;  
 Quotient = 6; Remainder = 3

## Practice 3

1. Divide the following and denote the quotient and the remainder :

(1)  $72 \div 12$

(2)  $56 \div 14$

(3)  $90 \div 15$

(4)  $91 \div 13$

(5)  $70 \div 14$

(6)  $82 \div 16$

(7)  $92 \div 17$

(8)  $95 \div 18$

(9)  $96 \div 19$

2. Make 5 examples of division and calculate.

\*

👉 Observe the example given here and understand :

**Example 4 :**  $\boxed{6} \times \boxed{13} + \boxed{2} = \underline{80}$

Two examples of division can be made from this.

(1)  $80 \div 6$

$$\begin{array}{r} 13 \\ 6 \overline{) 80} \\ \underline{6} \phantom{0} \\ 20 \\ \underline{18} \\ 02 \end{array}$$

Quotient : 13, Remainder 2

(2)  $80 \div 13$

$$\begin{array}{r} 6 \\ 13 \overline{) 80} \\ \underline{78} \\ 02 \end{array}$$

Quotient : 6, Remainder 2

👉 Write a single digit number in box has shown in example 4 and make examples of division and calculate : (Write smaller number in the second box than the number in first box.)

(1)  $\boxed{\phantom{0}} \times \boxed{12} + \boxed{\phantom{0}} = \underline{\hspace{2cm}}$

(2)  $\boxed{\phantom{0}} \times \boxed{15} + \boxed{\phantom{0}} = \underline{\hspace{2cm}}$

(3)  $\boxed{\phantom{0}} \times \boxed{13} + \boxed{\phantom{0}} = \underline{\hspace{2cm}}$

(4)  $\boxed{\phantom{0}} \times \boxed{16} + \boxed{\phantom{0}} = \underline{\hspace{2cm}}$

(5)  $\boxed{\phantom{0}} \times \boxed{14} + \boxed{\phantom{0}} = \underline{\hspace{2cm}}$

Consider any one number as a dividend from two numbers whose product is complete.

**✎ Division of a three-digit number by a two-digit number :**

- We have learnt division of a two-digit number by a one digit number and two-digit number.
- Similarly, let us learn to divide a three-digit number by a two-digit number.
- **Observe carefully :**

**Example 5 :**  $350 \div 14$

$$\begin{array}{r} 25 \\ 14 \overline{) 350} \\ \underline{28} \phantom{0} \\ 70 \\ \underline{70} \\ 00 \end{array}$$

Quotient : 25, Remainder : 0

**Example 2 :**  $599 \div 17$

$$\begin{array}{r} 35 \\ 17 \overline{) 599} \\ \underline{51} \phantom{0} \\ 89 \\ \underline{85} \\ 04 \end{array}$$

Quotient : 35, Remainder : 4

**Practice 4**

**1. Divide the following :**

(1)  $133 \div 12$

(2)  $304 \div 13$

(3)  $620 \div 18$

(4)  $637 \div 15$

(5)  $370 \div 16$

(6)  $415 \div 17$

**2. Divide the following :**

(1)  $312 \div 12$

(2)  $361 \div 19$

(3)  $495 \div 15$

**3. Find three mistakes in three minutes :**

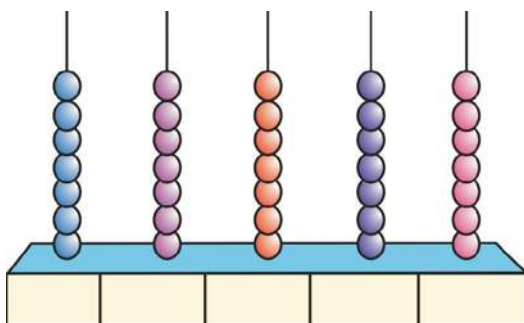
(1) 
$$\begin{array}{r} 70 \\ 3 \overline{) 240} \\ \underline{-24} \phantom{0} \\ 000 \\ \underline{-9} \\ 0 \end{array}$$

(2) 
$$\begin{array}{r} 13 \\ 3 \overline{) 309} \\ \underline{-3} \phantom{0} \\ 069 \\ \underline{-9} \\ 2 \end{array}$$

(3) 
$$\begin{array}{r} 15 \\ 7 \overline{) 735} \\ \underline{-7} \phantom{0} \\ 035 \\ \underline{-35} \\ 00 \end{array}$$

### Practical examples :

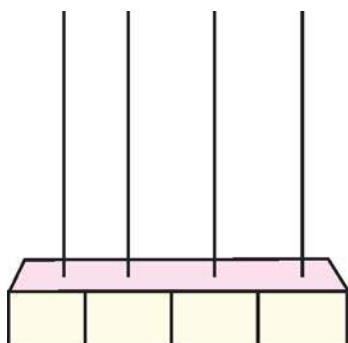
- Look at the given picture and understand :



- Here, 35 beads are equally distributed on 5 rods. Each rod has \_\_\_\_\_ beads.
- That is  $35 \div 5 = \underline{\hspace{2cm}}$ .

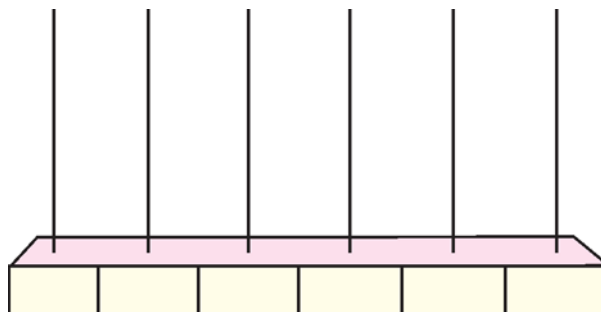
- Activity 4 :** Number of beads is written in . Distribute them equally among each rod and denote the division.

(1)  beads



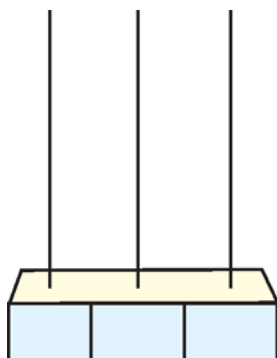
$$\boxed{24} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

(2)  beads



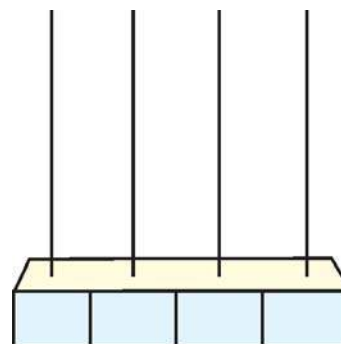
$$\boxed{48} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

(3)  beads



$$\boxed{30} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

(4)  beads



$$\boxed{28} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

● **Observe carefully :**

**Example 7 :** If 96 chocolates are equally distributed among 8 children; how many chocolates will each child get ?

(**Explanation :** To get the number of chocolates received by each child, 96 will be divided into 8 equal parts. That means 96 is to be divided by 8.)

$$\begin{array}{r} 12 \\ 8 \overline{) 96} \\ \underline{8} \phantom{00} \\ 16 \\ \underline{16} \phantom{00} \\ 00 \end{array}$$

**Here, the quotient is 12. Hence, each child gets '12' chocolates.**

**Example 8 :** If 386 marbles are equally distributed in 12 bags, at the most how many marbles will each bag contain ? How many marbles will remain after equal distribution ?

(**Explanation :** If 386 marbles are to be equally distributed in 12 bags; we have to divide 386 by 12.)

$$\begin{array}{r} 32 \\ 12 \overline{) 386} \\ \underline{36} \phantom{00} \\ 26 \\ \underline{24} \phantom{00} \\ 02 \end{array}$$

Quotient is 32, therefore each bag will contain at most 32 marbles.

Remainder is 2, therefore 2 marbles will remain.

**Each bag contains at most 32 marbles and 2 marbles will remain.**

**Practice 5**

1. Meera prepares 204 candles to sell. She packs 6 candles in a packet. How many packets will be made ?
2. In *Khel Maha Kumbh* 352 children stand in a row. If 16 children are there in each row, how many rows are formed ?
3. If 115 kites are equally distributed among 7 children; how many kites each of them will get ? How many kites will remain after the distribution ?

4. There are 435 pieces of sweets (*penda*); if each packet is to contain 12 pieces, how many packets will be made at the most and how many pieces of sweet will remain ?
5. How many necklaces, each containing 17 beads, can be made of 185 beads ? How many beads will remain ?
6. How many fortnights are there in 365 days ? How many days are left ? (1 fortnight = 15 days).

