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IV STANDARD

Untouchability
Inhuman- Crime

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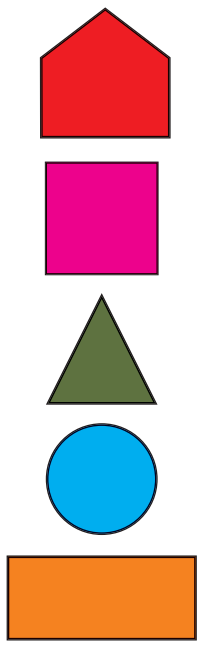
1 AROUND YOU

SHAPES AND FIGURES

Look at the following picture.

Identify and write the names that are having the following shapes.



Front view of the houses - Pentagon

_____

_____

_____

_____

Interesting facts

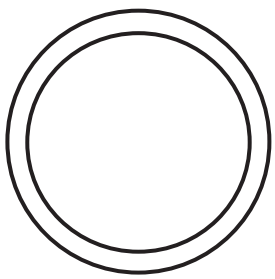
When people construct buildings, they use different shapes, because every shape has special characteristics that are best suited for a particular purpose.

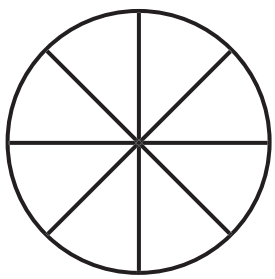
A circle has curved line segment.
Other shapes like triangle, square, rectangle and pentagon have line segments.

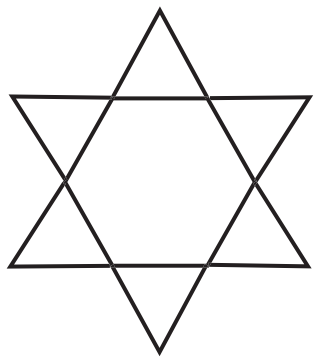
Line segment

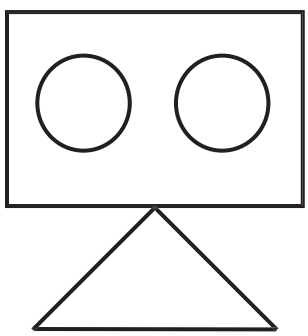
Curved line segment

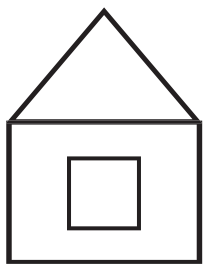
Colour the shapes

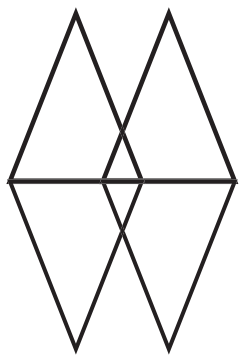




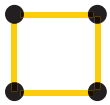
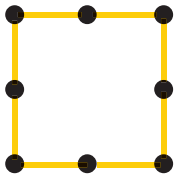
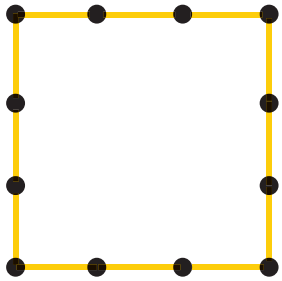
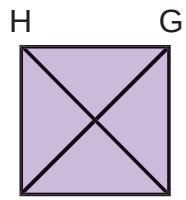
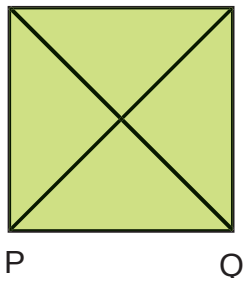








Squares

Squares using match sticks			
Squares by line segments	 figure (1)	 figure (2)	 figure (3)

In figure (1)

- A, B, C and D are corners.
- AB, BC, CD and DA are the sides.
- AC and BD are the diagonals.
- All sides are equal.

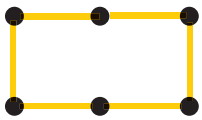
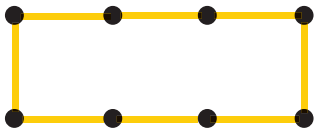
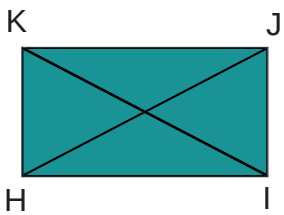
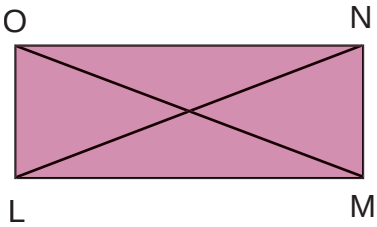
AB = BC = CD = DA

A square has four corners and four sides. All sides are equal.

Practice

Write the corners, sides and diagonals for the figure (2) and figure (3).

Rectangle

Rectangles using match sticks		
Rectangles by line segments	 figure (1)	 figure (2)

In figure (1)

- H, I, J and K are corners.
- HI, IJ, JK and KH are the sides.
- HJ and IK are the diagonals.
- Opposite sides are equal.

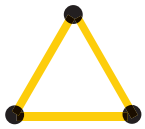
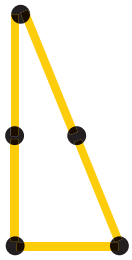
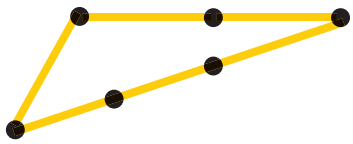
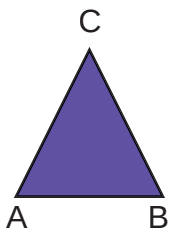
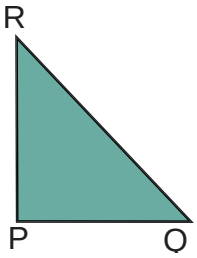
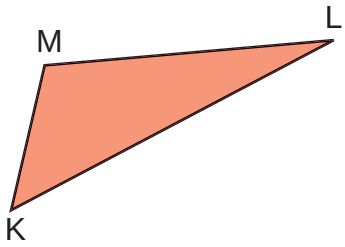
HI = JK IJ = KH

A rectangle has four corners and four sides.
Its opposite sides are equal.

Practice

Write the corners, sides and diagonals for the figure (2).

Triangle

Triangles using match sticks			
Triangles by line segments	 figure (1)	 figure (2)	 figure (3)

In figure (1)

- A, B and C are corners.
- AB, BC and CA are the sides.

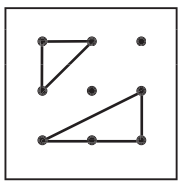
A triangle has three corners and three sides.

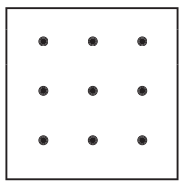
Practice

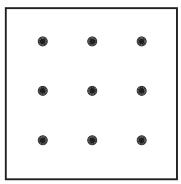
Write the corners and sides for the figure (2) and figure (3)

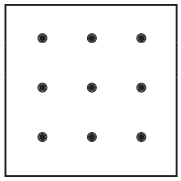
Lab activity

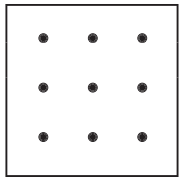
Use the following dots to draw different triangles, each triangle should be different from the others.

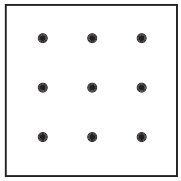
1) 

2) 

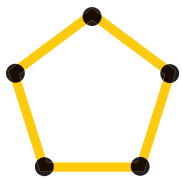
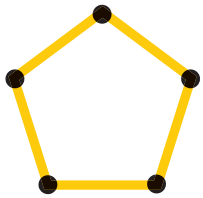
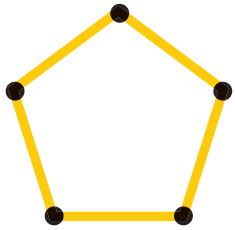
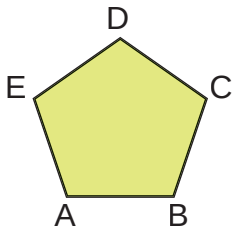
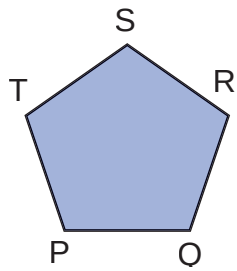
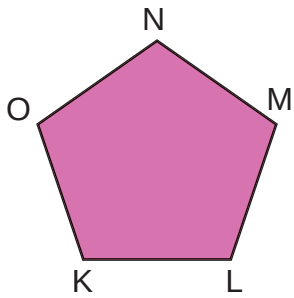
3) 

4) 

5) 

6) 

Pentagon

Pentagons using match sticks			
Pentagons by line segments	 figure (1)	 figure (2)	 figure (3)

In figure (1)

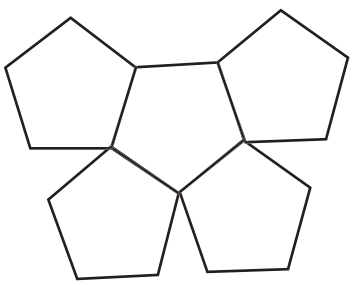
- A, B, C, D and E are corners.
- AB, BC, CD, DE and EA are the sides.

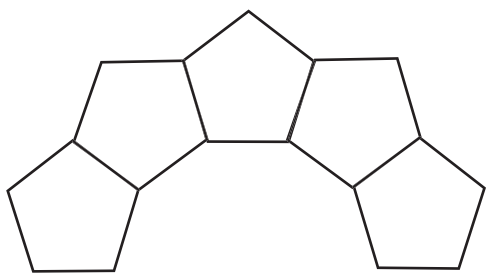
A pentagon has five corners and five sides.

Practice

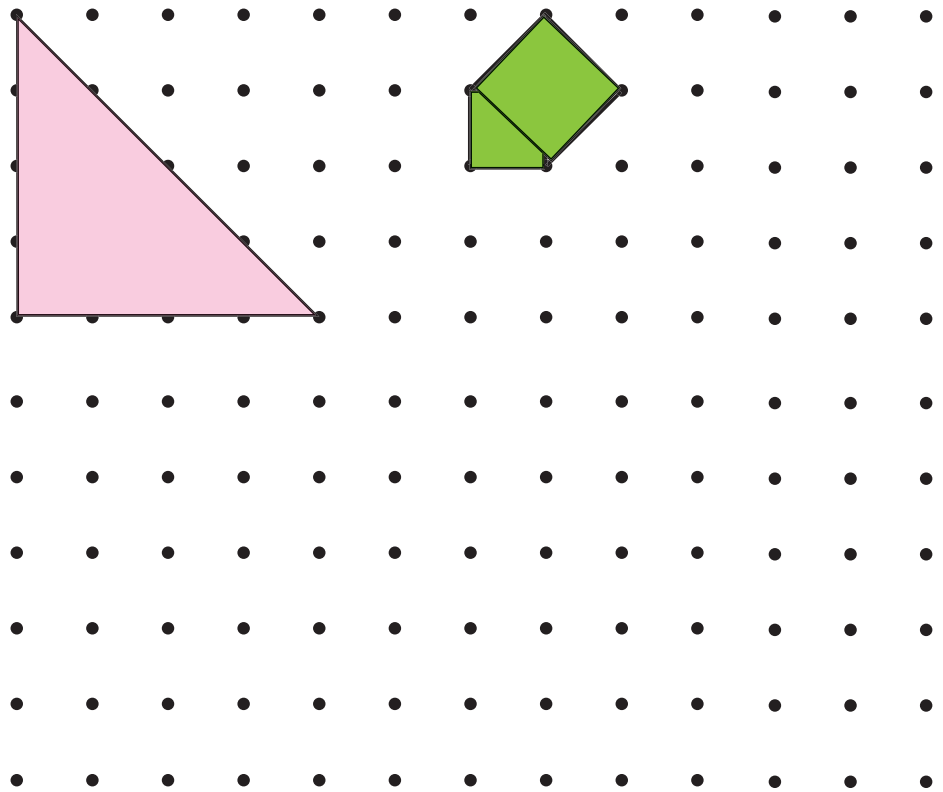
1) Write the corners and sides for the figure (2) and figure (3).

2) Shade the pentagons by different colours.





3) Draw shapes in the dots and colour it.



Drawing circle

Draw a circle in each of the following boxes.

Use a coin	Use a bangle	Use a bottle cap

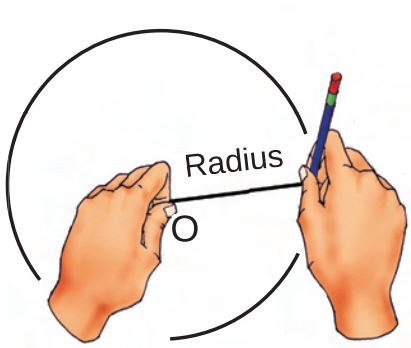
Drawing circle with free hand

I am going to draw a circle by using a piece of string and pencil.

O.K, how will you do?

Very simple. Let me show, look here...

- Tie one end of the string with a pencil and another end with a pin.
- Press the pin in the paper and keep a finger on its top.
- Rotate the pencil till a circle is formed.



The touching point of the pin and the paper at 'O' is called the centre of the circle. The length of the string is the radius of the circle.

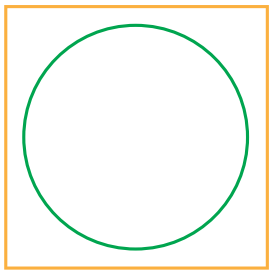
Practice

Using a string, without changing the centre, draw three circles with different lengths of string. You will get the diagram as given below.

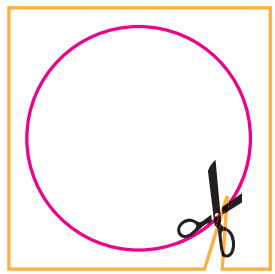
Lab activity

Finding centre and radius using paper foldings.

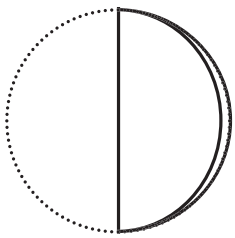
✧ Draw a circle in a paper.



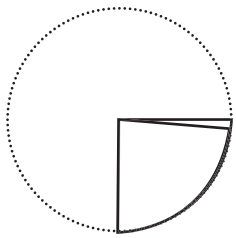
✧ Cut the circle.



✧ Fold the circle into half.

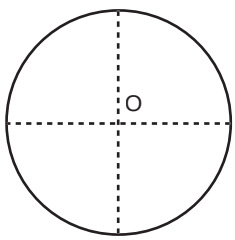


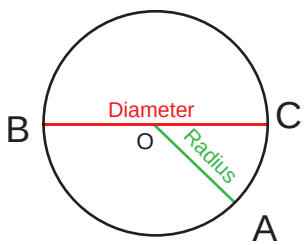
✧ Then fold it again like this.



✧ Now open the foldings.

The two creased lines cross each other.





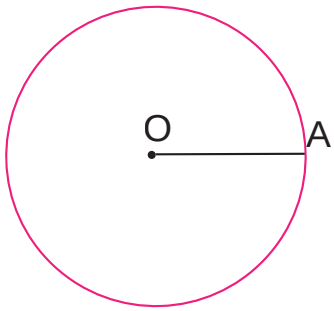
Two creased lines meet at a point O, is the centre of the circle.

OA = radius of the circle
BC = diameter of the circle

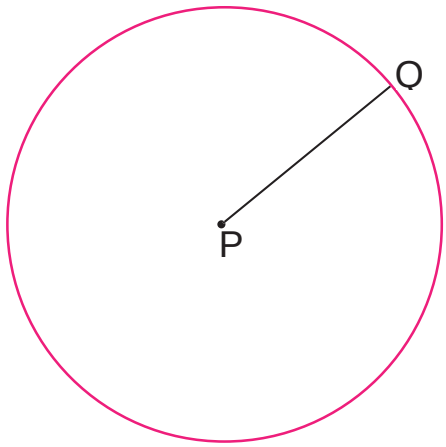
The line segment joining any two points on the boundary of the circle, which is passing through the centre of the circle is called diameter.

Practice

1) **With the help of your ruler find out the radius of the following circle.**

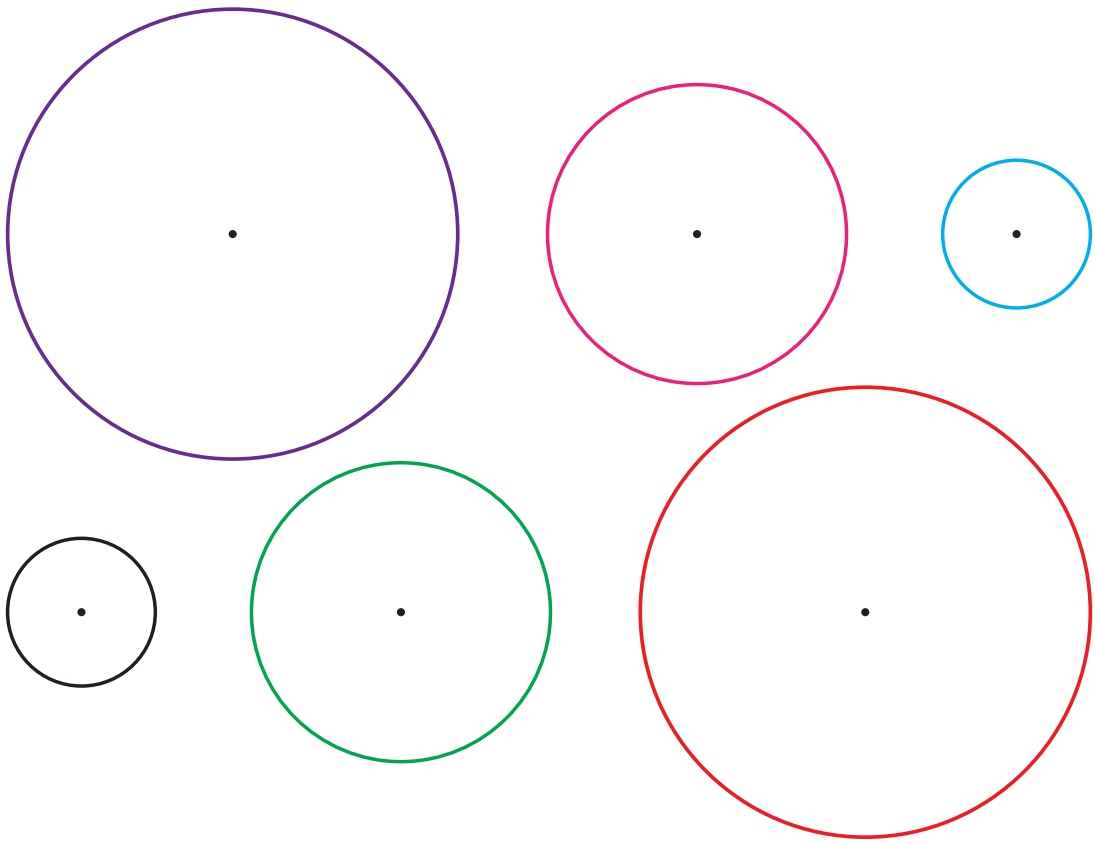


Radius = OA = 2cm

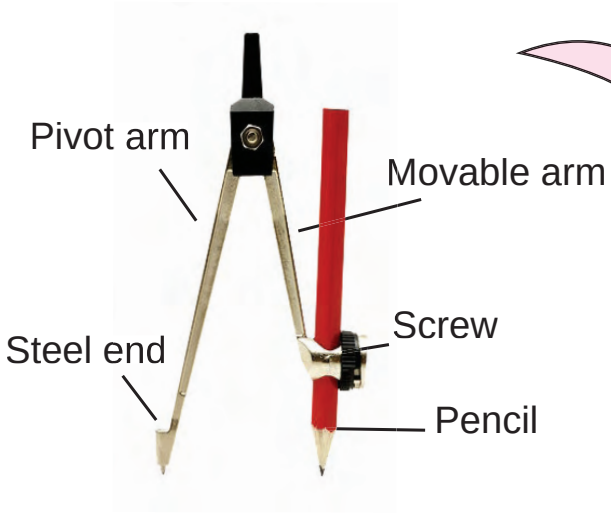


Radius = PQ = _____

2) Draw the radius for the following circles and measure them.