### **Unitary Method : Purchase and Sale :**

#### ● **Activity 5 :**



Disha and Sanket visited a toy shop. They asked about price of a toy. Shopkeeper told them ₹ 90 for a box of 6 toy cars and ₹ 80 for a box of 5 whistles.

1. Disha has purchased 4 toy cars and shopkeeper took ₹ 60.

**How did the shopkeeper calculate ? Let us understand.**

Price of 6 toy cars is ₹ 90.

Therefore price of 1 toy car is  $90 \div 6 = ₹ 15$

and hence price of 4 toy cars is  $15 \times 4 = ₹ 60$

Thus, he used division to find the price of one toy car. To get the cost of 4 toy cars, he multiplied it with the number of toy cars purchased. This method of finding the cost is called '**Unitary method**'.

**In the unitary method we need to do the division first and then multiplication. Thus we need two operations.**

Now find out :

2. Sanket purchased 3 whistles. How much did he pay to the shopkeeper ?

**Now, observe the following examples and understand :**

**Example 9 :** Maria gives ₹ 96 for one dozen of notebooks, what is the cost of 1 notebook ? (1 dozen = 12 pieces)

Maria purchases one dozen of notebooks. That means she has given ₹ 96 for 12 notebooks. So we have to divide 96 by 12 to know the price of one notebook.

$$96 \div 12 = 8$$

∴ The price of one notebook is ₹ 8.

$$\begin{array}{r} 8 \\ 12 \overline{) 96} \\ \underline{-96} \\ 00 \end{array}$$

**Example 10 :** Krisha makes 7 necklaces having similar number of beads out of 756 beads. How many beads does Ajay require to make 15 such necklaces ?

Total 756 beads for  
7 necklaces.

Therefore for 1 necklace  
number of beads  $756 \div 7$

$$\begin{array}{r} 108 \\ 7 \overline{) 756} \\ \underline{7} \\ 056 \\ \underline{56} \\ 00 \end{array}$$

∴ Number of beads in  
1 necklace = 108

∴ Ajay required 1620 beads to make 15 necklaces.

Now number of beads in  
1 necklace = 108

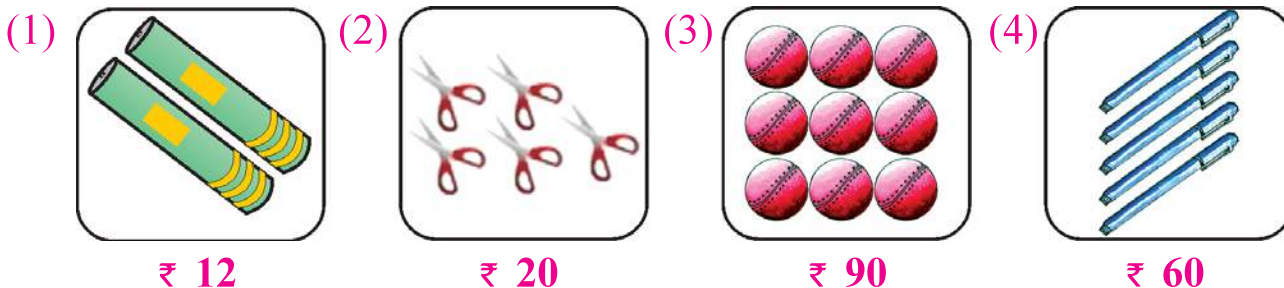
Therefore number of beads in  
15 necklaces =  $108 \times 15$

$$\begin{array}{r} 108 \\ \times 15 \\ \hline 1080 \\ 540 \\ \hline 1620 \end{array}$$

∴ Number of beads in  
15 necklaces = 1620

Practice 6

1. The price of different things are given below the pictures. Find the price of one item accordingly :



(1) \_\_\_\_\_ (2) \_\_\_\_\_ (3) \_\_\_\_\_ (4) \_\_\_\_\_

2. Krunal pays ₹ 80 for 1 score of kites. How much did he pay for 1 kite ?  
(1 score = 20 pieces)
3. Rekhaben buys 12 kg of wheat for ₹ 84. Sofia buys 4 kg of wheat for the same rate. How much will Sofia pay to the shopkeeper ?
4. A fruit merchant buys 20 boxes of oranges for ₹ 680 and after some days he buys 15 boxes for the same rate. How much he has to pay ?
5. Parag and Chinky visit a stationery shop. The cost of 1 dozen of notebooks is ₹ 120. Parag has purchased 6 notebooks and Chinky has purchased 5 notebooks. How much does Parag pay ? How much does Chinky pay ?

Practical Examples :



The celebration of independence day is going on in a primary school at Jagdupur. Teacher has sent some children for shopping. Let us understand their shopping process.

**Example 11 :** Vidhi and Chirag went to purchase festoon (*Toran*) with ₹ 1200. They purchased 35 packets for ₹ 30 per packet. How much money is left with them ?

Price of 1 packet is ₹ 30  
Therefore, price of 35 packets  
=  $35 \times ₹ 30$

$$\begin{array}{r} 35 \\ \times 30 \\ \hline 1050 \end{array}$$

∴ They did shopping for ₹ 1050.

Now, Vidhi and Chirag have ₹ 1200. So, 1050 should be subtracted from 1200.

$$\begin{array}{r} 110 \\ 1200 \text{ ₹ they had} \\ - 1050 \text{ ₹ for shopping} \\ \hline 150 \text{ ₹ left} \end{array}$$

∴ **Vidhi and Chirag are left with ₹ 150**

**Example 12 :** Amir and Rehana were sent to purchase chocolates and compass boxes for giving away prizes. They purchased 12 kg of chocolates at the price of ₹ 165 for 1 kg and compass boxes for ₹ 300. How much did they spend in all ?

First of all we have to find the price of 12 kg of chocolates and then add price of compass box to it.

₹ 165 for 1 kg of chocolate.  
Therefore 12 kg of chocolates costs  $12 \times ₹ 165$

$$\begin{array}{r} 165 \\ \times 12 \\ \hline 1650 \\ + 330 \\ \hline 1980 \end{array}$$

Now cost of chocolates is ₹ 1980  
₹ 300 have been spent for compass boxes. So, we have to add these two amounts.

$$\begin{array}{r} 1980 \text{ ₹ for chocolates} \\ + 300 \text{ ₹ for compass} \\ \hline 2280 \text{ ₹ total expenditure} \end{array}$$

**Amir and Rehana had done shopping of ₹ 2280.**

**Example 13 :** The *Sarpanch* of a village Shri Hansaben has given 425 pieces of sweet balls to distribute on Independence day. She has to keep 25 sweet balls for 'Aanganwadi' kids and remaining ones are to be equally distributed among eight classes from standard 1 to 8. How many sweet balls does each class get ?

From 425 sweet balls, 25 sweet balls are kept for 'Aanganwadi' kids. Therefore,  $425 - 25$  are to be distributed.

$$\begin{array}{r} 425 \text{ sweet balls are there} \\ - 25 \text{ sweet balls are kept for Aanganwadi kids} \\ \hline 400 \text{ sweet balls remain} \end{array}$$

Now, these 400 sweet balls are to be divided into 8 equal parts. Therefore,  $400 \div 8$  has to be done.

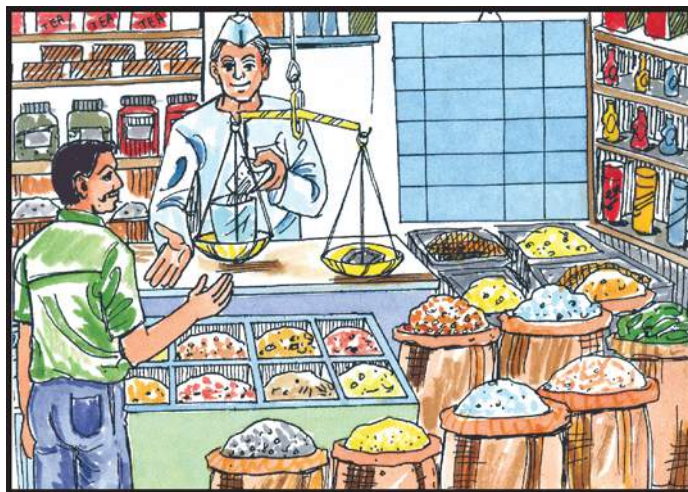
$$\begin{array}{r} 50 \\ 8 \overline{) 400} \\ \underline{40} \\ 000 \end{array}$$

**Thus, each class gets 50 sweet balls.**

### Practice 7

1. Sonal buys 6 litre of milk at the rate of ₹ 35 per litre. She gives a currency note of ₹ 500 to a milkman. How much money will she get back ?
2. Jitendrabhai has purchased 24 *kg* rice at ₹ 35 per *kg*. He gave ₹ 1000 to a shopkeeper. How much money will he get back ?
3. Bakula bought 11 sarees worth ₹ 735 per saree and a dress worth ₹ 800. How much did she spend ?
4. Arifbhai has purchased 4 chairs ₹ 350 per chair and a table worth ₹ 900. How much did he spend ?
5. Nileshbhai has ₹ 2500. He keeps ₹ 700 for himself and distributes the remaining amount equally among his three daughters. How much money does each daughter get ?
6. Hemant has purchased 15 compasses for ₹ 300 and has given 10 compasses to Jagruti at the same rate. How much money does Hemant have to take from Jagruti ?

## Exercise



## Purchase Bill

Order	Thing	Quantity	Price (₹)
1.	Sugar	5 kg	160
2.	Rice	10 kg	350
3.	Besan	5 kg	310
4.	Groundnut oil	15 kg	1290
5.	Ghee	1 kg	—

1. Gunvantbhai has visited a grocery shop with ₹ 1000 in his wallet. He purchased 4 kg of sugar and 10 kg of rice. How much money is left with him now ?
2. Nazmaben has purchased 12 kg of groundnut oil and 5 kg of besan from the same shop. Then how much money does she spent ?
3. Malvikaben had ₹ 2690. She purchased 10 kg of groundnut oil and she purchased 6 kg of ghee from the remaining amount. Then what is the price of 1 kg of ghee ?

**Make a puzzle of shopping process of one or two things and find out the solution yourselves.**



## Answers

## Practice 1

1. (1) Dividend : 49, Divisor : 3, Quotient : 16, Remainder : 1  
(2) Dividend : 629, Divisor : 5, Quotient : 125, Remainder : 4
2. (1) Dividend : 75, Divisor : 6, Quotient : 12, Remainder : 3  
(2) Dividend : 67, Divisor : 2, Quotient : 33, Remainder : 1  
(3) Dividend : 95, Divisor : 8, Quotient : 11, Remainder : 7  
(4) Dividend : 90, Divisor : 7, Quotient : 12, Remainder : 6  
(5) Dividend : 105, Divisor : 4, Quotient : 26, Remainder : 1  
(6) Dividend : 100, Divisor : 3, Quotient : 33, Remainder : 1  
(7) Dividend : 208, Divisor : 5, Quotient : 41, Remainder : 3  
(8) Dividend : 500, Divisor : 9, Quotient : 55, Remainder : 5  
(9) Dividend : 49, Divisor : 7, Quotient : 7, Remainder : 0

## Practice 2

1. (1) Quotient : 81, Remainder : 1 | (2) Quotient : 69, Remainder : 5  
(3) Quotient : 95, Remainder : 4 | (4) Quotient : 143, Remainder : 3  
(5) Quotient : 91, Remainder : 1 | (6) Quotient : 169, Remainder : 3
2. (1) Quotient : 80, Remainder : 4 | (2) Quotient : 210, Remainder : 1  
(3) Quotient : 90, Remainder : 4

## Practice 3

1. (1) Quotient : 6, Remainder : 0 | (2) Quotient : 4, Remainder : 0  
(3) Quotient : 6, Remainder : 0 | (4) Quotient : 7, Remainder : 0  
(5) Quotient : 5, Remainder : 0 | (6) Quotient : 5, Remainder : 2  
(7) Quotient : 5, Remainder : 7 | (8) Quotient : 5, Remainder : 5  
(9) Quotient : 5, Remainder : 1

**Practice 4**

1. (1) Quotient : 11, Remainder : 1    (2) Quotient : 23, Remainder : 5  
(3) Quotient : 34, Remainder : 8    (4) Quotient : 42, Remainder : 7  
(5) Quotient : 23, Remainder : 2    (6) Quotient : 24, Remainder : 7
2. (1) 26    (2) 19    (3) 33

**Practice 5**

1. 34 packets    2. 22 rows    3. 16 kites, 3 kites remain  
4. 36 boxes, 3 pieces of sweet    5. 10 necklaces, 15 beads remain  
6. 24 fortnight, 5 days

**Practice 6**

2. ₹ 4    3. ₹ 28    4. ₹ 510    5. ₹ 60, ₹ 50

**Practice 7**

1. ₹ 290    2. ₹ 160    3. ₹ 8885    4. ₹ 2300  
5. ₹ 600    6. ₹ 200

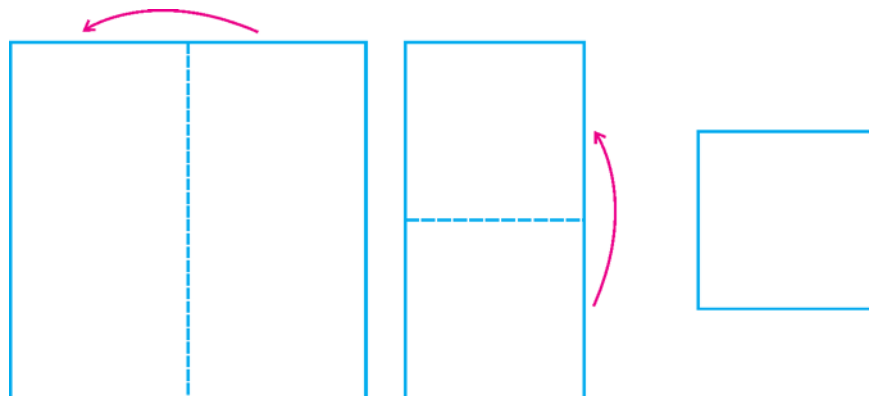
**Exercise**

1. ₹ 522    2. ₹ 1342    3. ₹ 305



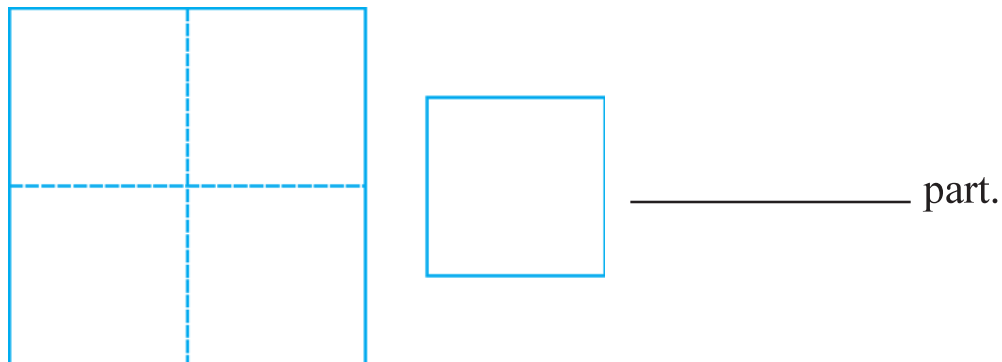
### Activity 1 : Folding work

- Take out a paper from the notebook and fold it as shown in the figure below :

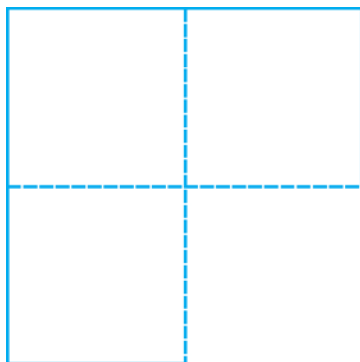


Now, unfold the paper and see. How many parts is the paper divided into ? \_\_\_\_\_

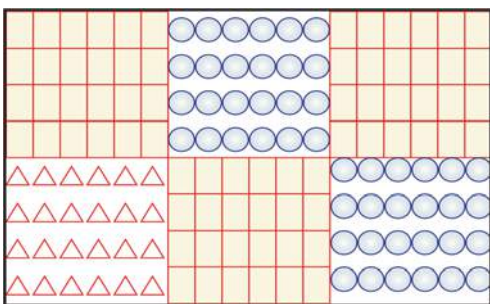
Now, cut  $\frac{1}{4}$ th part from that paper. (i.e. cut the fourth part)



Now, fill in green colour in one of the parts of the remaining paper :