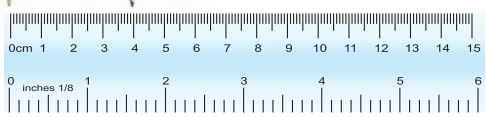


About compass

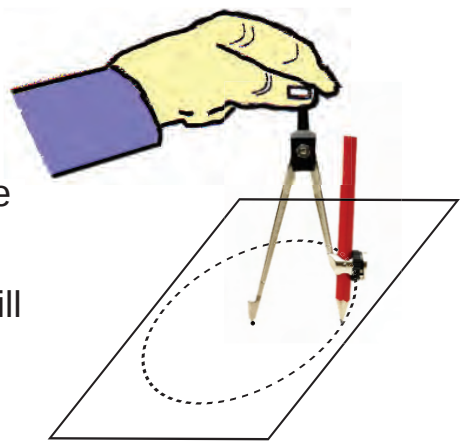


- I am a compass.
- I have two arms.
- One arm has the steel end, called pivot arm.
- Movable arm has a screw to fix a pencil.

Drawing a circle using compass



- Take a radius of 4cm using the ruler.
- Fix the pivot point on the paper.
- Rotate the pencil point till the circle is formed.

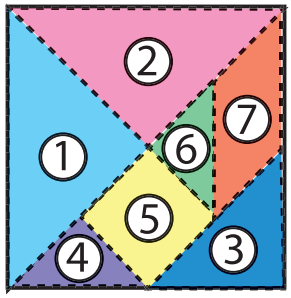


Practice

Draw circles using compass for the given radius.

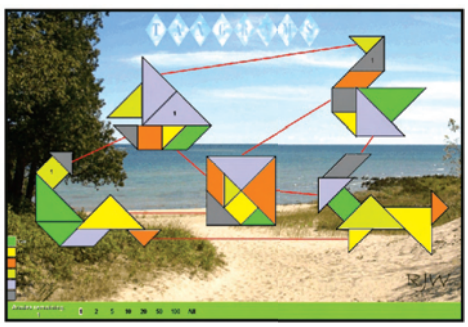
1) 4 cm 2) 5 cm 3) 7 cm 4) 2 cm 5) 6 cm

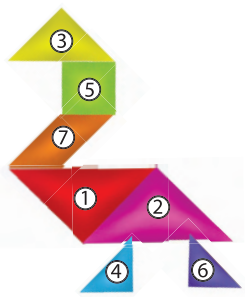
Geometric shapes with tangrams

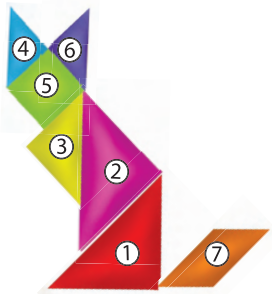


Tangram is a thousand years old Chinese puzzle. It consists of seven geometrical pieces called tans, which are put together to form shapes. Using tans we can create different patterns, geometric designs, human beings, birds and animals.

Different shapes using tangram

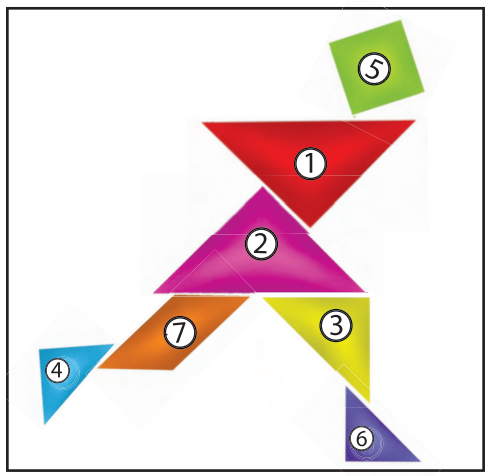






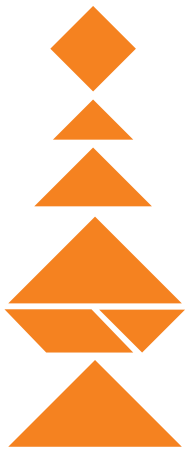
Practice

Arrange the tangram pieces as shown in the picture.



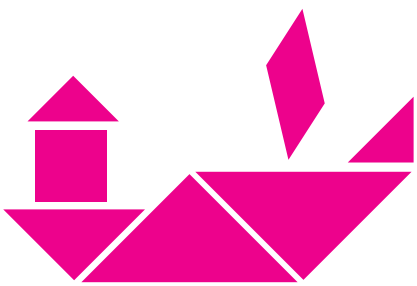
Arrange the tangram pieces

1)



2)

3)

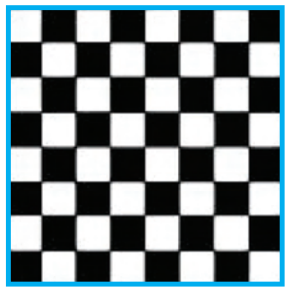


Tiling

Observe the following pictures.

Brick wall

Chess board



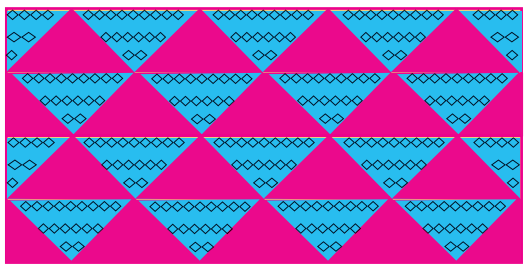
Bee hive

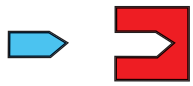
Floor

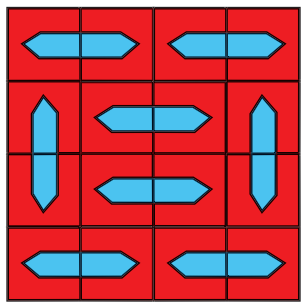
Pictures are filled with different tiles without gaps and over laps.

Tiling the space with one or two shapes

This space is filled by triangle shapes  

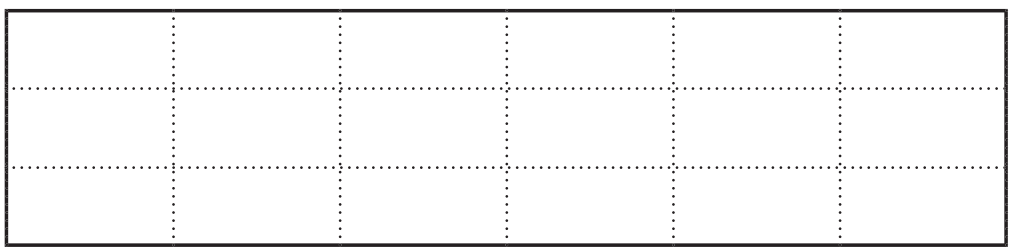


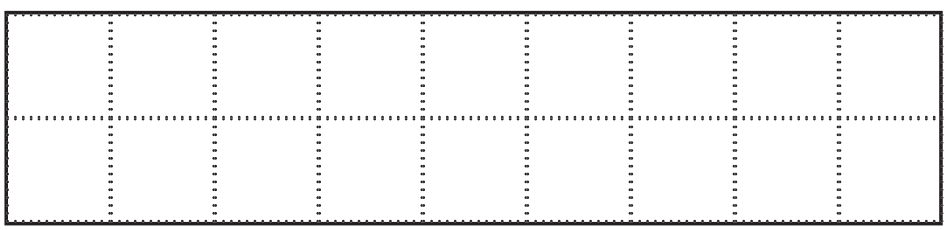
This space is filled by two shapes 

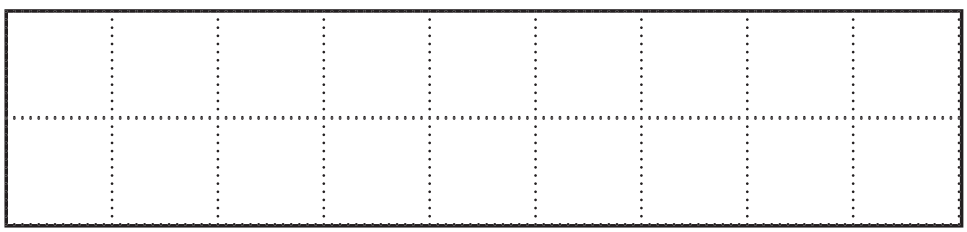


Practice

Select the two suitable shapes and tile the space given below.

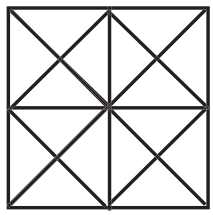
1) 

2) 

3) 

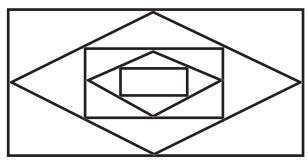
REVISION

1) Count and write the number of squares and rectangles.



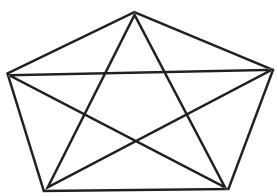
Number of squares ____ Number of rectangles ____

2) Count and write the number of rectangles and triangles.



Number of triangles ____ Number of rectangles ____

3) Count the number of triangles and pentagons.



Number of triangles ____ Number of pentagons ____

4) A square and a rectangle have ____ sides and ____ corners.

5) A _____ has 5 sides and 5 corners.

6) _____ sides of a rectangle are equal.

7) The line joining centre point and any point on the boundary of the circle is called _____.

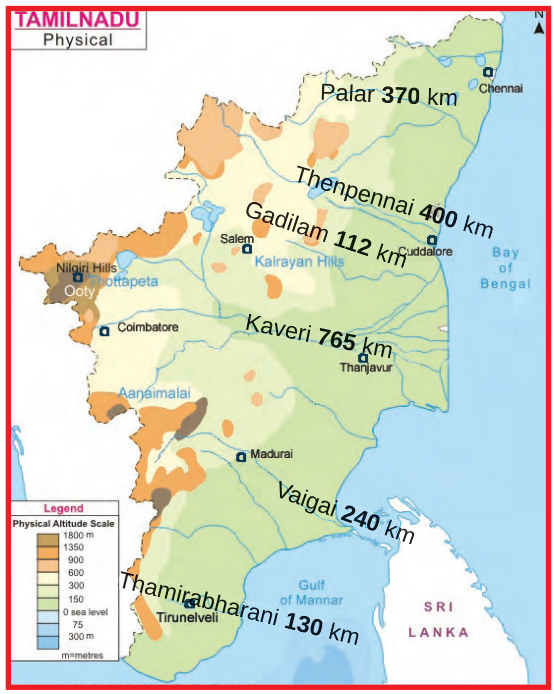
8) The line segment joining any two points on the boundary of the circle, which is passing through the centre of the circle is called _____.

9) Create two shapes using tangrams.

2 KNOWING NUMBERS

Uma and Deepa are friends. One day Deepa visited Uma's house. Deepa noticed a TamilNadu map hanging on the wall.

Deepa read the names of the rivers from the map, Uma read the length of the rivers. Deepa read "Thamirabharani". Uma said, "130 km".

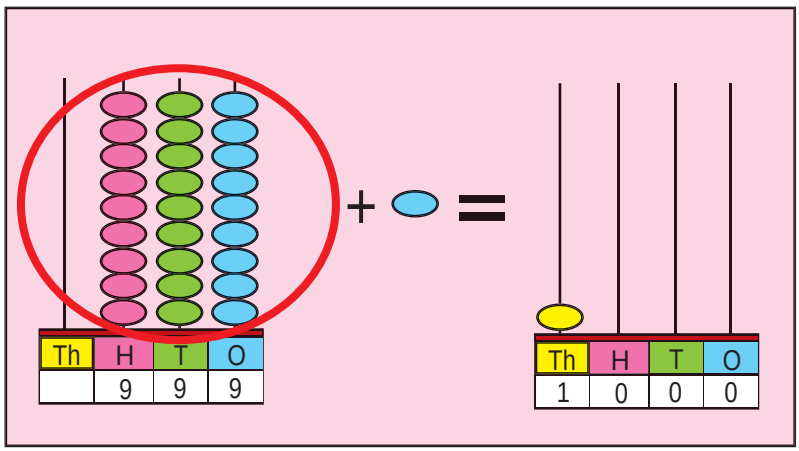


Fill up the details in the following table.

Length of the rivers	Numerals	Number name	Expanded form
Thamirabharani 130 km.	130	One hundred and thirty	100 + 30+0
Vaigai 240 km.	240		
Kaveri 765 km.			
Gadilam 112 km.			
Thenpennai 400 km.			
Palar 370 km.			

Use abacus to express the numbers

Chitra and Jothi are sisters. They are playing with the beads in an abacus. Jothi asked Chitra to put the beads for the number 999. Chitra placed succesfully.



Can you put one more bead? asked Chitra. Jothi observed the abacus from 'ones' place to 'thousands' place. She removed all the beads and placed one bead in the 'thousands' place because,

10 ones = 1 ten | 10 tens = 1 hundred | 10 hundreds = 1 thousand

999 + 1 = 1000. We read it as One thousand

Comparing the two numbers 999 and 1000

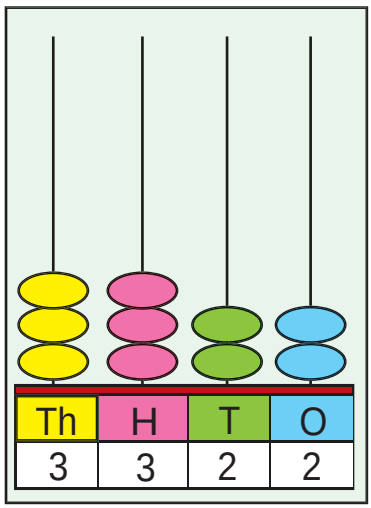
- 999 has 3 digits, 1000 has 4 digits.
- 1000 has 0 in ones, tens and hundreds places.
- 999 has 9 in ones, tens and hundreds places.
- The greatest 3 digit number is 999.
- The smallest 4 digit number is 1000.

Practice

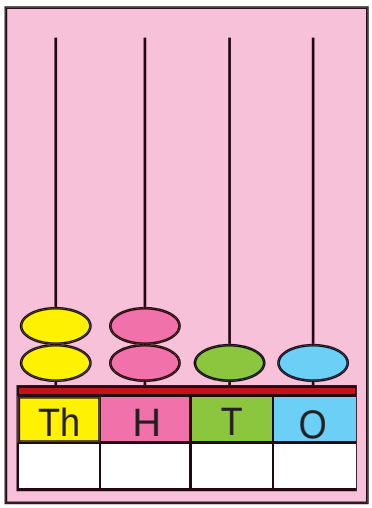
1) Fill up the boxes.

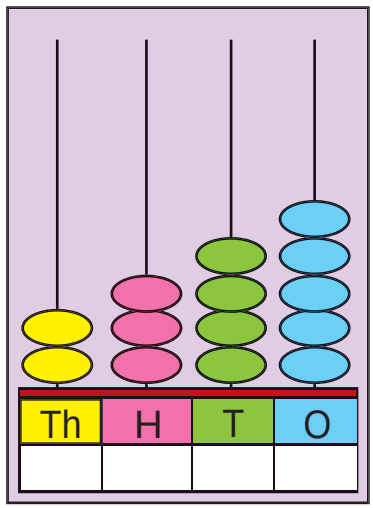
9 + 1 = 10	10 + 1 = 11	10 - 1 = 9
99 + 1 = ☐	100 + 1 = ☐	100 - 1 = ☐
999 + ☐ = 1000	1000 + ☐ =1001	1000 - ☐ = 999

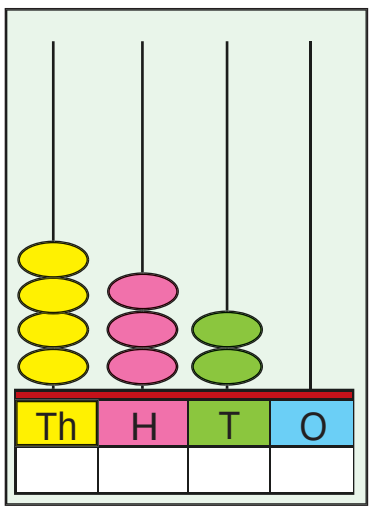
2) Write the numbers shown in the following abacus.

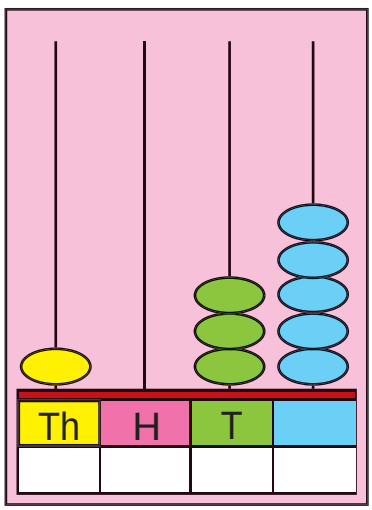


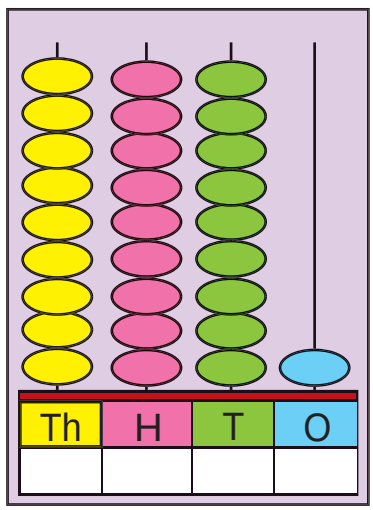
3322



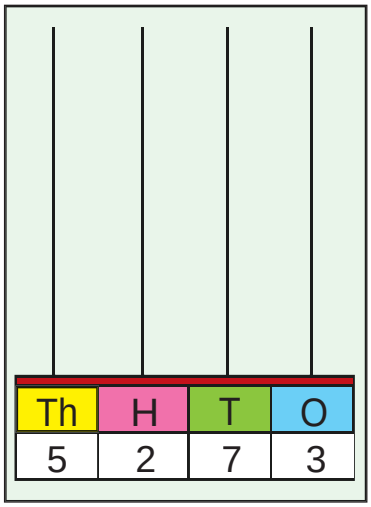


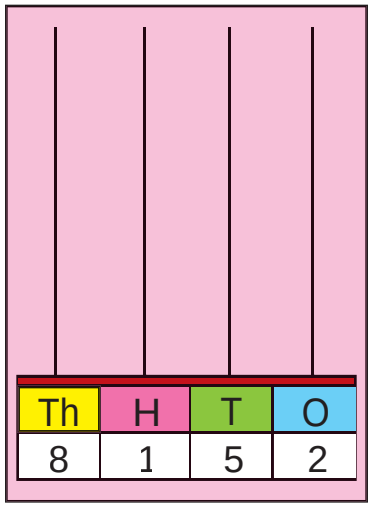


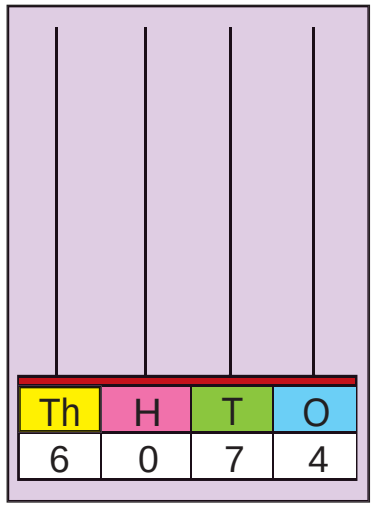




3) Draw beads for the number shown in the following abacus.







4) Write the missing numbers.

1001	1002			1005				1009	
2005	2010				2030				2050
3010	3020					3070			
4020	4040						4160		4200
5050	5100							5450	
6100	6200							6900	
7200	7400						8600		9000
5000	5500					8000			
9990	9991				9995			9998	
1000	2000			5000					10000

The greatest four digit number is 9999

Read the following sentences.

- Thirukkural has 1330 Kurals.
- The depth of Indian ocean is 7258 metres.
- World classical Tamil Conference was held in 2010.

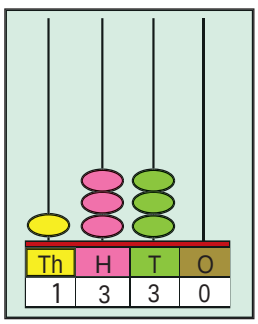
Shall we read the numbers !

1330 - One thousand three hundred and thirty

7258 - Seven thousand two hundred and fifty eight

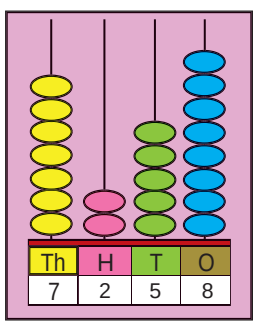
2010 - Two thousand and ten

Place value



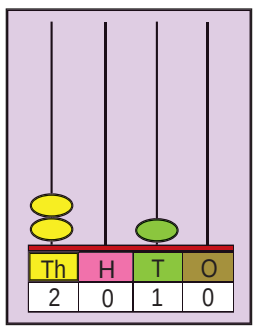
1 3 3 0

digit		place		place value		
0	×	1	=	0	=	0 ones
3	×	10	=	30	=	3 tens
3	×	100	=	300	=	3 hundreds
1	×	1000	=	1000	=	1 thousand



7 2 5 8

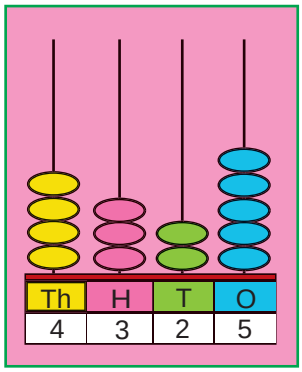
8	×	1	=	8	=	8 ones
5	×	10	=	50	=	5 tens
2	×	100	=	200	=	2 hundreds
7	×	1000	=	7000	=	7 thousands



2 0 1 0

0	×	1	=	0	=	0 ones
1	×	10	=	10	=	1 ten
0	×	100	=	0	=	0 hundreds
2	×	1000	=	2000	=	2 thousands

Expanded form



Number: 4325

Number name:

Four thousand three hundred and twenty five

Expanded form: 4325 = 4000 + 300 + 20 + 5

Practice

1) Write the place value of the encircled digits.

(8) 3 4 5 - The place value of 8 is 8000

2 7 5 (1) - _____

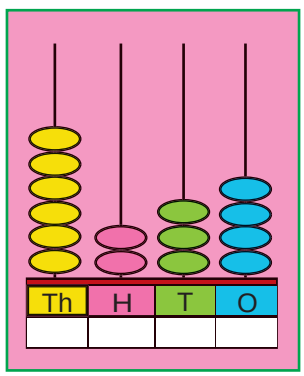
3 (2) 6 8 - _____

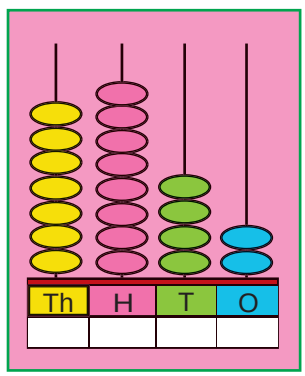
9 0 (0) 4 - _____

1 9 7 (4) - _____

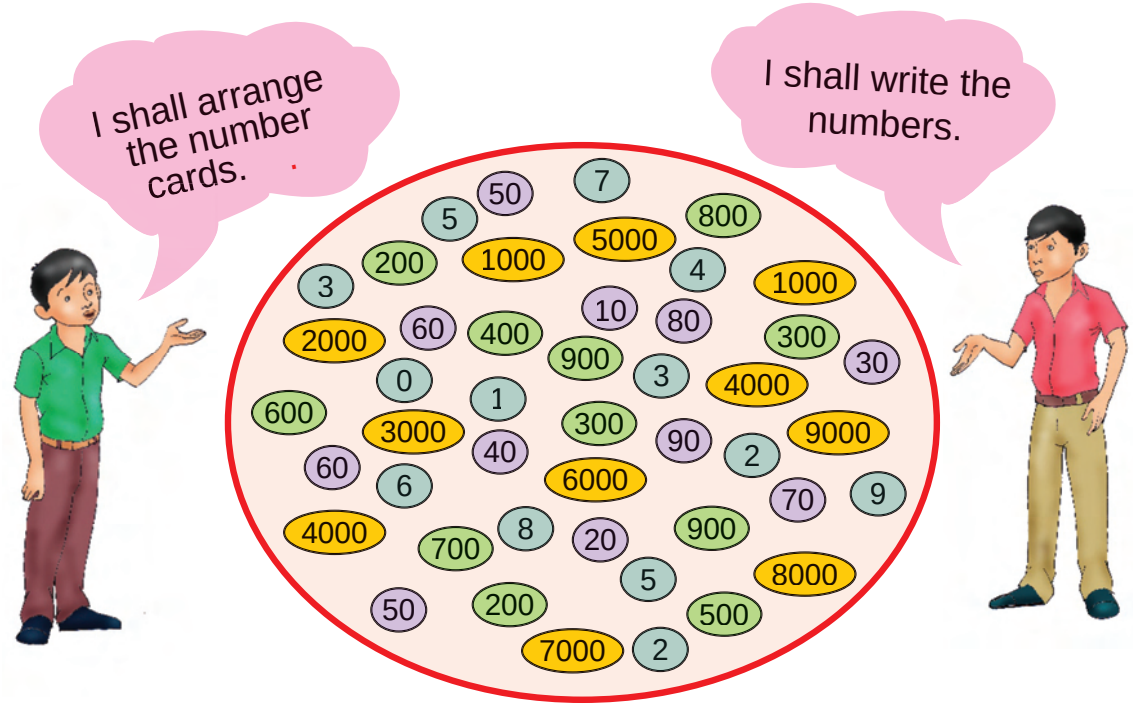
5 4 (3) 0 - _____

2) Write number, number name and its expanded form for the beads in the abacus.





3) Form the numbers using number cards.



Balu arranges the number cards according to place value.

Velu writes the corresponding numbers.

Will you help them?

2000	200	30	5	=	2235
1000	300	10	8	=	
8000		60	6	=	8066
4000	400	40	4	=	
5000			3	=	5503

Balu writes the numbers.

Velu arranges the number cards.

9687	=	9000			7
6722	=		700	20	2
4359	=	4000		50	
3970	=		900	70	
8001	=				1

Formation of greatest and smallest number

In which order they should stand to form the greatest 4 digit number?

In 4, 6, 9, 2 the greatest digit is 9
In 4, 6, 2 the greatest digit is 6
In 4 and 2, 4 is greater than 2
In 4, 6, 9, 2 the smallest digit is 2

They stand from the greatest digit to smallest digit.

Now the number formed is 9642

This is the greatest 4 digit number, using the given digits.

In the same way in which order they should stand to form the smallest 4 digit number?

In 4, 6, 9, 2 the smallest digit is 2
In 4, 6, 9 the smallest digit is 4
In 6 and 9, 6 is smaller than 9
In 4, 6, 9, 2 the greatest digit is 9

They stand from the smallest digit to the greatest digit.

Now the number formed is 2469

This is the smallest 4 digit number formed from the given digits.

The greatest number is **9642**
The smallest number is **2469**

Practice

1) Form the greatest and smallest 4 digit number.

Digits	Greatest Number	Smallest Number
0,4,2,8	8420	2048
3,7,4,9		
9,3,6,5		
5,0,1,7		

2) Pick out the smaller number, greater number and compare using > or < sign.

Numbers	Smaller Number	Greater Number	use > or < Sign
4910, 3618	3618	4910	3618 < 4910
2897, 5110			
2375, 5732			
8000, 6070			

Ascending order and Descending order

Look at the marks scored by four students in XII Std Examination.

Radhika	Jayashree	Anandan	Velu
992	1187	1074	1126

Of these four marks 992 is the lowest mark as 992 has 3 digits.

992 is the smallest number.

But the other three marks are 4 digit numbers.

First compare the digits in the 'thousands' place.

1187 1074 1126

All the three numbers have 1 in the 'thousands' place.

So, compare the digits in the 'hundreds' place.

1187 1074 1126

1187, 1126 has 1 in the 'hundreds' place.

1074 has 0 in the 'hundreds' place.

So 1074 is smaller than 1187 and 1126.

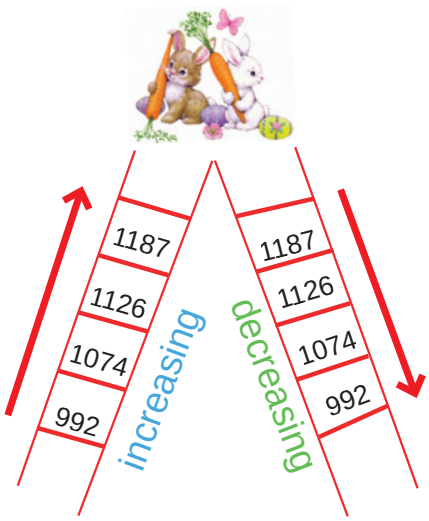
Now compare the digits in the 'tens' place.

1187 1126

1187 has 8 tens, 1126 has 2 tens.

So 1126 is smaller than 1187.

1187 is the greatest number.



Ascending order	992, 1074, 1126, 1187
Descending order	1187, 1126, 1074, 992

Arranging the numbers from the smallest to the greatest is called ascending order and from the greatest to the smallest is called descending order.

Practice

1) Arrange the measurements of the heights in ascending order and descending order.

Height in metres	Kalvarayan Hills	Nilgiri Peak	Aanai Malai Hills	Doddabetta Peak
	914	2474	2695	2637

Ascending order	
Descending order	

2) Arrange the numbers in ascending order and descending order.

1) 8000, 4105, 7400, 3050 2) 6345, 6789, 9876, 4567

3) 4248, 1375, 5615, 1360 4) 1178, 1068, 1368, 1278

5) 7800, 5300, 8800, 6400 6) 4999, 1809, 4959, 2829

Odd numbers and Even numbers

Shade the odd numbers in blue and even numbers in red.

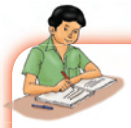
From the above coloured numbers write odd numbers and even numbers.

Odd numbers	_____, _____, _____, _____, _____, _____, _____, _____, _____, _____.
Even numbers	_____, _____, _____, _____, _____, _____, _____, _____, _____, _____.

The digits in the 'ones' place for odd numbers are 1, 3, 5, 7 or 9

The digits in the 'ones' place for even numbers are 0, 2, 4, 6 or 8

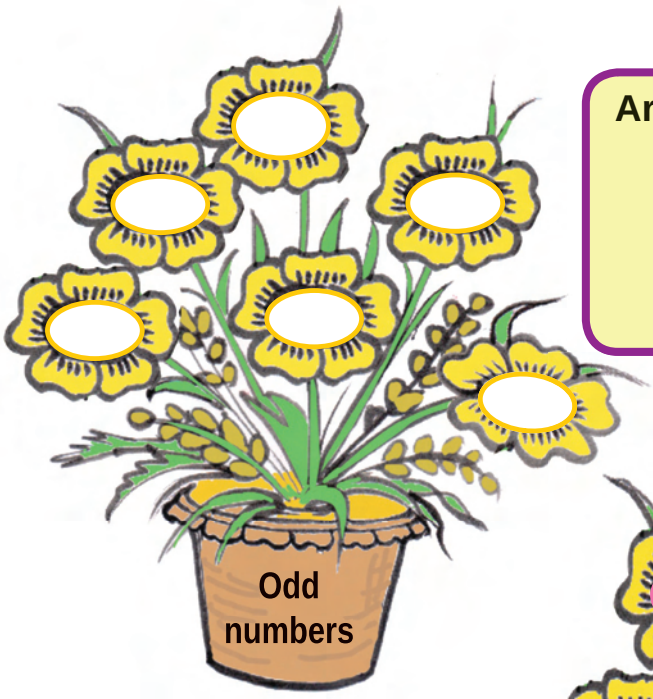
To identify whether the given number is odd or even, it is enough to look at the digit in 'ones' place.



Practice

Identify the odd and even numbers. Fill up the flowers given below.

2765	4862	5047	4751	6404	3006
8354	7298	9433	8450	1239	5237



Arrange the odd numbers in ascending order.

Arrange the even numbers in descending order.

PROJECT

Complete the table.

Family members	Name	Year of Birth
My name		
Father		
Mother		
Grandfather		
Grandmother		

Write the numbers from the above table and answer the following questions.

- ★ Write the number names.
- ★ Expanded form.
- ★ The place value of each digit in the numbers.
- ★ Arrange the numbers in ascending and descending order

Puzzle

I am a 4 digit number.

My 'ones' place is 3.

Digit in 'tens' place is 2 more than in 'ones' place.

Digit in 'hundreds' place is 1 less than in 'tens' place.

Digit in 'thousands' place is 3 more than in 'hundreds' place.

I am _____

Estimation in numbers

Look at the apples,
without counting say approximately,
How many apples are there ?

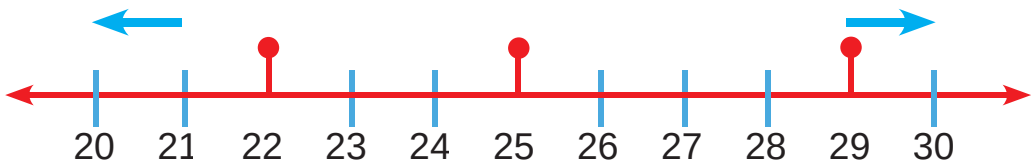
Approximately 30 apples.

Your answer is closer to actual number.
But actual number of apples kept in the basket is 28.

What do you learn from the above conversation ?
We use estimation for counting in our daily life.

Estimation using number line

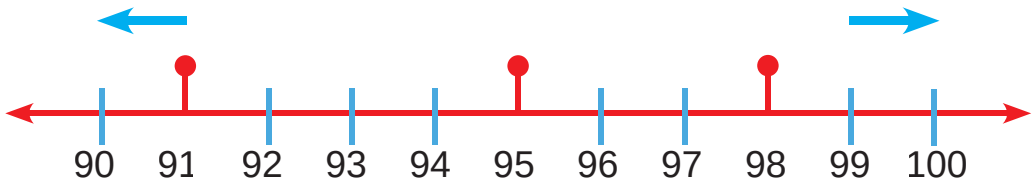
Estimation (round off) of numbers to the nearest 10



- 22 is rounded off to 20 since it is closer to 20
- 29 is rounded off to 30 since it is closer to 30
- 25 is rounded off to 30 since it is half way between 20 and 30

We can estimate the number more easily by using number line.