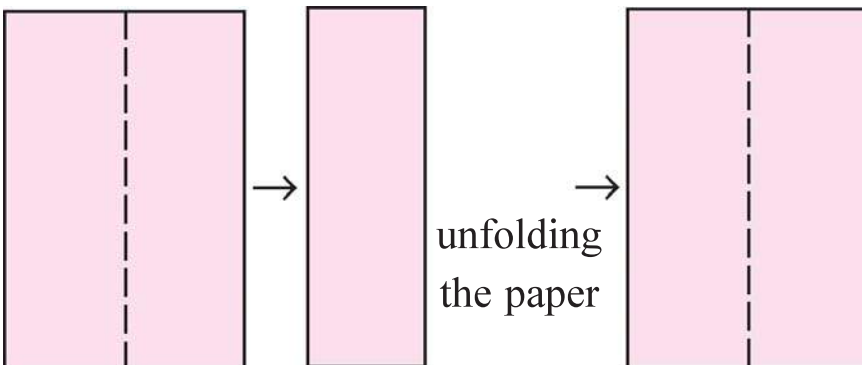
- Write green part in fraction. \_\_\_\_\_
- Write white part in fraction. \_\_\_\_\_



- (1) This rectangle is divided into \_\_\_\_\_ equal parts.
- (2) In how many parts  $\bigcirc$  are there ? \_\_\_\_\_
- (3) In how many parts  $\triangle$  are there ? \_\_\_\_\_
- (4) In how many parts  $\square$  are there ? \_\_\_\_\_

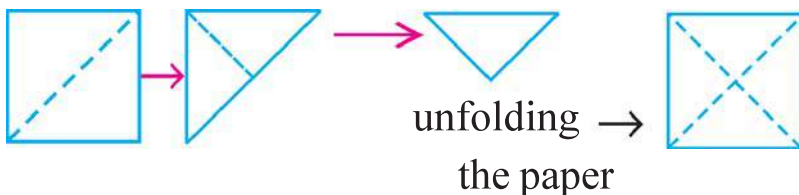
### Activity 2 :

- If we fold a paper in such a way that it divides it into two equal parts, then...



Each part shows \_\_\_\_\_ part of the paper.

- If we fold a square paper in such a way that it divides it into four equal parts, then...



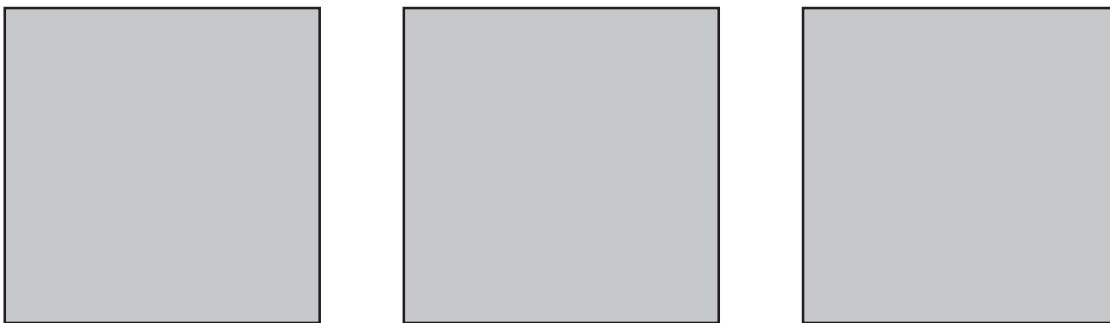
Each part shows \_\_\_\_\_ part of the paper .

- Now, fold a square paper three times in such a way that it divides the paper in equal parts.
- Unfold the paper and see. Each part shows \_\_\_\_\_ part of the paper .
- Fold a paper four times in such a way that it divides the paper in equal parts. Now each part shows \_\_\_\_\_ part of the paper .

In  $\frac{1}{2}$ , 1 is numerator of fraction and 2 is denominator of fraction.  $\frac{1}{2}$  means one part out of two equal parts.

- In  $\frac{1}{4}$ , \_\_\_\_\_ is numerator and \_\_\_\_\_ is denominator.
- In  $\frac{3}{16}$ , \_\_\_\_\_ is numerator and \_\_\_\_\_ is denominator.

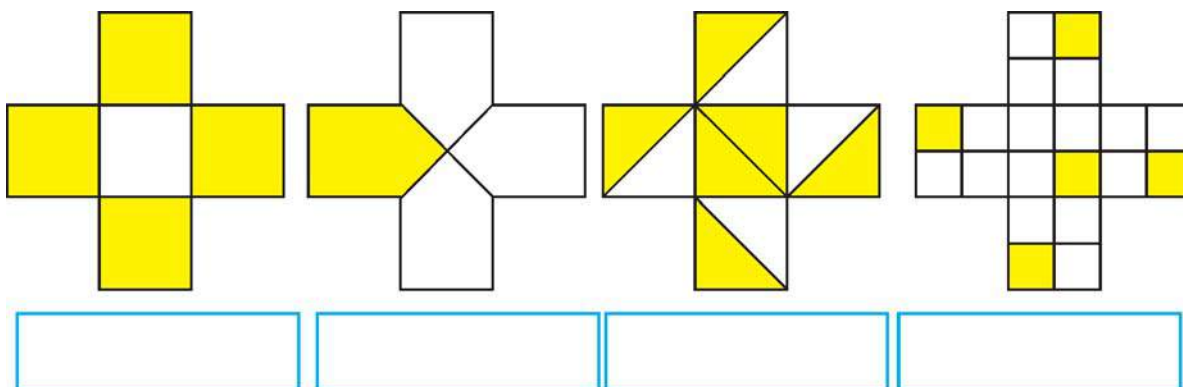
**Activity 3 :** Take three papers of similar shape and size.



- Fold each paper in such a way that it divides it into four equal parts.
- Fill in colour in one part of the first paper, in two parts of the second paper and in three parts of the third paper.
- Write the coloured part in fraction.
- The coloured part of the first paper is \_\_\_\_\_ .
- The coloured part of the second paper is \_\_\_\_\_ .
- The coloured part of the third paper is \_\_\_\_\_ .

**Here, denominators of each fraction are same. So, these fractions are known as like fractions.** e.g.  $\frac{1}{4}$ ,  $\frac{2}{4}$ ,  $\frac{3}{4}$  are like fractions.

Write the coloured part in fraction form from the following figure :



Here, observe the denominator of the fraction written by you. Here, the denominator of any fraction is not same. Therefore, these fractions are called unlike fractions.  $\frac{4}{7}$ ,  $\frac{12}{13}$ ,  $\frac{7}{20}$ ,  $\frac{6}{11}$ ,  $\frac{5}{9}$  and  $\frac{9}{19}$  are unlike fractions.

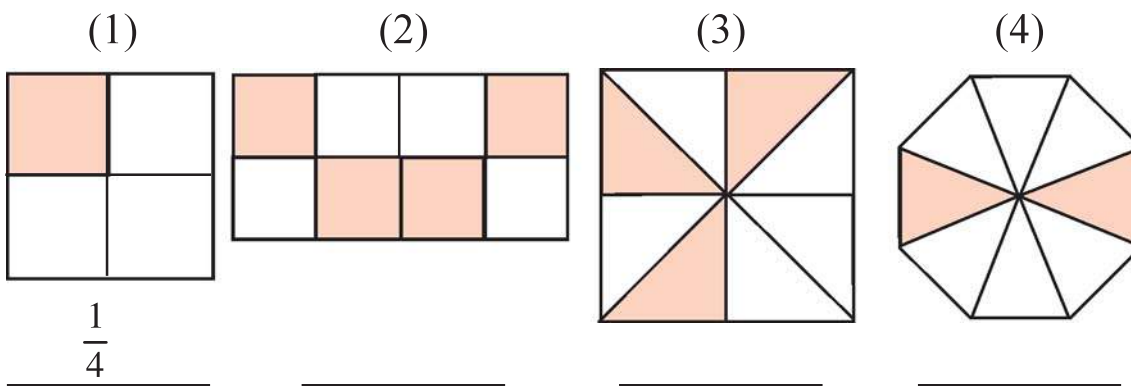
 **Reading a fraction :**

Fraction	Fraction read	
$\frac{1}{2}$	Half	One upon two
$\frac{2}{3}$	Two third	Two upon three
$\frac{3}{4}$	Three fourth	Three upon four
$\frac{4}{5}$	Four fifth	Four upon five
$\frac{1}{6}$	One sixth	One upon six
$\frac{3}{7}$	Three seventh	Three upon seven
$\frac{7}{8}$	Seven eighth	Seven upon eight
$\frac{5}{9}$	Five ninth	Five upon nine
$\frac{9}{10}$	Nine tenth	Nine upon ten
$\frac{6}{11}$	Six eleventh	Six upon eleven
$\frac{5}{13}$	Five thirteenth	Five upon thirteen
$\frac{9}{14}$	Nine fourteenth	Nine upon fourteen
$\frac{13}{15}$	Thirteen fifteenth	Thirteen upon fifteen
$\frac{5}{16}$	Five sixteenth	Five upon sixteen