Estimation (round off) of numbers from 91 to 99 to the nearest 10



- 95 is rounded off to 100 since it is half way between 90 and 100
- 98 is rounded off to 100 since it is closer to 100
- 91 is round off to 90 since it is closer to 90

Practice

Estimate to the nearest 10.

1) 23	2) 46	3) 54	4) 65
5) 14	6) 35	7) 88	8) 91
9) 76	10) 99	11) 87	12) 94

While rounding off a number check its 'ones' place.
If it is 5 or more than 5, round off the number to the next nearest 10.
If it is less than 5, round off the number to the nearest 10 respectively.

REVISION

1) Write the missing numbers.

(i) 7430, 7440, _____ , _____, _____, _____, _____ , 7500.

(ii) 1300, 1400, _____ , _____, _____, _____, _____ , 2000.

2) Write the number names for the following numbers.

(i) 3906 _____

(ii) 10000 _____

3) Write the numbers for the following.

(i) Four thousand nine hundred and eighty two

(ii) Six thousand two hundred and five

4) Write the place value of the circled digits.

(i) 7 (4) 5 0 _____

(ii) 3 9 (8) 5 _____

5) Express the following in the expanded form.

(i) 3 4 6 0 _____

(ii) 9 0 1 7 _____

6) Write the short form of the following numbers.

(i) 5000 + 400 + 30 + 9 =

(ii) 4000 + 0 + 0 + 4 =

7) Write the ascending order and descending order.

8275 8555 8150 8325

8) Encircle the even numbers.

3645 9450 8564 3718 6071

9) Put '<' or '>' in ___

(i) 4375 _____ 3747 (ii) 10000 _____ 9999

10) Round off the following numbers to the nearest tens.

(i) 75 (ii) 83 (iii) 94 (iv) 36

3 ADDITION AND SUBTRACTION

Addition

Four vendors went to a coconut grove to buy coconuts. Each one needed 700 coconuts. Help them to select the heaps.

First vendor	Second vendor	Third vendor	Fourth vendor
350 320 + 30	400 + 300		
700	700	700	700

Write the missing numbers in the magic squares for the given total.

Total 45

16	11	18
17	15	13
12	19	14

Total 210

80	30	
90	70	50
	110	60

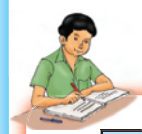
Total 165

65	15	
75	55	35
	95	

Fill in the boxes.

0 + 1 = 1	2 + 4 = 6	4 + 5 = 9 = 5 + ☐
1 + 0 = ☐	4 + 2 = ☐	5 + 3 = 8 = ☐ + 5
2 + 0 = 2	0 + 0 = 0	2 + 6 = 8 = 6 + ☐
0 + 2 = ☐	0 + 3 = ☐	7 + 2 = 9 = ☐ + 7

The sum of any number and zero is the number itself.
The sum of two numbers does not change even if we change the order of the numbers.



Practice

1)

	H	T	O
	3	2	4
+	5	7	5

2)

	H	T	O
	6	0	0
+	2	3	2

3)

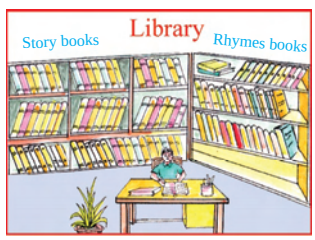
	H	T	O
	5	3	6
+	3	0	1

4)

	H	T	O
	7	0	2
+	2	1	4

Addition without carrying

1) A library has 3242 story books and 435 rhymes books. Find the total number of books.



Solution:

To find the total number of books, we have to add the number of story books and rhymes books.

		Th	H	T	O		
Number of story books	=	3	2	4	2	=	3000 + 200 + 40 + 2
Number of rhymes books	= +		4	3	5	=	400 + 30 + 5
Total number of books	=	3	6	7	7	=	3000 + 600 + 70 + 7

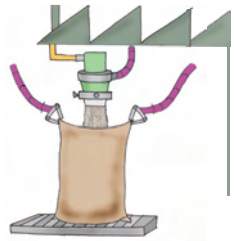
Total number of books in the library = 3677

Another method:

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

Steps
* Add ones
* Add tens
* Add hundreds
* Add thousands

2) A factory produced 1154 bags of fertilizer on the first day and 2832 bags on the second day. Find the total number of bags of fertilizer.



Solution:

Fertilizer produced on first day	=	1154
Fertilizer produced on second day	= +	2832
Total number of bags of fertilizer	=	3986

3986 bags of fertilizer are produced.

Practice

1)

	Th	H	T	O
	2	4	6	3
+	4	2	3	0

2)

	Th	H	T	O
	2	2	0	4
+	3	4	8	5

3)

	Th	H	T	O
	4	5	0	2
+	5	3	0	4

4)

	Th	H	T	O
	8	4	1	0
+	1	0	6	7

5)

	Th	H	T	O
	2	0	0	0
+	4	0	0	0

6)

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

7) 

In a factory 3850 persons worked in the first shift and 3106 persons worked in the second shift. Find the total number of persons.

8) In a function 2274 people had breakfast and 3015 people had lunch. Find the total number of people in the function.

Recall and write

10 ones = 1 ten
70 ones = _____
25 ones = 2 tens 5 ones
43 ones = _____
10 tens = 1 hundred
50 tens = _____

36 tens = 3 hundreds 6 tens
29 tens = _____
10 hundreds = 1 thousand
40 hundreds = _____
78 hundreds = 7 thousands 8 hundreds
64 hundreds = _____

Addition with carrying

Balaji and Ramji bought two mobiles. The cost of mobiles are ₹ 2495 and ₹ 1628 respectively. Find the total cost of the mobiles.

Solution:

Cost of Balaji's mobile = ₹ 2495

Cost of Ramji's mobile = ₹ 1628

To find out the total cost, we have to add the cost of the mobiles.

	Th	H	T	O
			(1)	
	2	4	9	5
+	1	6	2	8
				3

Step 1

Add the ones

5 ones + 8 ones = 13 ones

13 ones = 1 ten 3 ones

Write 3 under the ones place

Carry (1) to tens place

	Th	H	T	O
		(1)	(1)	
	2	4	9	5
+	1	6	2	8
			2	3

Step 2

Add the tens

(1) ten + 9 tens + 2 tens = 12 tens

12 tens = 1 hundred 2 tens

Write 2 under the tens place

Carry (1) to hundreds place

	Th	H	T	O
	(1)	(1)	(1)	
	2	4	9	5
+	1	6	2	8
		1	2	3

Step 3

Add the hundreds

(1) hundred + 4 hundreds + 6 hundreds =11 hundreds

11 hundreds = 1 thousand 1 hundred

Write 1 under the hundreds place

Carry (1) to thousands place

	Th	H	T	O
	(1)	(1)	(1)	
	2	4	9	5
+	1	6	2	8
	4	1	2	3

Step 4

Add the thousands

(1) thousand +2 thousands+1 thousand = 4 thousands

Write 4 under the thousands place

Total cost of 2 mobiles is ₹ 4123

Practice

1)

Th	H	T	O
4	3	2	7
+ 2	8	6	2

2)

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

3)

Th	H	T	O
3	5	4	6
+ 4	6	8	7

4)

Th	H	T	O
5	3	6	9
+ 3	2	4	3

5)

Th	H	T	O
4	2	5	9
+ 3	8	3	5

6)

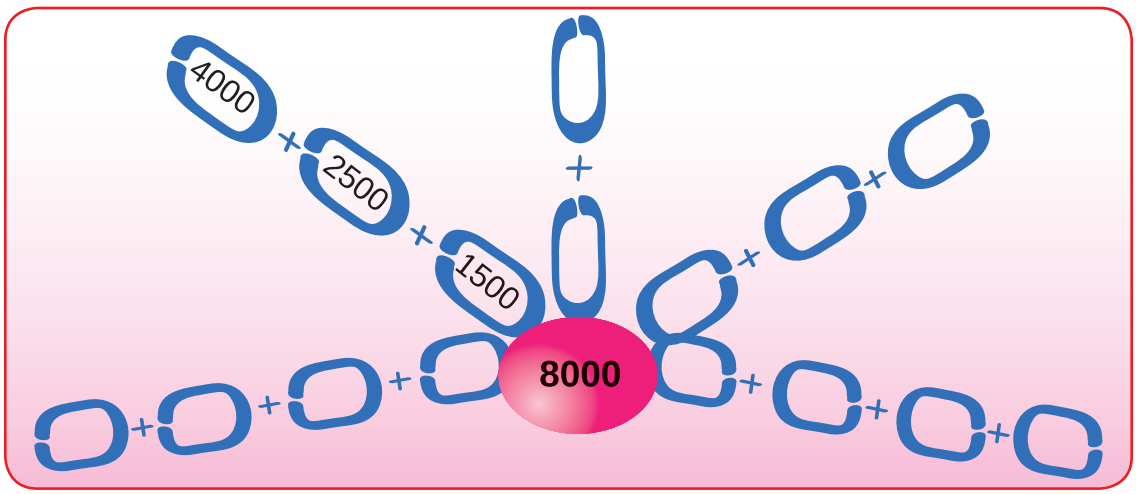
Th	H	T	O
3	0	9	4
+ 4	6	3	8

7) In a circus 2625 persons visited the noon show, and 3768 persons visited the night show. Find the total number of persons.

8) In a mango grove, 1243 malgova, 2132 sendura and 2644 neelam man goes were plucked. Find the total num ber of mangoes plucked.

Lab activity

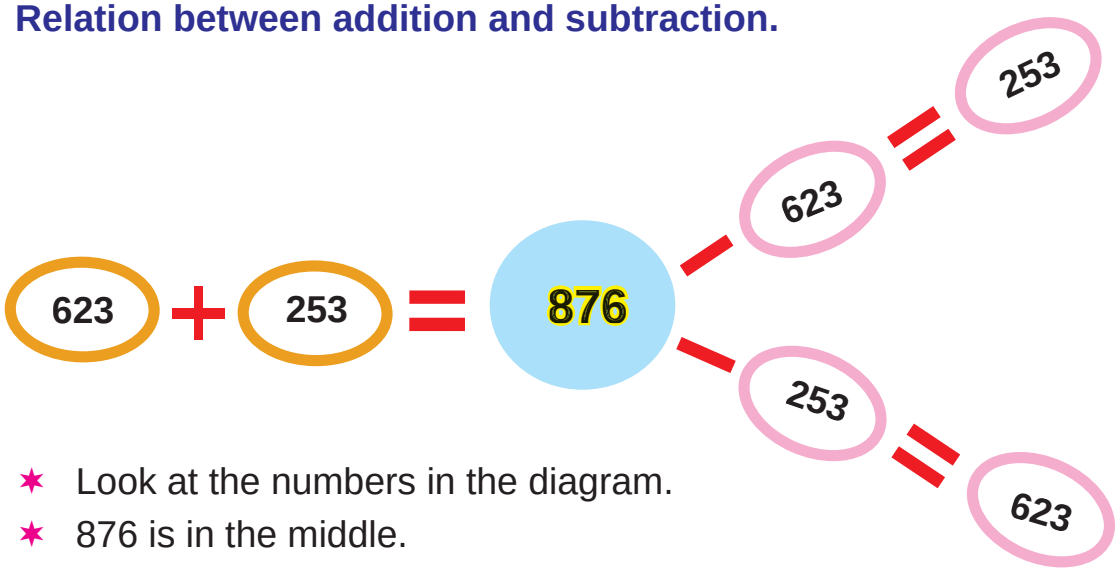
1) Fill up the addition chain



2) Take two sets of number cards from 0 to 9. Using the number cards form eight 4 digit numbers. Take two numbers at a time and add.

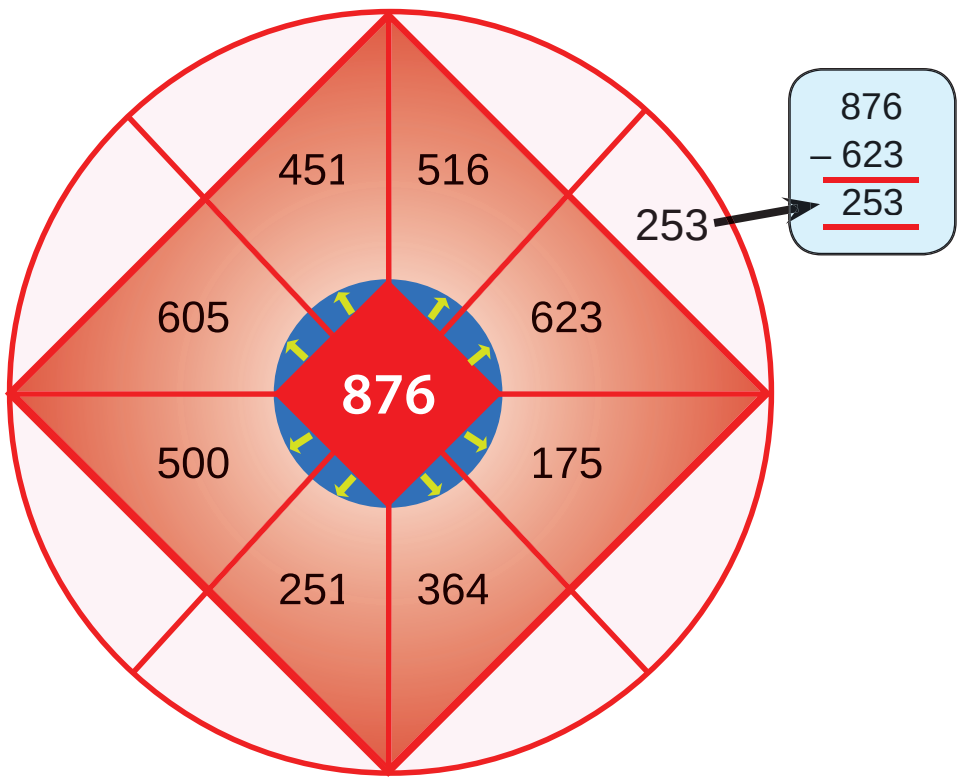
Subtraction

Relation between addition and subtraction.



- Look at the numbers in the diagram.
- 876 is in the middle.
- 876 is written as the addition of two numbers.
- Every addition has two subtractions.

Write the missing numbers by subtraction.



Subtraction without grouping

Bharath purchased an aircooler and a water heater for his house. The total cost is ₹ 8965. Find the cost of water heater, if the cost of the air cooler is ₹ 4650.

Solution:

Total cost of the air cooler and the water heater = ₹ 8965

Cost of the air cooler = ₹ 4650

The cost of water heater = ₹ 8965 – ₹ 4650

	Th	H	T	O
	8	9	6	5
–	4	6	5	0
				5

Step 1

Subtract the ones

5 ones – 0 ones = 5 ones

Write 5 in the ones place.

	Th	H	T	O
	8	9	6	5
–	4	6	5	0
			1	5

Step 2

Subtract the tens

6 tens – 5 tens = 1 ten.

Write 1 in the tens place.

	Th	H	T	O
	8	9	6	5
–	4	6	5	0
		3	1	5

Step 3

Subtract the hundreds

9 hundreds – 6 hundreds = 3 hundreds.

Write 3 in the hundreds place.

	Th	H	T	O
	8	9	6	5
–	4	6	5	0
	4	3	1	5

Step 4

Subtract the thousands

8 thousands – 4 thousands = 4 thousands.

Write 4 in the thousands place.

The cost of water heater is ₹ 4315.

Practice

1) 9865 – 2334

2) 7650 – 2310

3) 4000 – 2000

4) 8897 – 3405

5) 8743 – 1212

6) 7329 – 2018

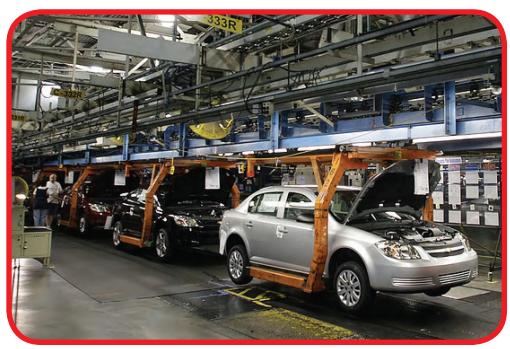
7) 9000 – 7000

8) 5678 – 2400

9) Population of a village is 8625. Of them 4314 are working in fields. Find the remaining population.

10) Number of vehicles parked in a shed is 2448. If 1236 vehicles are taken out, calculate the vehicles in the shed.

11) A car manufacturing company produced 2680 cars. 1570 cars are sold. How many cars are left in the company?



Subtraction with grouping

There were 8260 tea packets in a van. Of these 6984 tea packets were sold out. Find the remaining tea packets.

Solution:

Tea packets in the van = 8260
Sold tea packets = 6984
Remaining tea packets = 8260 – 6984

	Th	H	T	O
			5	10
	8	2	~~6~~	~~0~~
–	6	9	8	4
				6

Step 1

Subtract the ones

4 cannot be subtracted from 0

Take 1 ten from 6 tens, (we get 1 ten =10 ones)

10 ones – 4 ones = 6 ones

	Th	H	T	O
		1	15	10
	8	~~2~~	~~6~~	~~0~~
–	6	9	8	4
			7	6

Step 2

Subtract the tens

8 cannot be subtracted from 5

Take 1hundred from 2 hundreds,

(1hundred = 10 tens) and adding with 5 tens

we get 15 tens – 8 tens = 7 tens

	Th	H	T	O
	7	11	15	10
	~~8~~	~~2~~	~~6~~	~~0~~
–	6	9	8	4
		2	7	6

Step 3

Subtract the hundreds

9 cannot be subtracted from 1

Take 1 thousand from 8 thousands,

(1 thousand = 10 hundreds) adding with 1 hundred

we get 11 hundreds – 9 hundreds = 2 hundreds

	Th	H	T	O
	7	11	15	10
	~~8~~	~~2~~	~~6~~	~~0~~
–	6	9	8	4
	1	2	7	6

Step 4

Subtract the thousands

7 thousands – 6 thousands = 1 thousand

The remaining tea packets = 1276

Practice

1)

	Th	H	T	O
	5	2	8	6
−	3	4	5	2

2)

	Th	H	T	O
	7	3	4	5
−	2	6	5	2

3)

	Th	H	T	O
	9	2	5	6
−	4	6	7	8

4)

	Th	H	T	O
	8	5	6	3
−	3	7	6	8

5)

	Th	H	T	O
	5	0	5	0
−	2	2	4	0

6)

	Th	H	T	O
	7	0	6	4
−	3	4	3	7

7)

	Th	H	T	O
	6	4	0	0
−	2	1	2	0

8)

	Th	H	T	O
	6	0	0	0
−	2	1	5	0

H	K	W	D	R	O	R	A
2810	4795	1834	3850	4280	4693	4578	3627

Write the letters for the answers from 1 to 8 in the box and read.

9) The sum of two numbers is 3527. If one number is 2685, find the other number.

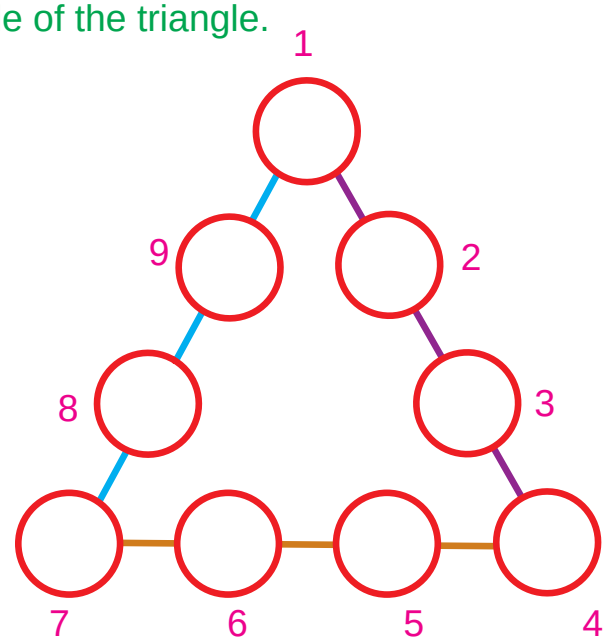
10) 2456 passengers travelled in a train. Of them, 1387 passengers have reserved their tickets, how many passengers have not reserved?

11) A lungi merchant bought 6570 lungies. If he was left with 1898 lungies, then how many lungies were sold?

12) In a two wheeler shop 543 vehicles were there during the beginning of month. Again 1475 vehicles arrived for the sale. If 1682 vehicles are sold, how many vehicles are left at the end of the month?

Oral sums

- Do the given problems and enter the result in the given circles.
- Add the numbers in each side of the triangle.
- What do you observe?



1) In a street there are 40 houses in the left side and 30 houses in the right side. What is the total number of houses?

2) In a bus 60 passengers are sitting and 30 passengers are standing. How many passengers are there in the bus?

3) In an aeroplane there are 200 passengers and 20 workers. How many are there in that aeroplane?

4) There are 1000 roses in a flower shop. 300 roses are used to make garlands. How many roses are left?

5) 30 laddus are issued from 100 laddus. How many laddus are remaining?

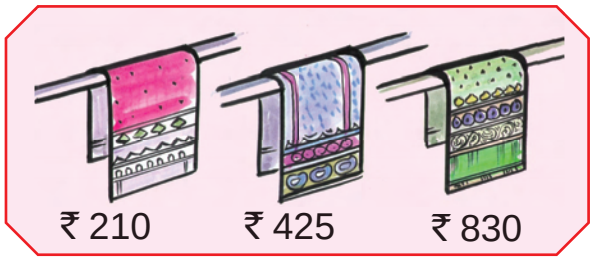
6) 20 boys and 30 girls are studying in a class. What is the total number of students?

7) A jack fruit has 160 pods in it and another jack fruit has 100 pods. What is the total number of pods?

8) 700 lemons were bought to prepare pickle. Out of these 200 were used. How many lemons were left?

9) In a shop there were 500 shirts. 250 shirts were sold. How many shirts were left.

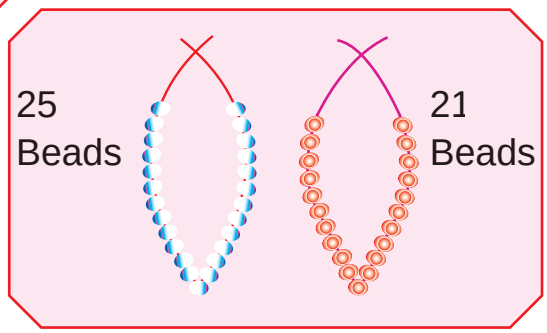
Observe the following pictures and frame the problems.



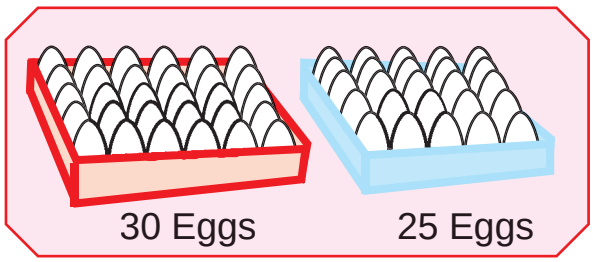
Problem

What is the total cost of 3 sarees?

Problem

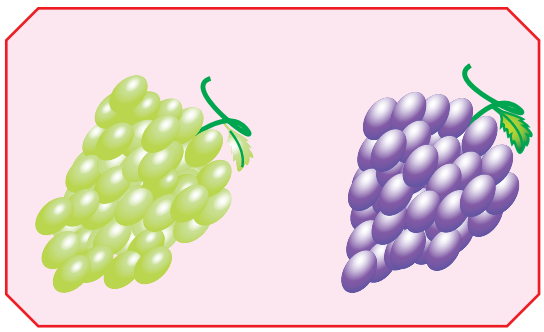


Problem

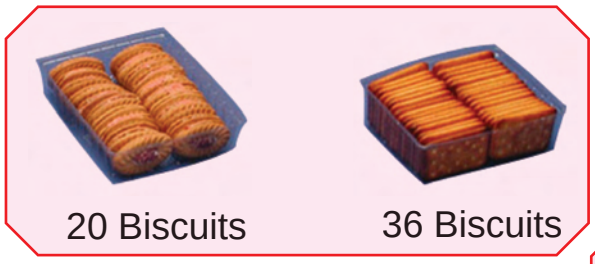


Problem

There are 70 green grapes and 60 black grapes. How many green grapes are more than black grapes?



Problem



Problem

Estimation in addition and subtraction

Estimation in addition

Balachandar has to travel 14 km by bus and 18 km by train to reach his office. Estimate the total distance he has to travel.

Mode of Travel	Actual distance	Estimated distance
Bus	14 km	10 km
Train	18 km	20 km
Total	32 km	30 km

The difference between

actual distance and estimated distance = 32 km – 30 km

Difference = 2 km

Practice

A retailer purchased 83 kg of wheat 46 kg of tamarind and 24 kg of red chillies for his provision store from a whole sale dealer. Estimate the total weight of 3 items. Find the difference between actual weight and estimated weight.

Estimation in subtraction

A gold smith had 88 g of gold coins. He used 63 g of gold to make different patterns of ornaments. Estimate the weight of gold left with him.

coin	Actual weight	Estimated weight
Total	88 g	90 g
Used	63 g	60 g
Left	25 g	30 g

The difference between actual weight and estimated weight

= 30 g – 25 g

Difference = 5 g

Practice

There were 76 kg of cakes in a bakery shop. In two days 43 kg were sold. Estimate the weight of the cakes left.

REVISION

Do the sums

1) 3462 + 2524 = _____

2) 2835 + 4124 = _____

3) 3654 + 4303 = _____

4) 1347 + 6532 = _____

5) 2289 + 7642 = _____

6) 3009 + 4006 = _____

7) 2010 + 5297 = _____

8) 1800 + 3589 = _____

9) A company produced 4152 dresses for boys and 2340 dresses for girls. Find the total number of dresses produced.

10) A factory manufactured 2436 mixies last week and 3527 mixies this week. How many mixies were manufactured altogether?

11) 8000 – 3000 = _____

12) 5900 – 4700 = _____

13) 6058 – 2035 = _____

14) 7090 – 5040 = _____

15) 6437 – 2329 = _____

16) 8942 – 3424 = _____

17) 7826 – 3918 = _____

18) 6243 – 2462 = _____

19) A farmer 6475 bags of carrot had taken to the market. He sold 5243 bags. How many bags of carrot are left?

20) In a school 2238 students went to various educational tours last year. If 1356 students went to some tours this year, how many more students went last year?

4 MULTIPLICATION AND DIVISION

MULTIPLICATION

In a World Cup Cricket Match, 2007, Yuvaraj Singh took six runs for each ball in an over.

Shall we calculate the runs taken by him in the over?

Number of runs taken in

one ball	=	6	= 1 × 6 = 6
two balls	=	6 + 6	= 2 × 6 = 12
three balls	=	6 + 6 + 6	= 3 × 6 = 18
four balls	=	6 + 6 + 6 + 6	= 4 × 6 = 24
five balls	=	6 + 6 + 6 + 6 + 6	= 5 × 6 = 30
six balls (one over)	=	6 + 6 + 6 + 6 + 6 + 6	= 6 × 6 = 36

Multiplication is the short form of repeated addition

6th table

1 × 6 = 6	6 × 6 = 36
2 × 6 = 12	7 × 6 = 42
3 × 6 = 18	8 × 6 = 48
4 × 6 = 24	9 × 6 = 54
5 × 6 = 30	10 × 6 = 60

6 notebooks are needed for one student. How many notebooks are needed for 7 students?

Solution:

To find the total notebooks we have to multiply 7 by 6.

42 notebooks are needed for 7 students $7 \times 6 = 42$

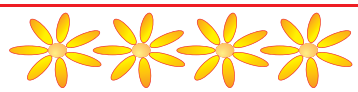
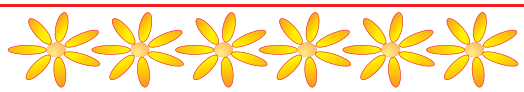
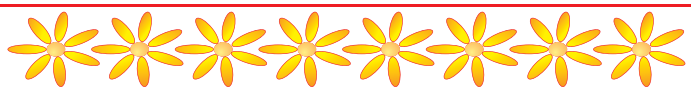
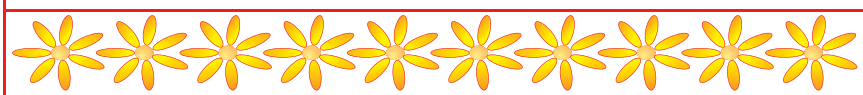
Practice

1) 3 × 6 = ____ 2) 4 × 6 = ____ 3) 5 × 6 = ____

4) If a shirt has 6 buttons, how many buttons will be in 8 shirts?

5) Number of fans in a house is 6. Find the number of fans in 9 houses.

Complete the 7th table

Flower has 7 petals. 	1 × 7 = 7
	2 × 7 = 14
	3 × 7 = 21
	
	
	6 × 7 = 42
	
	8 × 7 = 56
	
	10 × 7 =70

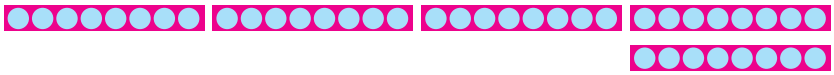
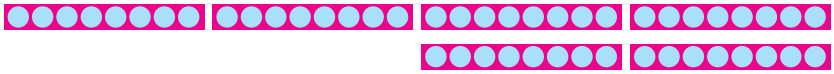
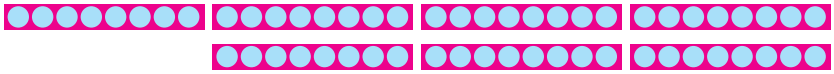
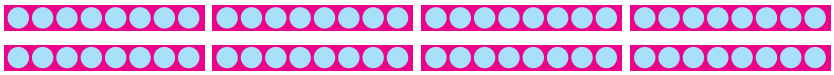
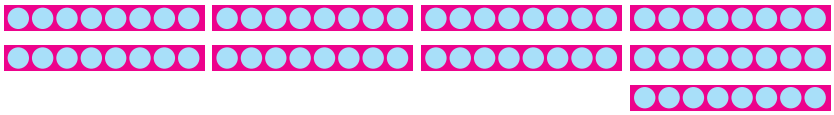
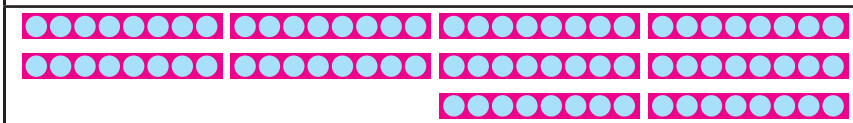
Practice

1) 4 × 7 = ____ 2) 7 × 7 = ____ 3) 9 × 7 = ____

4) A box contains 7 pencils. How many pencils are there in 5 boxes?

5) One week has 7 days. Calculate the numbers of days in 8 weeks.

Complete the 8th table

	1 × 8 = 8
	2 × 8 = 16
	3 × 8 = 24
	
	5 × 8 = 40
	
	7 × 8 = 56
	
	
	10 × 8 = 80

Practice

1) 4 × 8 = ____ 2) 6 × 8 = ____ 3) 9 × 8 = ____

4) Number of rods in a window is 8. Find the number of rods in 8 windows.

5) Find the number of pillars for 7 buildings, if a building has 8 pillars.

Complete the 9th table.

9	= 1 × 9 = 9
9+9	= 2 × 9 = 18
9+9+9	= _____
9+9+9+9	= 4 × 9 = 36
9+9+9+9+9	= _____
9+9+9+9+9+9	= 6 × 9 = 54
9+9+9+9+9+9+9	= _____
9+9+9+9+9+9+9+9	= 8 × 9 = 72
9+9+9+9+9+9+9+9+9	= _____
9+9+9+9+9+9+9+9+9+9	= 10 × 9 = 90

Practice

1) 4 × 9 = ____ 2) 7 × 9 = ____ 3) 8 × 9 = ____

4) A Kho - Kho team has 9 persons. How many persons are there in 6 teams?

5) Number of idlies prepared for one time is 9. How many idlies will be prepared for 9 times?

Complete the 10th table.

From the tables 1 to 9 we know the following.

10 × 1 = 10
10 × 2 = 20
10 × 3 = 30
10 × 4 = 40
10 × 5 = 50
10 × 6 = 60
10 × 7 = 70
10 × 8 = 80
10 × 9 = 90

Complete the following.

1 × 10 = 10
2 × 10 = 20
_____
_____
_____
_____
_____
_____
_____
10 × 10 =100

Multiplication by 10, 100, 1000

Fill in the boxes

1) 5 × 10 = 50

2) 60 × 10 = ____

3) 705 × 10 = ____

4) 500 × 10 = ____

5) 7 × 100 = 700

6) 40 × 100 = ____

7) 66 × 100 = ____

8) 3 × 1000 = 3000

9) 8 × 1000 = ____

10) 9 × 1000 = ____

When a number is multiplied by 10, 100, 1000, it is enough to write one zero, two zeros, three zeros respectively after that number.

Multiplication by 1

5 × 1 = 5
48 × 1 = 48
760 × 1 = 760

The product of one and any number is the number itself.

Multiplication by 0

7 × 0 = 0
50 × 0 = 0
384 × 0 = 0

The product of zero and any number is zero.

Order of multiplication

1 × 2 = 2 × 1
27 × 5 = 5 × 27
768 × 4 = 4 × 768

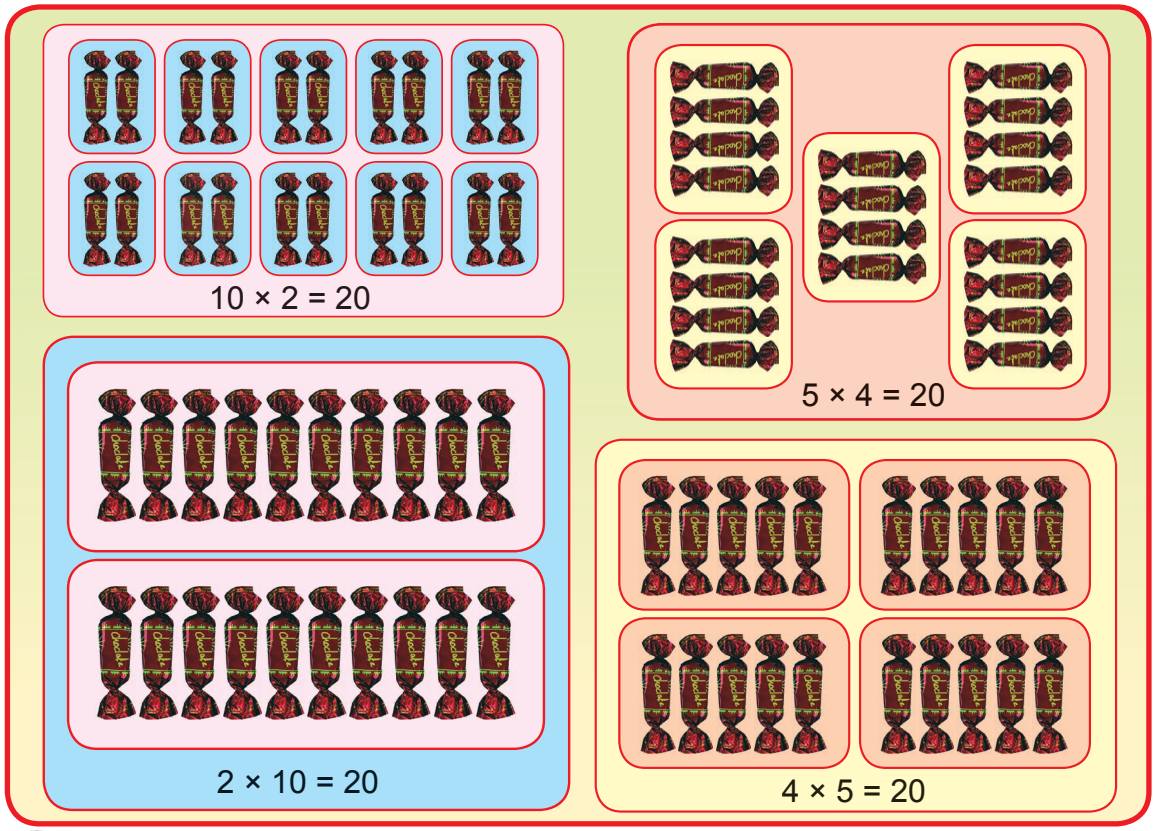
The product of two numbers does not change, if we interchange the order of numbers.