$\frac{15}{17}$	Fifteen seventeenth	_____
$\frac{1}{18}$	One eighteenth	_____
$\frac{3}{19}$	Three nineteenth	_____
$\frac{17}{20}$	_____	_____

Practice 1

- Write any five fractions. Write numerator and denominator of each fraction.
- Write the coloured part of the following figure in fraction :



- Classify :

$\frac{7}{10}$  and  $\frac{1}{6}$ ,  $\frac{2}{9}$  and  $\frac{7}{9}$ ,  $\frac{3}{8}$  and  $\frac{5}{8}$ ,  $\frac{5}{7}$  and  $\frac{4}{9}$ ,  $\frac{6}{7}$  and  $\frac{2}{7}$

Like fractions	Unlike fractions

- Write five fractions written by your friend. Now, write those fractions in words.

### Activity 4 :

- Take four rectangular paper stripes of equal measure.
- Now, fold each stripe in such a way that it is divided into two equal parts.
- Fill orange colour in one part of each of four stripes.
- Now, fold the stripes as per the following instructions and write answers :

Fold	Unfolding the stripes	Write coloured part in fraction
<ul style="list-style-type: none"> <li>Fold it so that it makes two equal parts.</li> </ul>		_____
<ul style="list-style-type: none"> <li>Fold it so that it makes four equal parts.</li> </ul>		_____
<ul style="list-style-type: none"> <li>Fold it so that it makes eight equal parts.</li> </ul>		_____
<ul style="list-style-type: none"> <li>Fold it so that it makes sixteen equal parts.</li> </ul>		_____

Now see, each part  $\frac{1}{2}$ ,  $\frac{2}{4}$ ,  $\frac{4}{8}$  and  $\frac{8}{16}$  is equal.

See the following figure :



**Think...**

$\frac{2}{4}$  part is pink. Can we say that  $\frac{1}{2}$  part is pink ?

$\frac{1}{2}$  and  $\frac{4}{8}$ ,  $\frac{4}{8}$  and  $\frac{8}{16}$ ,  $\frac{3}{4}$  and  $\frac{9}{12}$  are called pairs of equivalent fractions.

### Activity 5 :

- Write  $\frac{3}{5}$  in your note.
- Now, multiply that fraction by  $\frac{2}{2}$ ,  $\frac{3}{3}$ ,  $\frac{4}{4}$  etc. e.g.  $\frac{3}{5} \times \frac{2}{2} = \frac{6}{10}$ .
- What is the result ? See these types of fractions in your friend's book. The fractions that you have got and the fractions that your friend has got are called equivalent fractions.

For example,

$$\frac{2}{3} \times \frac{1}{1} = \frac{2}{3}$$

$$\frac{2}{3} \times \frac{2}{2} = \frac{4}{6}$$

$$\frac{2}{3} \times \frac{3}{3} = \frac{6}{9}$$

$$\frac{2}{3} \times \frac{4}{4} = \frac{8}{12}$$

$$\frac{2}{3} \times \frac{5}{5} = \frac{10}{15} \quad \text{Thus, } \frac{2}{3}, \frac{4}{6}, \frac{6}{9}, \frac{8}{12} \text{ and } \frac{10}{15} \text{ are equivalent fractions.}$$

To obtain equivalent fractions, multiply fraction by 1. Here, expression of 1 is  $\frac{2}{2}, \frac{3}{3}, \frac{4}{4}, \frac{5}{5}, \dots$  etc.

For example,

$$\frac{2}{5} \times 1 = \frac{2}{5}$$

$$\frac{2}{5} \times \frac{2}{2} = \frac{4}{10} \quad (\text{Expression for 1 is taken as } \frac{2}{2})$$

$$\frac{2}{5} \times \frac{3}{3} = \frac{6}{15} \quad (\text{Expression for 1 is taken as } \frac{3}{3})$$

$$\text{Thus, } \frac{2}{5}, \frac{4}{10} \text{ and } \frac{6}{15} \text{ are equivalent fractions.}$$

### Activity 6 :

#### Game :

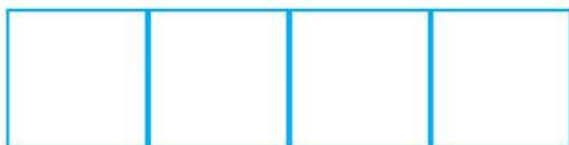
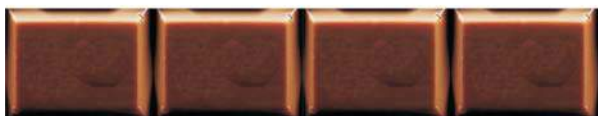
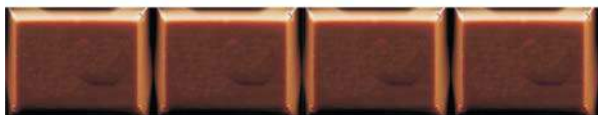
(1)

$\frac{2}{3}$	$\frac{1}{2}$	$\frac{3}{4}$
$\frac{1}{4}$	$\frac{1}{5}$	$\frac{2}{5}$
$\frac{1}{6}$	$\frac{3}{5}$	$\frac{5}{6}$

- Take any one of the  $\boxed{1}$  ,  $\boxed{2}$  or  $\boxed{3}$  numbered chits and drop it on the table beside.
- Examine which numbered chit falls on which fraction. Multiply the numerator and the denominator of that fraction with that number.
- In this way, obtain two equivalent fractions of all three chits in turn. A player who obtains two equivalent fractions first, is considered a winner.

(2) Obtain two equivalent fractions of  $\frac{2}{7}$  and  $\frac{4}{5}$ .

### Activity 7 :



- If Hema eats 1 piece out of 4 equal pieces of a chocolate, then it can be said that she ate  $\frac{1}{4}$  of the chocolate.
- If Khushi eats 2 pieces out of 4 equal pieces of a chocolate, then it can be said that she ate  $\frac{2}{4}$  of the chocolate.
- If Kavya eats 3 pieces out of 4 equal pieces of a chocolate, then it can be said that she ate  $\frac{3}{4}$  of the chocolate.

- If Mushkan eats 4 pieces of 4 equal pieces of a chocolate, then it can be said that she ate 1 chocolate.
- If Akbar eats 4 equal pieces of a chocolate and 1 piece of another chocolate of the same size, then it can be said that he ate  $\frac{5}{4}$  chocolates.
- If Tony eats 11 pieces like this, then it can be said that he ate  $\frac{11}{4}$  chocolates.

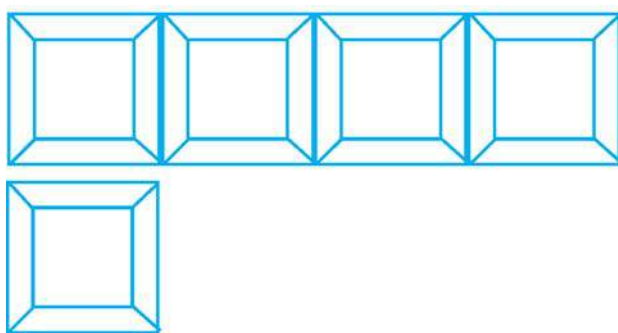
Now say, who ate less than one chocolate and who ate more than one chocolate ?

- $\frac{1}{4}$ ,  $\frac{2}{4}$  and  $\frac{3}{4}$  are fractions less than 1.
- $\frac{5}{4}$  and  $\frac{11}{4}$  are fractions greater than 1.
- $\frac{4}{4}$  is not a fraction, because  $\frac{4}{4} = 1$  is a whole number.

- Fraction which is less than 1 is called a proper fraction.
- Fraction which is greater than 1 is called an improper fraction.