Fill in the blanks.

7 × 8 = 56 = 8 × 7
5 × 9 = 45 = 9 × 5
10 × 7 = 70 = 7 × 10

7 × 6 = ____ = 6 × 7
____ = 72 = 8 × 9
9 × 9 = 81 = ____

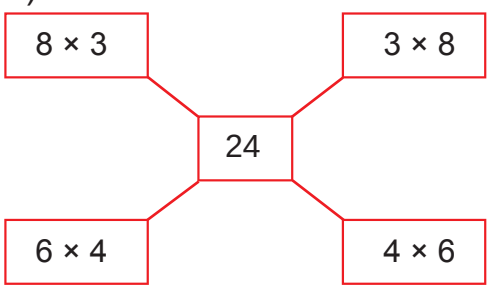
Srinath arranged 20 chocolates in the following ways.



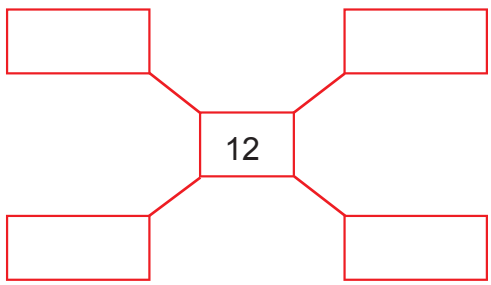
Practice

Complete the chart for the following numbers.

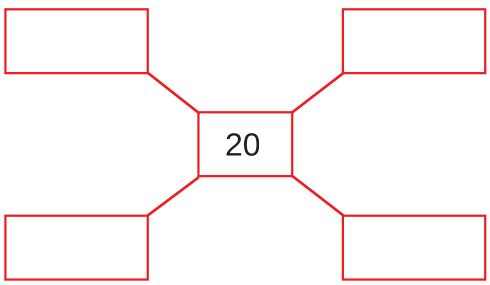
1)



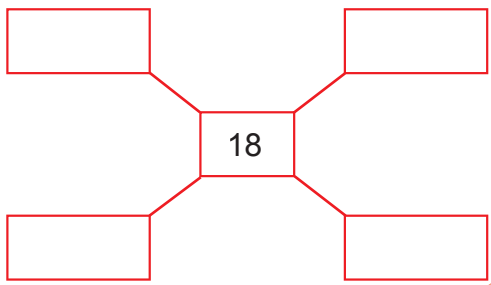
2)



3)



4)



Multiplication of two digit number by one digit number

If one class has 34 students, find the number of students in 6 classes.

Solution: Number of students in one section = 34

Number of students in 6 sections = 34 × 6

H	T	O
	(2)	
	3	4
	×	6
		4

Step 1:

4 × 6 = 24 ones

Write 4 in the 'ones' place

and carry (2) in the 'tens' place.

H	T	O
	(2)	
	3	4
	×	6
2	0	4

Step 2:

3 × 6 = 18 tens

Add 18 tens and (2) tens.

18 + (2) = 20

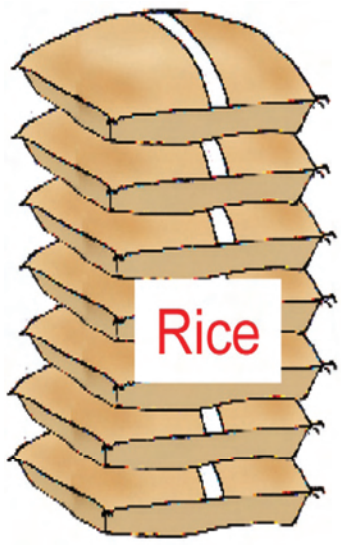
Write 0 in tens place and

2 in hundreds place.

Number of students in 6 sections = 204

Multiplication of 3 digit number by one digit number

The cost of a rice bag is ₹ 436. Find the cost of 7 rice bags.



Solution:

Cost of a rice bag = ₹ 436

Cost of 7 rice bags = ₹ 436 × 7

Th	H	T	O
	(2)	(4)	
	4	3	6
		×	7
3	0	5	2

Steps :

- 6 × 7 = 42

  write 2 in ones place and carry 4 in tens place
- 3 × 7 = 21, 21 + 4 = 25

  write 5 in tens place and carry 2 in hundreds place
- 4 × 7 = 28, 28 + 2 = 30

  write 0 in hundreds place and 3 in thousands place.

Cost of 7 rice bags = ₹ 3052

Practice

1) 67 × 6	2) 95 × 5	3) 47 × 8	4) 87 × 5
5) 897 × 6	6) 725 × 7	7) 506 × 7	8) 923 × 8
9) 666 × 8	10) 460 × 9	11) 292 × 5	12) 788 × 9

13) A pearl necklace has 52 pearls. How many pearls are there in 7 necklaces?

14) Number of roses needed for a garland is 72. Calculate the number of roses needed for 9 garlands?

15) 485 sugarcane bundles are loaded in a cart. How many bundles are loaded in 7 carts?

16) The cost of an iron box is ₹ 565. Find the cost of 8 iron boxes.

Multiplication of two digit number by two digit number

A box contains 48 apples. How many apples are there in 56 boxes?

Solution: Number of apples in a box = 48

Number of apples in 56 boxes = 48 × 56

We can write 56 = 50 + 6

Th	H	T	O
		4	8
	×	5	6
	2	8	8
2	4	0	0
2	6	8	8

Step 1	Step 2	Step 3
4 8	4 8	2 8 8
× 6 ones	× 5 0 ones	+ 2 4 0 0
2 88 ones	2 4 0 0 ones	2 6 8 8

Number of apples in 56 boxes = 2688

Another way

Th	H	T	O
	(4)	(4)	
		4	8
	×	5	6
	2	8	8
2	4	0	0
2	6	8	8

Step 1

Multiply ones by ones

8 × 6 = (4) 8

Multiply tens by ones

4 × 6 = 24

24 + (4) = 28

48 × 6 = 288

Step 2

Multiply ones by tens

8 × 5 = (4) 0

Multiply tens by tens

4 × 5 = 20

20 + (4) = 24

48 × 5 = 2400

Number of apples in 56 boxes = 2688.

Practice

1) 59 × 43 2) 58 × 56 3) 95 × 60 4) 78 × 66 5) 38 × 71

6) 92 × 76 7) 60 × 88 8) 54 × 90 9) 70 × 92 10) 65 × 98

11) In a marriage hall 28 persons are seated in a row. How many persons are seated in 36 rows?

12) Bus fare for a person from Chennai to Cuddalore is ₹ 61. Find the bus fare for 43 persons.

13) A Mini van is loaded with 44 onion bags. How many onion bags are loaded in 37 Mini vans?

14) One quire of paper contains 24 sheets. How many sheets are there in 36 quires?

15) How many hours are there in the month of July?

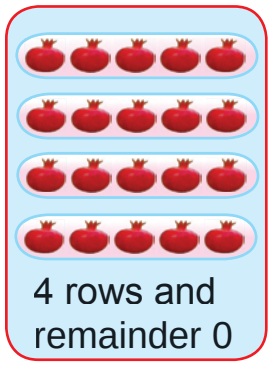
Puzzle

I am a two digit number. I lie in between 40 and 50. I am an even number. I appear in sixth and seventh multiplication table. Who am I?

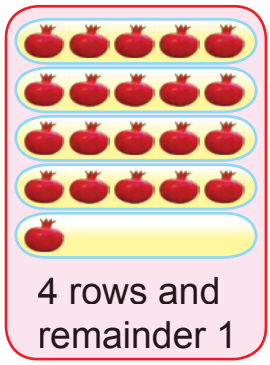
DIVISION

Sharing

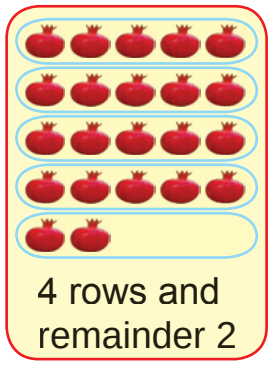
There are 20, 21, 22, 23, 24 and 25 pomegranates in each box. In how many rows they can be arranged if each row has 5 pomegranates?



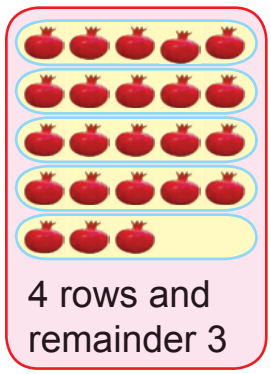
4 rows and remainder 0



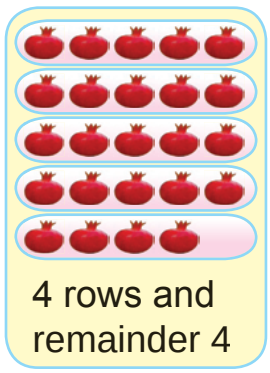
4 rows and remainder 1



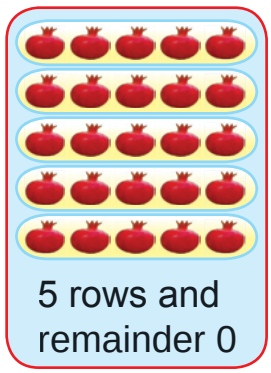
4 rows and remainder 2



4 rows and remainder 3



4 rows and remainder 4



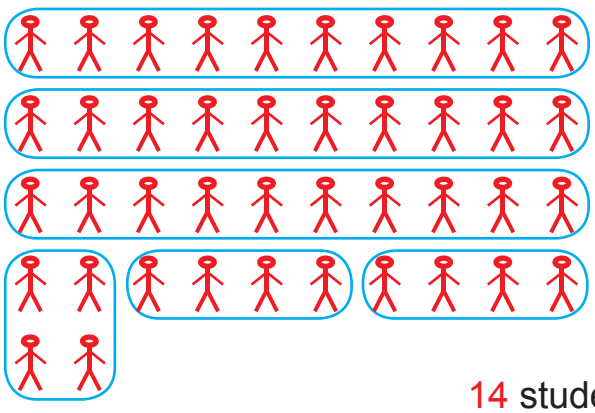
5 rows and remainder 0

Arrange in groups

If 42 students are grouped equally into 3 teams, how many students will be there in each team?

Divide : 42 ÷ 3

42 = 30 + 12



10 + 4 = 14

3 | 30 + 12
  | 30 + 12
  | 0

Quotient = 14
Remainder = 0

14 students will be in each team.

Division of three digit number by a one digit number

Division without remainder

Divide 875 by 7

```
      1 2 5
   ┌───────
 7 │ 8 7 5
   │ 7
   ├───────
   │ 1 7
   │ 1 4
   ├───────
   │   3 5
   │   3 5
   ├───────
   │     0
```

Step 1 : Take 8 hundreds. Divide 8 by 7.
Quotient =1 and remainder = 1

Step 2 : Take 17 tens
Divide 17 by 7. Quotient = 2 and remainder = 3

Step 3 : Take 35 ones
Divide 35 by 7. Quotient = 5 and remainder = 0

875 ÷ 7 = 125

Quotient = 125, Remainder = 0

Find the number of plates distributed equally to 9 hostels if the total number of plates are 963.

Solution : Total numbers of plates distributed = 963

Number of hostels = 9

Number of plates distributed to each hostel = 963 ÷ 9

```
      1 0 7
   ┌───────
 9 │ 9 6 3
   │ 9
   ├───────
   │   6 3
   │   6 3
   ├───────
   │     0
```

Step 1 : Take 9 hundreds.
9 ÷ 9 = 1.

Step 2 : Take 6 tens.
6 cannot be divided by 9.
So, put 0 tens in quotient's place.
Now take 63 ones.
63 ÷ 9 = 7, remainder 0.

107 plates are distributed for each hostel

Division with remainder

Divide 657 by 8

```
      8 2
  8 | 6 5 7
    | 6 4↓
    |   1 7
    |   1 6
    |     1
```

Step 1 : Take 6 hundreds. 6 cannot be divided by 8. So take 65 tens. Divide 65 by 8. Quotient = 8 and remainder = 1

Step 2 : Take 17 ones. Divide 17 by 8. Quotient = 2 and remainder = 1

Quotient = 82 Remainder = 1

Practice

1) 575 ÷ 5 2) 336 ÷ 6 3) 456 ÷ 8 4) 658 ÷ 7

5) 807 ÷ 6 6) 690 ÷ 7 7) 981 ÷ 8 8) 829 ÷ 9

9) An electrician fixed 4 bulbs in a room. In how many rooms can 216 bulbs be fixed by him?

10) 9 saplings are planted in a row. In how many rows are 872 saplings planted?

Division of 4 digit number by one digit number

Division without remainder

Divide 7847 by 7

Step 1 : Take 7 thousands. Divide 7 by 7.
Quotient = 1 and remainder = 0

Step 2 : Take 8 hundreds. Divide 8 by 7.
Quotient = 1 and remainder = 1

Step 3 : Take 14 tens. Divide 14 by 7.
Quotient = 0 and remainder = 0

Step 4 : Take 7 ones. Divide 7 by 7.
Quotient =1 and remainder = 0

```
      1 1 2 1
  7 | 7 8 4 7
    | 7↓
    |   8
    |   7 ↓
    |   1 4
    |   1 4 ↓
    |       7
    |       7
    |       0
```

Quotient = 1121, Remainder = 0

8 children collected 4904 shells from the sea shore. If the shells are equally shared, how many shells will each get?

Solution :

Total number of shells = 4 9 0 4

Number of children = 8

Number of shells for each children = 4 9 0 4 ÷ 8

```
      6 1 3
   ┌────────
 8 │ 4 9 0 4
   │ 4 8
   ├──────
   │   1 0
   │     8
   ├──────
   │     2 4
   │     2 4
   ├──────
   │       0
```

Step 1 : Take 4 thousands. 4 cannot be divided by 8. So take 49 hundreds. Divide 49 by 8. Quotient = 6 and remainder =1

Step 2 : Take 10 tens. Divide 10 by 8. Quotient = 1 and remainder = 2.

Step 3 : Take 24 ones. Divide 24 by 8. Quotient =3 and remainder = 0.

Each children will get 613 shells.

Division with remainder

Divide 7004 by 6

Step 1 : Take 7 thousands. Divide 7 by 6. Quotient = 1 and remainder = 1.

Step 2 : Take 10 hundreds. Divide 10 by 6. Quotient = 1 and remainder = 4

Step 3 : Take 40 tens. Divide 40 by 6. Quotient = 4 and remainder = 4

Step 4 : Take 44 ones. Divide 44 by 6. Quotient = 7 and remainder = 2.

```
     1 1 6 7
   ┌────────
 6 │ 7 0 0 4
   │ 6
   ├────────
   │ 1 0
   │   6
   ├────────
   │   4 0
   │   3 6
   ├────────
   │     4 4
   │     4 2
   ├────────
   │       2
```

Check : 1167 × 6 = 7002
adding the remainder 2
7002 + 2 = 7004

Quotient = 1167
Remainder = 2

Divide 9805 by 8

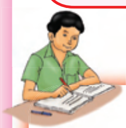
```
    1 2 2 5
8 | 9 8 0 5
    8            1 x 8 = 8
    1 8
    1 6          2 x 8 = 16
      2 0
      1 6        2 x 8 = 16
        4 5
        4 0      5 x 8 = 40
          5
```

Quotient = 1225
Remainder = 5

Divide 5567 by 9

```
      6 1 8
9 | 5 5 6 7
    5 4          6 x 9 = 54
      1 6
        9        1 x 9 = 9
        7 7
        7 2      8 x 9 = 72
          5
```

Quotient = 618
Remainder = 5



Practice

1) 5232 ÷ 6 2) 8540 ÷ 7 3) 4624 ÷ 8 4) 2340 ÷ 9

5) 8348 ÷ 6 6) 6205 ÷ 7 7) 3426 ÷ 8 8) 3352 ÷ 9

9) 6 students can be seated in a bench. How many benches are required for 6264 students?

10) A six storey building has 2292 rooms. If every floor has the same number of rooms, how many rooms are there on each floor?

11) 7 containers have 7630 mugs of water. How many mugs of water are in one container?

Observe and fill in the blanks.

42 ÷ 6 = 7	56 ÷ 7 = ______	81 ÷ 9 = ______
420 ÷ 6 = 70	560 ÷ 7 = ______	810 ÷ 9 = ______
4200 ÷ 6 = 700	5600 ÷ 7 = ______	8100 ÷ 9 = ______

Observe the following pictures and frame problems

Bus fare for one person is ₹ 96. Find the fare for 5 persons.

Vegetable and Fruit stall

Onion	1kg	₹ 15
Potato	1kg	₹ 25
Tomato	1kg	₹ 12
Drumstick	1kg	₹ 30
Apple	1kg	₹ 80
Banana	1	₹ 3

Problems

1.

2.

3.

4.

Total cost ₹ 132

Problem

Cost of six soap cakes are ₹ 132. What is the cost of a soap cake?

Total cost ₹ 88

Problem

Total cost ₹ 500

Problem

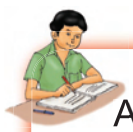
Estimation in multiplication

A tourism company collected ₹ 85 per head for a field trip. Estimate the amount collected from 27 persons.

		Actual amount	Estimated amount
Amount per head	=	₹ 85	₹ 90
Amount for 27 persons	=	₹ 85 × 27 595 170 ₹ 2295	₹ 90 × 30 00 270 ₹ 2700

Difference between estimated amount and actual amount = ₹ 2700 − ₹ 2295

Difference = ₹ 405



Practice

A person delivers 92 newspapers in a day. Estimate the number of newspapers that he delivers in 28 days?

Estimate and calculate.

Numbers	Actual value	Estimated value	Difference
45 × 12	540	50 × 10 = 500	40
92 × 18			
26 × 22			
33 × 37			

REVISION

Multiply.