If Akbar ate 5 pieces of a chocolate, it means he ate  $\frac{5}{4}$  chocolates. He ate 1 whole chocolate and  $\frac{1}{4}$  of the other chocolate. He ate  $\frac{5}{4} = \frac{4}{4} + \frac{1}{4} = 1 + \frac{1}{4} = 1\frac{1}{4}$  chocolates. Understand,  $\frac{5}{4} = 1$  whole +  $\frac{1}{4} = 1\frac{1}{4}$ . Read : 1 integer and one fourth.  $\frac{11}{4} = 2$  whole +  $\frac{3}{4} = 2\frac{3}{4}$ . Read : 2 integer and three fourth.

$1\frac{1}{2}$ ,  $2\frac{3}{4}$  are called mixed fractions.



1 chocolate

$\frac{1}{4}$  chocolate

$1 + \frac{1}{4} = 1\frac{1}{4}$  chocolates

$$\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{5}{4}$$

Conversion of improper fraction into mixed fraction.	Conversion of mixed fraction into improper fraction
<p>Convert <math>\frac{5}{4}</math> into mixed fraction.</p> $\begin{array}{r} 1 \\ 4 \overline{) 5} \\ \underline{4} \\ 1 \end{array} \rightarrow 1\frac{1}{4}$ <p>Mixed number = Quotient <math>\frac{\text{Remainder}}{\text{Divisor}}</math></p> $= 1\frac{1}{4}$	<p><b>First Method :</b></p> <p>Convert <math>1\frac{1}{5}</math> into improper fraction.</p> <p>(Expression of 1 into <math>\frac{5}{5}</math>)</p> $1 + \frac{1}{5} = \frac{5}{5} + \frac{1}{5} = \frac{6}{5}$ <p><b>Second Method :</b></p> <p>(1) <math>1\frac{1}{5} = \frac{1 \times 5 + 1}{5} = \frac{5+1}{5} = \frac{6}{5}</math></p> <p>(2) <math>2\frac{1}{4} = \frac{2 \times 4 + 1}{4} = \frac{8+1}{4} = \frac{9}{4}</math></p> <p>(3) <math>3\frac{3}{16} = \frac{3 \times 16 + 3}{16} = \frac{48+3}{16} = \frac{51}{16}</math></p>

Thus, as shown in the second method;  $1\frac{1}{5}$  means multiplying 1 and 5 we get 5, by adding 1 (numerator) to it we obtain 6. So, improper fraction  $\frac{6}{5}$  is obtained.

### Practice 2

- Classify the following fractions into proper fractions and improper fractions :

$$\frac{1}{4}, \frac{9}{4}, \frac{2}{5}, \frac{7}{2}, \frac{5}{4}, \frac{1}{6}, \frac{6}{7}, \frac{8}{3}, \frac{5}{2}, \frac{3}{7}$$

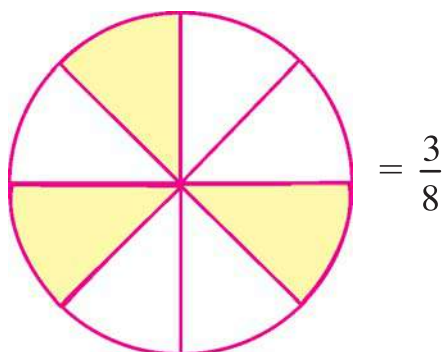
- Convert the following fractions into mixed fractions :

$$(1) \frac{5}{4} \quad (2) \frac{7}{3} \quad (3) \frac{9}{5} \quad (4) \frac{17}{8} \quad (5) \frac{27}{13}$$

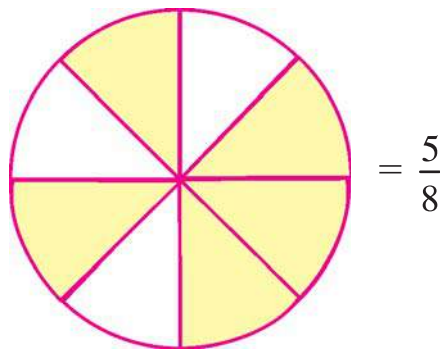
3. Convert the following mixed fractions into improper fractions :

(1)  $3\frac{2}{3}$  (2)  $2\frac{1}{3}$  (3)  $4\frac{1}{5}$  (4)  $3\frac{5}{6}$  (5)  $2\frac{7}{15}$

Rehana filled colour in three parts of the following figure :



Govind filled colour in five parts of the following figure :



Govind has filled colour in more parts than Rehana did. So,  $\frac{5}{8}$  is a greater fraction than  $\frac{3}{8}$ . It is denoted symbolically as :

(1)  $\frac{3}{8} < \frac{5}{8}$  (2)  $\frac{5}{8} > \frac{3}{8}$  (Read :  $\frac{5}{8}$  is greater than  $\frac{3}{8}$ ).

If both have filled colour in equal number of parts, then...

Then it is said that both filled colours in equal part of the figure.

- Suppose both fill colour in three boxes each, then  $\frac{3}{8}$  and  $\frac{3}{8}$  are equal.

So,  $\frac{3}{8} = \frac{3}{8}$ .

Thus, when denominators of two fractions are same, then the fraction having greater numerator is called a greater fraction.

- Arranging in ascending order means, first smallest number and then the smallest from the remaining numbers and like wise.

- Arranging in descending order means, first the largest number of all numbers, then the largest number of remaining numbers and like wise.

**Example 1 :** Arrange  $\frac{2}{7}$ ,  $\frac{5}{7}$ ,  $\frac{6}{7}$  and  $\frac{4}{7}$  in ascending order.

**Explanation :** Denominators of the four fractions are same and numerators of the fractions are 2, 5, 6, 4. Arranging numerators in ascending order, we get 2, 4, 5, 6.

So,  $\frac{2}{7}$ ,  $\frac{4}{7}$ ,  $\frac{5}{7}$  and  $\frac{6}{7}$  are in ascending order.

**Example 2 :** Arrange  $\frac{5}{19}$ ,  $\frac{17}{19}$ ,  $\frac{13}{19}$ ,  $\frac{3}{19}$ ,  $\frac{11}{19}$  in descending order.

**Explanation :** Here, the denominators are same. So, arranging the numerators in descending order, we get 17, 13, 11, 5 and 3.

So,  $\frac{17}{19}$ ,  $\frac{13}{19}$ ,  $\frac{11}{19}$ ,  $\frac{5}{19}$ ,  $\frac{3}{19}$  are in descending order.

### Practice 3

1. Fill in the blanks by using proper sign =, < or > :

(1)  $\frac{3}{5}$  \_\_\_\_\_  $\frac{4}{5}$

(2)  $\frac{8}{9}$  \_\_\_\_\_  $\frac{8}{9}$

(3)  $\frac{15}{17}$  \_\_\_\_\_  $\frac{13}{17}$

(4)  $\frac{3}{19}$  \_\_\_\_\_  $\frac{17}{19}$

(5)  $\frac{19}{20}$  \_\_\_\_\_  $\frac{11}{20}$

(6)  $\frac{7}{12}$  \_\_\_\_\_  $\frac{9}{12}$

**2. Arrange the following fractions in ascending order :**

(1)  $\frac{4}{5}, \frac{2}{5}, \frac{3}{5}$     (2)  $\frac{7}{9}, \frac{1}{9}, \frac{8}{9}, \frac{4}{9}$     (3)  $\frac{5}{11}, \frac{10}{11}, \frac{9}{11}, \frac{3}{11}, \frac{7}{11}$

**3. Arrange the following fractions in descending order :**

(1)  $\frac{7}{12}, \frac{5}{12}, \frac{9}{12}$     (2)  $\frac{5}{18}, \frac{11}{18}, \frac{7}{18}, \frac{17}{18}$     (3)  $\frac{11}{14}, \frac{3}{14}, \frac{9}{14}, \frac{13}{14}, \frac{5}{14}$

**Exercise**

**1. Fill in the blanks to make the sentence correct :**

- (1) In  $\frac{3}{8}$  \_\_\_\_\_ is the numerator and \_\_\_\_\_ is the denominator.
- (2)  $\frac{3}{7}$  and  $\frac{5}{7}$  are \_\_\_\_\_ and \_\_\_\_\_ fractions.
- (3)  $\frac{3}{11}$  and  $\frac{5}{9}$  are \_\_\_\_\_ and \_\_\_\_\_ fractions.
- (4) \_\_\_\_\_ and  $\frac{8}{5}$  are \_\_\_\_\_ and \_\_\_\_\_ fractions.
- (5) Out of  $1\frac{2}{3}$ ,  $\frac{4}{7}$  and  $\frac{11}{9}$  \_\_\_\_\_ is/are proper fraction/s and \_\_\_\_\_ is/are mixed fraction/s.