1) 62 × 4
2) 35 × 7
3) 42 × 6
4) 89 × 8
5) 360 × 5
6) 402 × 6
7) 237 × 8
8) 685 × 9
9) 40 × 27
10) 30 × 70
11) 81 × 44
12) 92 × 53

13) The cost of a toothpaste packet is ₹ 26. Find the cost of 48 tooth paste packets?

14) A lorry is loaded with 6 cars. How many cars can be loaded in 450 lorries?

Divide.

1) 72 ÷ 4
2) 80 ÷ 5
3) 98 ÷ 6
4) 88 ÷ 8
5) 654 ÷ 5
6) 342 ÷ 6
7) 530 ÷ 7
8) 632 ÷ 8
9) 458 ÷ 9
10) 8505 ÷ 5
11) 5437 ÷ 6
12) 6027 ÷ 7

13) If 6 notebooks have 9120 lines, how many lines are there in a notebook?

14) If 9 ice cream cups are placed in a tray, how many trays are needed for 504 ice cream cups?

5 MEASURING LENGTH

FANCY STORE

Friends are talking about stationary items they have bought.

What did you buy?

I bought hair pin and pencils.

I bought pencil eraser which is small in length.

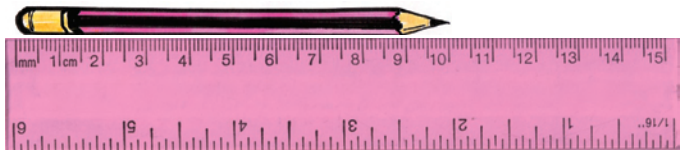
I bought ribbon. It is longer in length.

Shall we measure and see...

Pencil, ribbon, cloth etc... are measured by length.

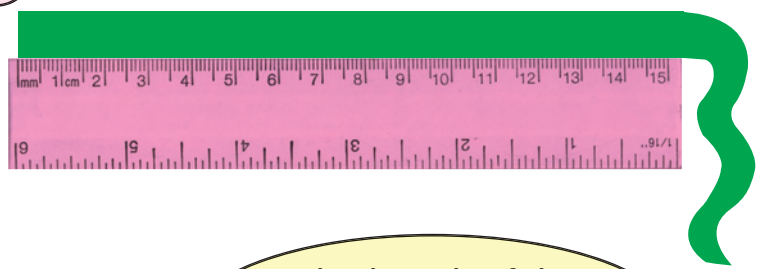
Measuring tools

Shall we measure with scale?



Pencil is 10 centimetre long.

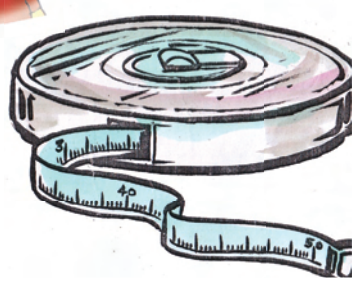
Now can we measure ribbon by using tape?



The length of the ribbon is more than the length of the scale.

Is there any other tools to measure?

We can also use the tape to measure.



We measure the length of a play ground with a measuring tape.

Length of smaller objects are measured in centimetre

Centimetre can be written as cm.

Take the things given in pictures and write the length of them by measuring with scale.

1) Length of a chalk = 8 cm

2) Length of a pen =

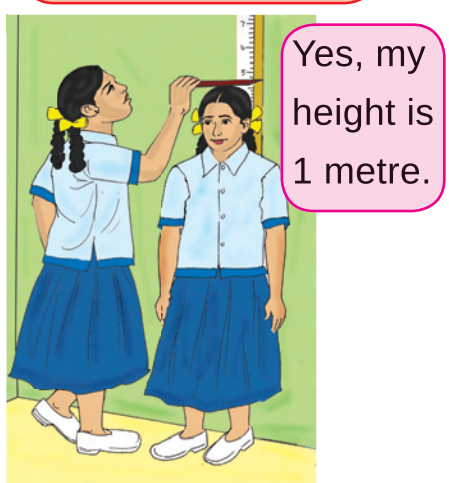
3) Length of a spoon =

4) Length of a box =

5) Length of a book =

Relation between metre and centimetre

Archana is measuring her friend's height.



Height is measured in metre.

1 metre = 100 centimetre

Metre can be written as m

Conversion of metre into centimetre

Convert 3 m into cm.

1 m = 100 cm

3 m = 3 × 100 cm

3 m = 300 cm

Convert 15 m into cm.

1 m = 100 cm

15 m = 15 × 100 cm

15 m = 1500 cm

Convert 6m 20cm into cm

1 m = 100 cm

step 1

6 m = 6 × 100 cm

6 m = 600 cm

step 2

600 cm

+ 20 cm

620 cm

6m 20cm = 620 cm

To change m into cm, multiply by 100

Practice

1)	2 m	=	200 cm	5)	3m 40cm	=	340 cm
2)	5 m	=	_____cm	6)	7m 10cm	=	____cm
3)	25 m	=	2500 cm	7)	8m 7cm	=	807 cm
4)	48 m	=	_____cm	8)	6m 5cm	=	____cm

Conversion of centimetre into metre

Convert 500 cm into m

100cm = 1m

500 ÷ 100 = 5

500cm = 5m

Convert 725 cm into m

100cm = 1m

725cm = 700 cm + 25 cm = 7 m + 25 cm

725cm = 7m 25cm

To change cm into m, divide by 100

Practice

1)	200 cm	= 2 m	5)	485 cm	= 4m 85cm
2)	500 cm	= ____m	6)	775 cm	= ___m ___cm
3)	5700 cm	= ____m	7)	970 cm	= ___m ___cm
4)	4800 cm	= ____m	8)	706 cm	= 7m 6cm

Addition

12m 75cm + 58m 56cm

m	cm
12	75
+ 58	56
71	31

Step 1

Add cm

75

+ 56

131cm = 1m 31cm

Step 2

Add m

1

12

+ 58

71 m

12m 75cm + 58m 56cm = 71m 31cm

Practice

Add

m	cm
92	19
+ 83	42

m	cm
22	65
+ 97	48

m	cm
25	60
+ 56	35

m	cm
43	08
+ 27	64

Life related problems

Reena bought 15m 85cm of red ribbon and 28m 50cm of green ribbon to decorate the hall. What is the total length of the ribbon.

		m	cm
Length of the red ribbon	=	15	85
Length of the green ribbon	= +	28	50
Total Length of the ribbon	=	44	35

Total Length of the ribbon is 44m 35cm

Practice

Ashok sold 20m 95cm of cloth to one customer and 11m 35cm to another customer. Find the total length of the cloth.

Subtraction without conversion

95m 27cm – 46m 18cm

m	cm
95	27
− 46	18
49	09

95m 27cm − 46m 18cm = 49m 9cm

Step 1

subtract cm

27

− 18

9 cm

Step 2

subtract m

95

− 46

49 m

Practice

m	cm
94	84
– 44	12

m	cm
85	44
– 68	29

m	cm
95	75
– 57	36

m	cm
32	28
– 12	09

Subtraction with conversion

84m 85cm − 68m 96cm

m	cm
84	85
− 68	96
15	89

96 cm cannot be subtracted from 85 cm. So take 1 m from 84 m.

Step 1

subtract cm

85 − 96

185 − 96 = 89

Step 2

subtract m

83 − 68 = 15

84m 85cm − 68m 96cm = 15m 89cm

Practice

Subraction

m	cm
93	29
− 32	65

m	cm
85	21
− 47	75

m	cm
98	46
− 78	89

m	cm
56	18
− 28	37

Life related problems

Dinesh bought 80m 50cm of wire to fence his garden. He used only 65m 75cm of wire. Find the remaining length of the wire.

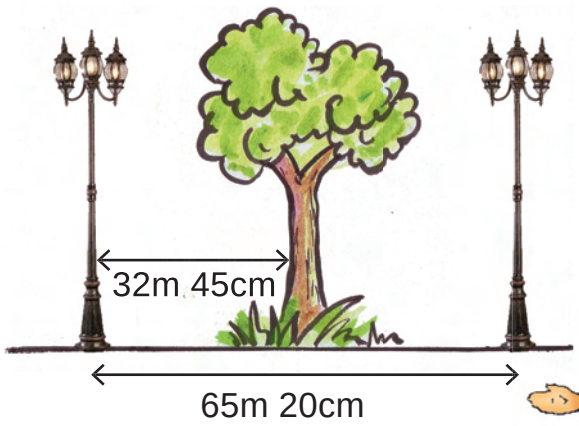
		m	cm
Total length of the wire	=	80	50
Length of the wire used	= −	65	75
	=	14	75

Remaining length of the wire is 14m 75cm

Practice

1) Kannan sold 48m 87cm of curtain cloth from the roll of 95m 75cm. How much is left over?

2) Distance between two poles is 65m 20cm. In between the poles there is a tree which is 32m 45cm away from the first pole. Find the distance between the tree and the second pole.



One metre is about the distance from one hand to other when your arms are stretched out

PROJECT

Estimate the following distances.

1) Distance between your classroom and the next classroom.

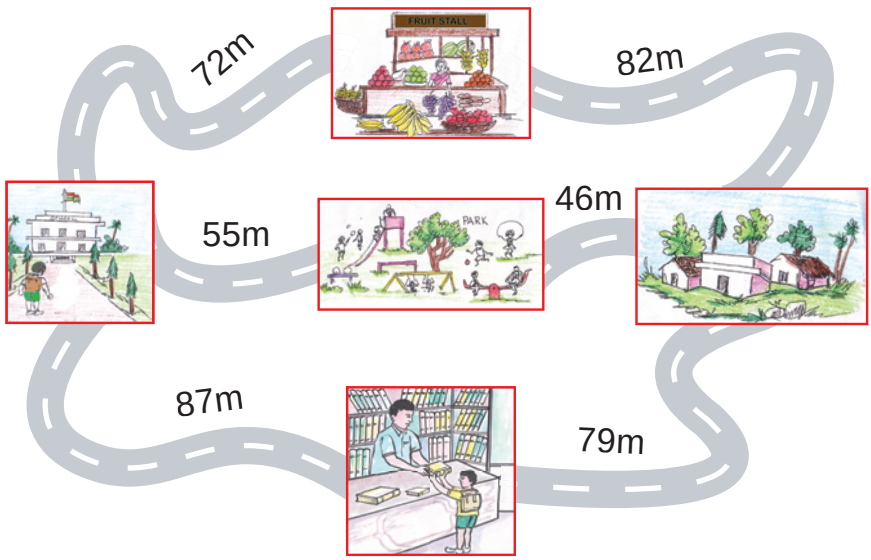
2) Distance between your classroom and play ground.

3) Distance between the two poles in a kho - kho ground.

4) Distance between two neighbouring trees in your school.

Lab activity

Look at the route map. The distance are marked in the figure.



Vijay goes to school by walk. While going to school he buys notebooks from the bookstall.

1) Distance between Vijay's house and the bookstall is _____

2) From the bookstall he goes to the school. Distance between the bookstall and the school is _____

3) Total distance covered by him from his house to school is _____

4) After school he goes to the fruit stall and buys fruits, then he goes to his house. Distance covered from school to house is _____

5) After reaching home he goes to the park and comes back home. Total distance covered by him is _____

6) In case he comes directly from school to his house through park, then distance covered by him is _____

REVISION

Fill in the blanks

1) 1300 cm = _____ m

2) 5800 cm = _____m

3) 563 cm = _____m _____ cm

4) 1865 cm = _____m _____ cm

5) 809 cm = _____m _____ cm

6) 7m 25cm = _____cm

7) 4m 60cm = _____cm

8) 8m 15cm = _____cm

Do the sums

1)

	m	cm
	80	20
+	35	65

2)

	m	cm
	77	77
+	38	60

3)

	m	cm
	85	85
+	76	42

4)

	m	cm
	62	80
−	35	65

5)

	m	cm
	97	07
−	38	52

6)

	m	cm
	35	55
−	22	68

7) Ravi purchased 1m 35cm shirt bit for him and and 1m 65cm shirt bit for his brother. Find the total length of the shirt bits.

8) An electrician had 63m 39cm of wire. He used 36m 48cm. How much length of wire was left with him?

6 WEIGHING OBJECTS

More weight

Iron ball

Less weight

Basket ball

Weight of potatoes are more

Weight of potatoes are less

Weight of potatoes are equal

Kilogram can be written as kg

Weighing stones and weight of objects in kilogram

Various weighing machines

	Weight of tomatoes = 2 kg
	Weight of grapes = ___kg
	My weight = ___kg
	Weight of sugar = ___kg
	Weight of firewood = ___kg

Rice, wheat, fruits, sugar and vegetables are measured by kilogram.

Addition in kilogram

Raghu Kumar Anadan

32 kg 30 kg 31 kg

Weight of

Raghu = 32 kg

Kumar = 30 kg

Anadan = + 31 kg

93 kg

Total weight of them is 93 kg

Practice

1) Find the total weight of vegtables

15 kg 10 kg 7 kg

Weight of

tomato = 15 kg

potato = 10 kg

onions = + 7 kg

Total weight of vegetables = _____

2) Find the total weight of cereals.

10 kg 75kg 63kg

Weight of

wheat = 10 kg

green gram = 75 kg

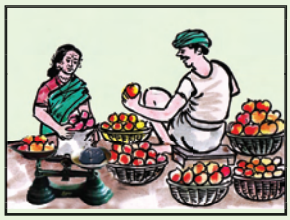
black gram = + 63 kg

Total weight is = _____

3) Weight of

rice 68 kg, sugar 55 kg and ragi 48 kg. Find the total weight.

Subtraction in kilogram



Weight of mangoes in the shop = 25 kg

Weight of mangoes sold = − 17 kg

8 kg

Remaining weight of mangoes in the shop = 8 kg

Initial weight of Ice bar is 28 kg. After 15 minutes weight of Ice bar is 16 kg.

28 kg

− 16 kg

12 kg

Weight of melted Ice = 12 kg

Practice

1) Weight of Laddu = 28 kg

Sold = −16 kg

Remaining laddu = ____ kg

2) Weight of Halwa = 43 kg

Sold = − 18 kg

Remaining halwa = _____ kg

3) Weight of Clay = 25 kg

Horses = −19 kg

Weight of unused clay = _____ kg

Weighing stones and weight of objects in gram


5g

10g 50g

75g

100g

200g

500g

Tea powder, coffee powder, gold, pepper, etc., are measured by grams

Gram can be written as g

1 Kilogram = 1000 gram

500g + 500g = 1000g

200g + 200g + 200g + 200g + 200g = 1000g

100g 100g 100g 100g 100g 100g 100g 100g 100g 100g = 1000g

Addition in gram

Let us find the total weight of the plums

200 g
500 g
+ 700 g
1400 g

1 kg = 1000g

1400 g = 1000 g + 400 g
= 1 kg + 400 g
= 1 kg 400 g

Total weight of plums = 1kg 400g

Practice

1) Find the total weight of grapes.

150 g
350 g
+ 850 g
_____
_____

Total weight of grapes =_____ g

2)	3)	4)	5)
250 g	247 g	645 g	894 g
345 g	199 g	561 g	467 g
+ 657 g	+ 238 g	+ 359 g	+ 500 g
_____	_____	_____	_____

Subtraction in gram

Let us calculate weight of mango.

Weight of
yellow bag = 1650 g
red bag = − 1350 g
300 g

Weight of mango is 300 g

Practice

1)	2)	3)	4)
756 g	539 g	465 g	647 g
− 435 g	− 49 g	− 309 g	− 35 g
_____	_____	_____	_____

Addition in kilogram and gram

Find the total weight of the following things.

Things	Weight kg	g
Television	20	500
Chair	5	350
Bicycle	30	100
Total	55	950

Steps

- Add the grams
- Add the kilograms

Total weight of things = 55 kg 950 g

Practice

1) Find the total weight of papayas.



1kg 255g 2kg 350g 3kg 300g

	kg	g
	1	255
	2	350
+	3	300

Total weight of papaya is _____ kg _____ g

2) Find the total weight of vegetables



17kg 250g 13kg 500g 25kg 105g

	kg	g
	17	250
	13	500
+	25	105

Total weight of vegetables is _____ kg _____ g

3)

	kg	g
	77	355
	89	090
+	35	155

4)

	kg	g
	44	363
	13	147
+	15	289

5)

	kg	g
	88	154
	16	246
+	26	343

Subtraction in kilogram and gram

Let us find the weight of honey

5kg 950g

4kg 895g

		kg	g
Weight of bee hive	=	5	950
Weight of honey	= –	4	895
Weight of honey wax	=	1	055

Weight of honey wax is 1kg 55g

Practice

1)

13kg 750g

11kg 255g

Weight of	kg	g
purple paint =	13	750
paint used = –	11	255

Remaining paint is _____ kg _____ g

2) Find the difference between the weight of oranges and jack fruit.