**2. Your friend will dictate 10 fractions to you. Classify these fractions into like fractions and unlike fractions.**

**3. Obtain two equivalent fractions of following fractions :**

(1)  $\frac{2}{3}$     (2)  $\frac{3}{5}$     (3)  $\frac{5}{6}$     (4)  $\frac{3}{4}$

4. Classify the following fractions into proper fractions and improper fractions :

$$\frac{7}{5}, \frac{3}{4}, \frac{5}{7}, \frac{9}{4}, \frac{12}{13}, \frac{14}{17}, \frac{25}{11}, \frac{1}{9}, \frac{10}{7}, \frac{26}{16}, \frac{19}{20}$$

5. Convert the following fractions into mixed numbers :

$$(1) \frac{7}{2} \quad (2) \frac{8}{3} \quad (3) \frac{17}{5} \quad (4) \frac{17}{9} \quad (5) \frac{39}{17}$$

6. Convert the following mixed numbers into improper fractions :

$$(1) 2\frac{1}{2} \quad (2) 4\frac{2}{3} \quad (3) 7\frac{2}{5} \quad (4) 3\frac{9}{11} \quad (5) 2\frac{11}{16}$$

7. Put proper sign from =, < or > in between the following fractions :

$$(1) \frac{3}{7} \text{ ————— } \frac{5}{7}$$

$$(2) \frac{13}{20} \text{ ————— } \frac{13}{20}$$

$$(3) \frac{7}{13} \text{ ————— } \frac{6}{13}$$

$$(4) \frac{5}{18} \text{ ————— } \frac{17}{18}$$

8. Arrange the following fractions into ascending order :

$$(1) \frac{3}{11}, \frac{9}{11}, \frac{6}{11}, \frac{2}{11}$$

$$(2) \frac{9}{13}, \frac{7}{13}, \frac{11}{13}, \frac{6}{13}, \frac{2}{13}$$

9. Arrange the following fractions into descending order :

$$(1) \frac{9}{16}, \frac{7}{16}, \frac{5}{16}, \frac{13}{16}, \frac{3}{16}$$

$$(2) \frac{5}{19}, \frac{6}{19}, \frac{17}{19}, \frac{12}{19}, \frac{3}{19}$$

10. Draw 20 equal sized square boxes in your notebook; now, fill red colour in 5 boxes, yellow in 7 boxes and green in 8 boxes. How much part of the figure each colour is ? Write down in your notebook.



## Answers

### Practice 1

$$2. \quad (2) \frac{4}{8} \quad (3) \frac{3}{8} \quad (4) \frac{2}{8}$$

3. Like fractions :  $\frac{2}{9}$  and  $\frac{7}{9}$ ,  $\frac{3}{8}$  and  $\frac{5}{8}$ ,  $\frac{6}{7}$  and  $\frac{2}{7}$

Unlike fractions :  $\frac{7}{10}$  and  $\frac{1}{6}$ ,  $\frac{5}{7}$  and  $\frac{4}{9}$

### Practice 2

1. Proper fractions :  $\frac{1}{4}$ ,  $\frac{2}{5}$ ,  $\frac{1}{6}$ ,  $\frac{6}{7}$ ,  $\frac{3}{7}$ ; Improper fractions :  $\frac{9}{4}$ ,  $\frac{7}{2}$ ,  $\frac{5}{4}$ ,  $\frac{8}{3}$ ,  $\frac{5}{2}$

2. (1)  $1\frac{1}{4}$  (2)  $2\frac{1}{3}$  (3)  $1\frac{4}{5}$  (4)  $2\frac{1}{8}$  (5)  $2\frac{1}{13}$

3. (1)  $\frac{11}{3}$  (2)  $\frac{7}{3}$  (3)  $\frac{21}{5}$  (4)  $\frac{23}{6}$  (5)  $\frac{37}{15}$

### Practice 3

1. (1)  $<$  (2)  $=$  (3)  $>$  (4)  $<$  (5)  $>$  (6)  $<$

2. (1)  $\frac{2}{5}$ ,  $\frac{3}{5}$ ,  $\frac{4}{5}$  (2)  $\frac{1}{9}$ ,  $\frac{4}{9}$ ,  $\frac{7}{9}$ ,  $\frac{8}{9}$  (3)  $\frac{3}{11}$ ,  $\frac{5}{11}$ ,  $\frac{7}{11}$ ,  $\frac{9}{11}$ ,  $\frac{10}{11}$

3. (1)  $\frac{9}{12}$ ,  $\frac{7}{12}$ ,  $\frac{5}{12}$  (2)  $\frac{17}{18}$ ,  $\frac{11}{18}$ ,  $\frac{7}{18}$ ,  $\frac{5}{18}$  (3)  $\frac{13}{14}$ ,  $\frac{11}{14}$ ,  $\frac{9}{14}$ ,  $\frac{5}{14}$ ,  $\frac{3}{14}$

### Exercise

1. (1) 3, 8 (2) proper, like

(3) proper, unlike

(4) Improper, like (5)  $\frac{4}{7}$ ,  $1\frac{2}{3}$

4. Proper fractions :  $\frac{3}{4}$ ,  $\frac{5}{7}$ ,  $\frac{12}{13}$ ,  $\frac{14}{17}$ ,  $\frac{1}{9}$ ,  $\frac{19}{20}$

Improper fractions :  $\frac{7}{5}$ ,  $\frac{9}{4}$ ,  $\frac{25}{11}$ ,  $\frac{10}{7}$ ,  $\frac{26}{16}$

5. (1)  $3\frac{1}{2}$  (2)  $2\frac{2}{3}$  (3)  $3\frac{2}{5}$  (4)  $1\frac{8}{9}$  (5)  $2\frac{5}{17}$

6. (1)  $\frac{5}{2}$  (2)  $\frac{14}{3}$  (3)  $\frac{37}{5}$  (4)  $\frac{42}{11}$  (5)  $\frac{43}{16}$

7. (1)  $<$  (2)  $=$  (3)  $>$  (4)  $<$

8. (1)  $\frac{2}{11}, \frac{3}{11}, \frac{6}{11}, \frac{9}{11}$  (2)  $\frac{2}{13}, \frac{6}{13}, \frac{7}{13}, \frac{9}{13}, \frac{11}{13}$

9. (1)  $\frac{13}{16}, \frac{9}{16}, \frac{7}{16}, \frac{5}{16}, \frac{3}{16}$  (2)  $\frac{17}{19}, \frac{12}{19}, \frac{6}{19}, \frac{5}{19}, \frac{3}{19}$

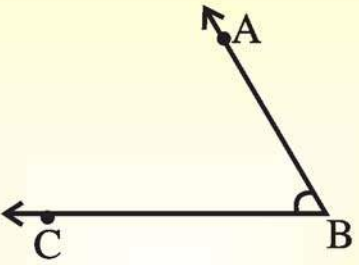
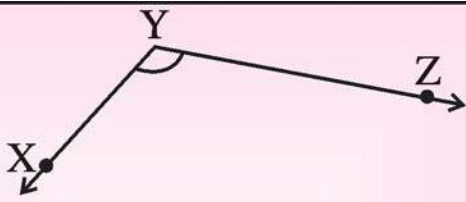


## Revision : 3

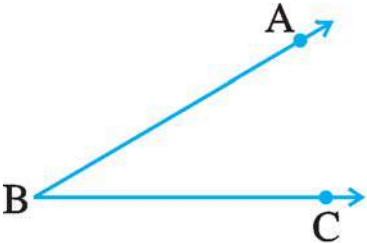
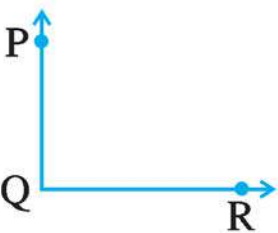
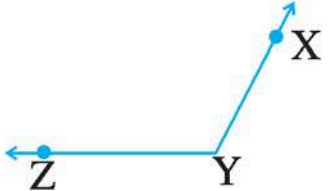
### 1. Fill in the blanks :

- (1) Vertex of  $\angle XYZ$  is \_\_\_\_\_.
- (2) In  $\angle ABC$  \_\_\_\_\_ and \_\_\_\_\_ are arms.
- (3) If  $m\angle ABC = 30^\circ$ , then it is an \_\_\_\_\_ angle.
- (4) An angle having measure  $90^\circ$  is known as \_\_\_\_\_.
- (5) Measure of \_\_\_\_\_ is between  $0^\circ$  and  $90^\circ$ .

### 2. Write the following angles in three ways and give their types :

<p>(1)</p>  <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>(2)</p>  <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
---	---

### 3. Write the measure of the following angles with protractor :

(1)	(2)	(3)
		
_____	_____	_____

4. The measure of some angles are given. Write types of angle accordingly :

- (1)  $m\angle ABC = 60^\circ$  \_\_\_\_\_
- (2)  $m\angle XYZ = 170^\circ$  \_\_\_\_\_
- (3)  $m\angle GBP = 30^\circ$  \_\_\_\_\_
- (4)  $m\angle HJG = 90^\circ$  \_\_\_\_\_
- (5)  $m\angle MGS = 75^\circ$  \_\_\_\_\_

5. Answer the following questions, by selecting proper option :

- (1) In  $\triangle ABC$ ,  $m\angle BAC = 90^\circ$ ,  $m\angle ABC = 40^\circ$  and  $m\angle ACB = 50^\circ$ , then which type is  $\triangle ABC$  ?
- (i) Right angled triangle                      (ii) Obtuse angled triangle
- (iii) Acute angled triangle                      (iv) Equilateral triangle
- (2) In  $\triangle XYZ$ ,  $m\angle XYZ = 30^\circ$ ,  $m\angle XZY = 80^\circ$  and  $m\angle YXZ = 70^\circ$ , then which type is  $\triangle XYZ$  ?
- (i) Right angled triangle                      (ii) Obtuse angled triangle
- (iii) Acute angled triangle                      (iv) Equilateral triangle
- (3) In  $\triangle PQR$ ,  $m\angle PQR = 120^\circ$ ,  $m\angle QPR = 30^\circ$  and  $m\angle PRQ = 30^\circ$ , then which type is  $\triangle PQR$  ?
- (i) Right angled triangle                      (ii) Obtuse angled triangle
- (iii) Acute angled triangle                      (iv) Equilateral triangle
- (4) In  $\triangle ABC$   $AB = 4 \text{ cm}$ ,  $BC = 5 \text{ cm}$ ,  $CA = 6 \text{ cm}$ , then which type is  $\triangle ABC$  ?
- (i) Equilateral triangle                      (ii) Scalene triangle
- (iii) Isosceles triangle                      (iv) Right angled triangle

(5) In  $\Delta PQR$ ,  $PQ = 6 \text{ cm}$ ,  $QR = 3 \text{ cm}$ ,  $RP = 6 \text{ cm}$ , then which type is  $\Delta PQR$  ?

(i) Equilateral triangle

(ii) Scalene triangle

(iii) Isosceles triangle

(iv) Right angled triangle

6. See the division, understand it and write dividend, divisor and quotient in the table :

No.		Dividend	Divisor	Quotient
(1)	$208 \div 8 = 26$			
(2)	$364 \div 26 = 14$			
(3)	$600 \div 15 = 40$			
(4)	$320 \div 16 = 20$			
(5)	$462 \div 14 = 33$			

7. Perform the following division and find quotient and remainder :

(1)  $568 \div 14$

(2)  $370 \div 17$

(3)  $590 \div 18$

(4)  $630 \div 12$


(5)  $740 \div 13$

(6)  $382 \div 19$

8. Jaykumar bought 27 kg of *mung dal* at the rate of ₹ 18. He gave ₹ 1000 to the merchant. How much money did he get back ?

9. Priyanshi bought 14 dresses at the rate of ₹ 645 per piece and a saree of ₹ 500. How much money did she spend ?

### 10. Fill in the blanks to make the sentence correct :

- (1) In  $\frac{3}{8}$  \_\_\_\_\_ is the numerator and \_\_\_\_\_ is the denominator.
- (2) In words  $\frac{5}{11}$  is written as \_\_\_\_\_ .
- (3) In  white parts are written as \_\_\_\_\_ in fraction.
- (4)  $\frac{7}{9}$  and  $\frac{5}{9}$  are \_\_\_\_\_ and \_\_\_\_\_ fractions.
- (5)  $\frac{1}{2}$  and  $\frac{5}{10}$  are \_\_\_\_\_ and \_\_\_\_\_ fractions.

### 11. Find like fractions from the following :

$$\frac{3}{5}, \frac{9}{11}, \frac{7}{11}, \frac{3}{7}, \frac{10}{11}, \frac{5}{9}, \frac{8}{11}, \frac{3}{11}$$

### 12. Write two equivalent fractions of $\frac{3}{4}$ and $\frac{5}{6}$ .

### 13. Classify the following fractions into proper and improper fractions :

$$\frac{1}{2}, \frac{3}{2}, \frac{7}{5}, \frac{11}{13}, \frac{5}{3}, \frac{19}{20}, \frac{17}{4}, \frac{9}{10}$$

### 14. Select proper option and write in the .

(1) What is obtained while converting  $\frac{7}{5}$  into mixed fraction ?

(a)  $5\frac{2}{1}$

(b)  $1\frac{1}{5}$

(c)  $1\frac{2}{5}$

(d)  $1\frac{5}{2}$

(2) Which is improper fraction from the following ?

(a)  $\frac{17}{19}$

(b)  $\frac{10}{11}$

(c)  $\frac{3}{4}$

(d)  $\frac{7}{3}$

(3) Which is the proper fraction from the following ?

(a)  $\frac{13}{15}$

(b)  $\frac{9}{3}$

(c)  $\frac{8}{5}$

(d)  $\frac{12}{7}$

(4) How to write  $4\frac{1}{5}$  as improper fraction ?

(a)  $\frac{5}{21}$

(b)  $\frac{21}{5}$

(c)  $\frac{20}{5}$

(d)  $\frac{9}{5}$

(5) What is the descending order of  $\frac{3}{4}, \frac{1}{4}, \frac{2}{4}$  ?

(a)  $\frac{3}{4}, \frac{1}{4}, \frac{2}{4}$

(b)  $\frac{3}{4}, \frac{2}{4}, \frac{1}{4}$

(c)  $\frac{1}{4}, \frac{2}{4}, \frac{3}{4}$

(d)  $\frac{1}{4}, \frac{3}{4}, \frac{2}{4}$



### Answers

1. (1) Y (2)  $\vec{BA}$  and  $\vec{BC}$  (3) Acute angle (4) Right angle (5) Acute angle

2. (1)  $\angle ABC, \angle CBA, \angle B$ , Acute angle (2)  $\angle XYZ, \angle ZYX, \angle Y$ , Obtuse angle

4. (1) Acute angle (2) Obtuse angle (3) Acute angle (4) Right angle  
(5) Acute angle

5. (1)  $\rightarrow$  (i) (2)  $\rightarrow$  (iii) (3)  $\rightarrow$  (ii) (4)  $\rightarrow$  (ii) (5)  $\rightarrow$  (iii)

6.

No.	Dividend	Divisor	Quotient
(1)	208	8	26
(2)	364	26	14
(3)	600	15	40
(4)	320	16	20
(5)	462	14	33

7. (1) Quotient : 40      Remainder : 8  
 (2) Quotient : 21      Remainder : 13  
 (3) Quotient : 32      Remainder : 14  
 (4) Quotient : 52      Remainder : 6  
 (5) Quotient : 56      Remainder : 12  
 (6) Quotient : 20      Remainder : 2
8. He got ₹ 514 back.
9. Total expense ₹ 9530.
10. (1) 3, 8      (2) Five upon eleven / Five elevenths      (3)  $\frac{3}{4}$   
 (4) proper, like  
 (5) unlike, proper
11.  $\frac{9}{11}, \frac{7}{11}, \frac{10}{11}, \frac{8}{11}, \frac{3}{11}$
12. Equivalent fractions of  $\frac{3}{4}$  and  $\frac{6}{8}, \frac{9}{12}, \dots$   
 Equivalent fractions of  $\frac{5}{6}$  and  $\frac{10}{12}, \frac{15}{18}, \dots$
13. Proper fractions :  $\frac{1}{2}, \frac{11}{13}, \frac{19}{20}, \frac{9}{10}$ ;      Improper fractions :  $\frac{3}{2}, \frac{7}{5}, \frac{5}{3}, \frac{17}{4}$
14. (1)  $\rightarrow c$       (2)  $\rightarrow d$       (3)  $\rightarrow a$       (4)  $\rightarrow b$       (5)  $\rightarrow b$