45kg 258g

18kg 163g

Weight of	kg	g
oranges =	45	258
jack fruit = –	18	163

Difference in weight = _____ kg _____ g

3)

kg	g
25	456
– 14	369

4)

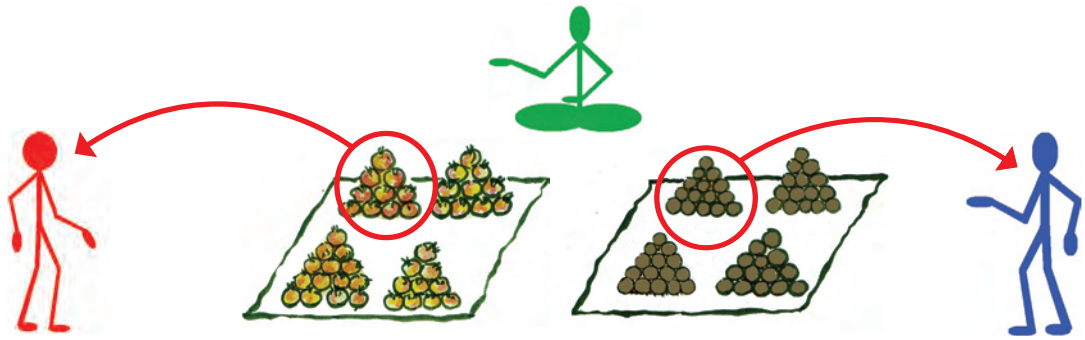
kg	g
37	576
– 25	455

5)

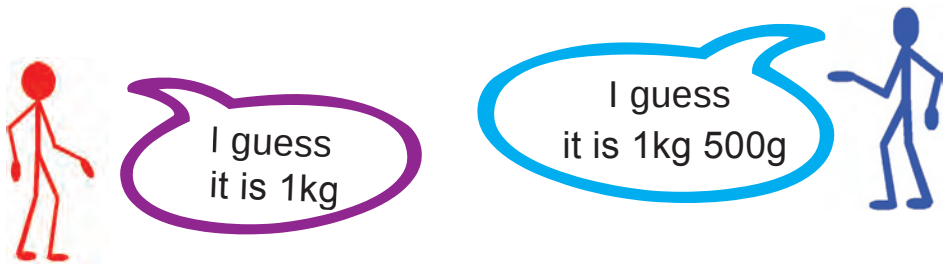
kg	g
54	342
– 37	523

Guessing weight

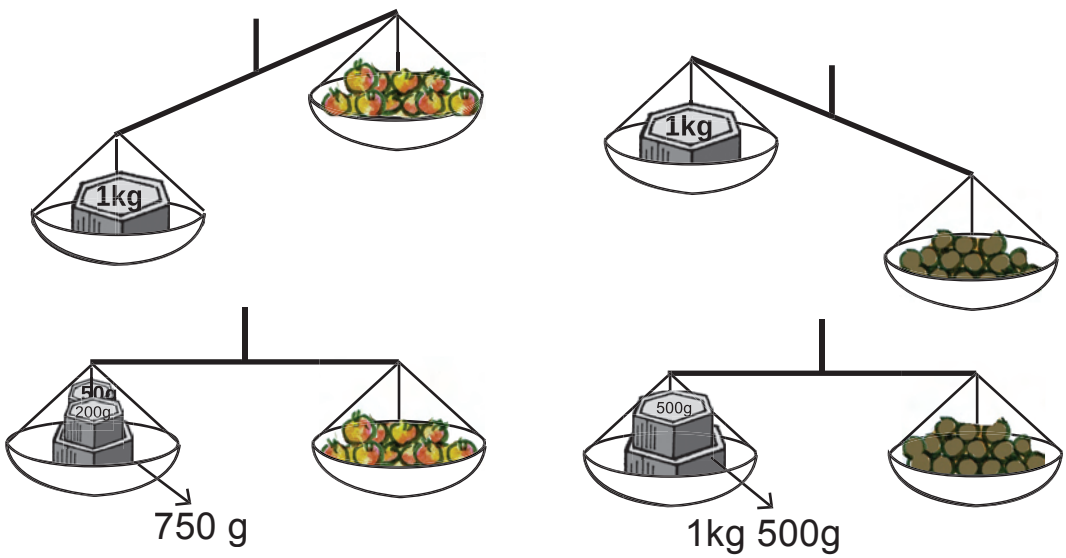
Shall we check our guessing, by weighing !



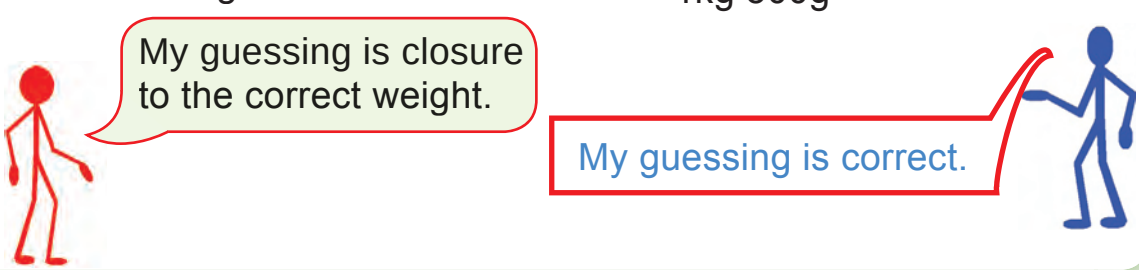
Pomegranate Sappota



Both are verifying their guessing.



750 g 1kg 500g



Estimate the weight of objects.

Maths Book	200g
Pencil eraser	5g
Bucket	130g
Crayon	75g
School bag	150g

Practice

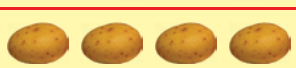
In a Grocery shop the following items are purchased.

Name of the customer	Red chilli	Coriander	Turmeric	Cumin	Pepper
	kg g	kg g	kg g	kg g	kg g
Meena	2 175	4 150	300	150	125
Radha	150	1 125	150	50	50
Kumaran	2 000	3 200	200	250	300

quantity of groceries bought by each customer.

Lab activity

Guess and verify the weights.

S. No.	Vegetables	Guessing weight	Correct weight
1.			
2.			
3.			
4.			
5.			

REVISION

Fill in the blanks.

1) 8500g = _____ kg + _____ g

2) 7250g = _____ kg + _____ g

3) 6kg 550g = _____ kg + _____ g

4) 13kg 650g = _____ kg + _____ g

Do the sums.

1)

kg	g
10	080
+ 20	355

2)

kg	g
29	054
+ 31	453

3)

kg	g
31	423
47	315
+ 54	154

4)

kg	g
75	859
– 39	676

5)

kg	g
91	759
– 77	597

6)

kg	g
82	235
– 17	198

7) One package of sweet is 5kg 600g and another package of sweet is 2kg 350g. Find the total weight.

8) The quantity of tamarind in two baskets are 25kg 550g and 10kg 350g respectively. Find the total weight of tamarind.

9) First bag contains 52kg 600g of wheat and second bag contains 35kg 250g of wheat. How much more weight of wheat contains in the first bag than second bag?

10) A sandalwood weighs 18kg 250g. A part of it weighing 12kg 100g is cut off from it. What is the weight of the remaining piece?

7 MEASURING CAPACITY

Ramu and Somu went to a juice shop. They bought Orange juice and Mango juice.

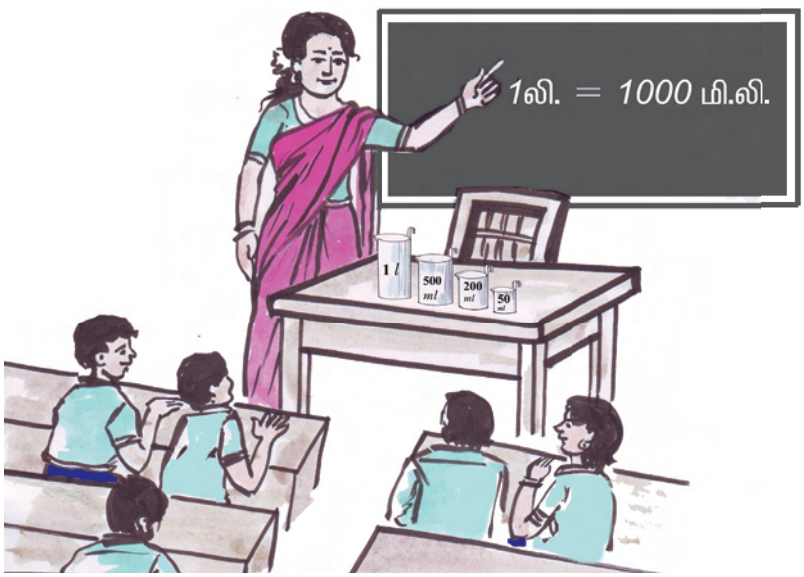
Who has more juice?
Ramu has more juice.
Somu may have half of it.

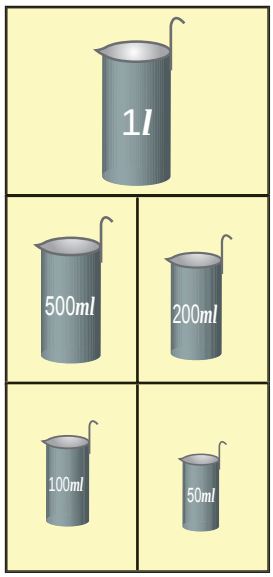
Reeta and her sister Geetha filled water in two buckets of same capacity. They used different measures of jars to fill.

Reeta measured 10 times.
Geetha measured 8 times.

Measures can not be accurate if we use non - standard measures.
So we are following the standard measures.
To measure the liquids we use millilitre and litre.

Relation between litre and millilitre





Teacher : Students, Have you seen these objects anywhere?

Sankar : I saw them in a fair price shop.

John : I have seen them in an oil shop.

Teacher : Yes, Gopu. Come here. Take 500 millilitre jar. Using it fill water in 1 litre jar then tell how many times you used the jar?

Gopu : Two times.

Teacher : From this we understood that two 500 millilitre make one litre.

500 millilitre + 500 millilitre = 1litre

1000 millilitre = 1 litre

we can write millilitre as '*ml*' and litre as '*l*'

$\frac{1}{2}l = 500ml$ $\frac{1}{4}l = 250ml$ $\frac{3}{4}l = 750ml$

Addition of litre and millilitre

- 2 *l* + 450 *ml* = 2000 *ml* + 450 *ml* = 2450 *ml*
- 3 *l* + 75 *ml* = 3000 *ml* + 75 *ml* = 3075 *ml*
- 4 *l* + 5 *ml* = 4000 *ml* + 5 *ml* = 4005 *ml*

Practice

(1) Fill in the missing boxes.

1) 1 *l* =	1000 *ml*	5) 7000 *ml* =	*l*
2) 2 *l* =	*ml*	6) 4000 *ml* =	*l*
3) 6 *l* =	*ml*	7) 9000 *ml* =	*l*
4) 5 *l* =	*ml*	8) 3000 *ml* =	*l*

9) 3 *l* + 475 *ml* =	*ml*	+	*ml*	=	*ml*
10) 5 *l* + 60 *ml* =	*ml*	+	*ml*	=	*ml*
11) 7 *l* + 5 *ml* =	*ml*	+	*ml*	=	*ml*

(2) Write the correct matches of A from B.

A	B
1*l* 250*ml*	
1*l* 25*ml*	
1*l* 5*ml*	
1*l* 750*ml*	
1*l* 705*ml*	

B
1750 *ml*
1250 *ml*
1705 *ml*
1005 *ml*
1025 *ml*

Fill in the boxes using 500 *ml*, 200 *ml*, 100 *ml*, 50 *ml*.

500 *ml*	☐ + ☐ + ☐
500 *ml*	100 *ml* + 100 *ml* + 100 *ml* + 100 *ml* + 100 *ml*
700 *ml*	☐ + ☐ + ☐ + ☐
200 *ml*	☐ + ☐ + ☐
300 *ml*	☐ + ☐ + ☐ + ☐
200 *ml*	☐ + ☐ + ☐ + ☐
250 *ml*	☐ + ☐
350 *ml*	☐ + ☐ + ☐
450 *ml*	☐ + ☐ + ☐ + ☐
600 *ml*	☐ + ☐
1*l*	☐ + ☐ + ☐ + ☐

PROJECT

List out the measures
used in your home for the following items.
Milk , Juice, Buttermilk, Ghee, Coconut oil.

Addition in capacity

Add.

$25l\ 500ml + 13l\ 225ml$

	l	ml
	25	500
+	13	225
	38	725

Step 1 : Add millilitres.
Step 2 : Add litres.

Practice

1)

	l	ml
	50	100
+	29	350

2)

	l	ml
	15	175
+	13	225

3)

	l	ml
	22	327
+	13	256

4)

	l	ml
	16	200
	15	150
+	17	300

5)

	l	ml
	7	050
	12	200
+	23	500

6)

	l	ml
	43	000
	14	500
+	26	250

7)

	l	ml
	18	306
	16	054
+	14	252

8)

	l	ml
	37	150
	2	221
+	44	578

9)

	l	ml
	3	075
	19	529
+	21	275

Life related problems

Now it is too hot. Shall we prepare cool drinks?

The ingredients are given below.

$1l$ sharbath

$200ml$ lemon juice

$2l$ $500ml$ cold water

		l	ml
Cold water	=	2	500
Sharbath	=	1	000
Lemon Juice	=	0	200
Total	=	3	700

The total quantity of the cool drinks = $3l$ $700ml$

Practice

1) These are three vessels with milk.

$17l$ $300ml$

$2l$ $100ml$

$5l$ $200ml$

- Which vessel has more milk?
- Which has less milk?
- Find the total capacity of milk in the three vessels.

2) The milk given by a cow in three days are given below.

	l	ml
Day 1	13	500
Day 2	14	200
Day 3	12	100

Find the total milk given by the cow in three days.

3) Bama had 2l of buttermilk which was very sour in taste. So she added 500ml of water. What was the capacity of buttermilk after adding water?

4) Jayanthi buys 1l of idly mix. To make dosa she adds 200ml of water. What is the capacity of dosa mix?

5) 200ml of coconut oil, 300ml of sesame oil and 100ml of castor oil are mixed to light a lamp. What is the total of oil mixture?

6) What will be the total capacity of mixing 50ml of red, 100ml of green and 500ml of white paint ?

7) The water used to prepare food items in a function are given below.

Food item	Quantity of water	
	l	ml
Rice	25	200
Rasam	15	150
Butter milk	10	500
Padam kheer	5	50

★ Find the total quantity of water for preparing rice and rasam.

★ How much quantity water is needed to prepare buttermilk and padam kheer?

★ Find the total quantity of water required for preparing all food items.

Subtraction in capacity

Subtract.

$15l\ 350ml - 13l\ 225ml$

l	ml
15	350
– 13	225
2	125

Step 1 : Subtract $225ml$ from $350ml$.

Step 2 : Subtract $13l$ from $15l$.

Life related problem

Find the quantity of water used for soaking the clothes.

Water in a pot

The clothes are soaked.

Remaining water

The quantity of water	=	20 l
Remaining water	=	– 11 l
Water used for soaking the clothes	=	9 l

Practice

1)

l	ml
27	875
– 18	618

2)

l	ml
35	950
– 23	286

3)

l	ml
56	357
– 15	238

4) Find the remaining mango juice when 200ml is taken from 1l 500 ml of mango juice.

	l	ml
	1	500
–	0	200

Remaining mango juice = _____

5) Raja and his friends went to an oil shop. The quantity of oil bought by them are given below.

S. No	Name	Sun flower oil	Groundnut oil	Gingelly oil	Mustard oil	Coconut oil
		l ml	l ml	l ml	l ml	l ml
1	Raja	5 000	1 300	3 000	0 100	0 050
2	Elizabeth	8 100	0 250	1 100	0 300	0 100
3	Nithish	1 200	0 050	0 250	4 150	2 000
4	Revathi	4 150	3 100	2 600	0 050	--
5	Rajeswari	2 250	4 050	4 050	0 200	0 400

⇨ Find the total quantity of oils bought by Elizabeth.

⇨ What is the quantity of sunflower oil bought by all?

⇨ Who bought more mustard oil?

⇨ Which oil was bought more?

⇨ How much more ground nut oil did Raja buy than Nithish?

Lab activity

Fill in the table.

S. No	Things	Number of times	Approximate value in l or ml	Correct value in l or ml
1.		20		
2.		5		
3.		3		
4.		1		
5.		2		
6.		1		
7.		20		
8.		1		
9.		4		

REVISION

Fill in the blanks.

1) $7l + 500ml$ = _____ ml

2) $4l + 65ml$ = _____ ml

3) $8l + 5ml$ = _____ ml

4) $4l\ 890ml$ = _____ ml

5) $6l\ 856ml$ = _____ l + _____ ml

6) $3l\ 567ml$ = _____ l + _____ ml

7) $4l\ 890ml$ = _____ l + _____ ml

Do the sums.

1)

l	ml
7	075
+ 75	354

2)

l	ml
16	305
73	355
+ 55	089

3)

l	ml
27	005
86	290
+ 73	605

4)

l	ml
82	235
– 28	150

5)

l	ml
73	589
– 65	254

6)

l	ml
98	439
– 39	315

7) A drum contains $54l\ 250ml$ of varnish and another drum contains $75l\ 650ml$. What is the total capacity?

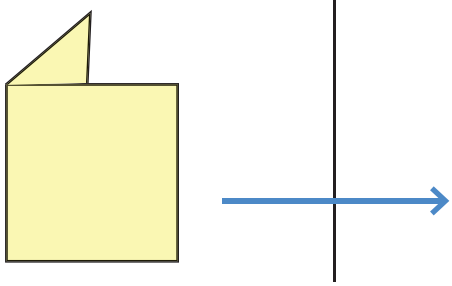
8) A bucket contains $15l\ 20ml$ water and another bucket contains $12l\ 300ml$. What is the total quantity?

9) A curd vendor has $89l\ 500ml$ of curd. If he sells $39l\ 250ml$, how much is left with him?

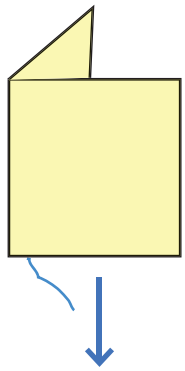
8 SYMMETRY AND REFLECTION

Reflections through Ink plots

✶ Take a rectangular sheet of paper and fold it into half.

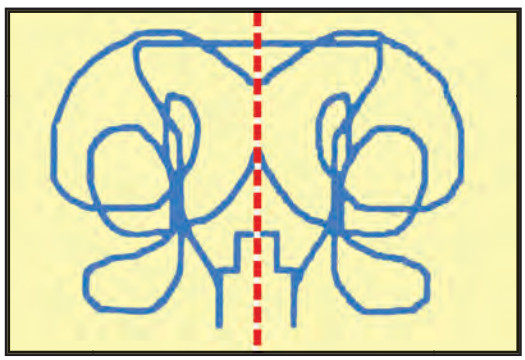


✶ Choke a thread with ink and place it inside the folded paper and pull the thread out.



✶ Open the paper. What do you see? Some design is formed on either side of folding. Are they same?

Yes, but opposite in face, that is they appear identical but in reverse. This design is in reflection.



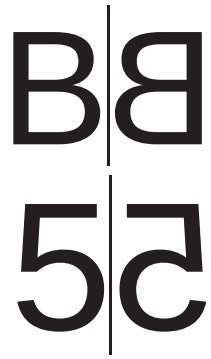
In the same way do some more reflection designs and stick them in your notebook.

Stick the Designs

Reflections through paper folding

Fathima, I will do another pattern. Will you help me?

Yes, Kamala we will have fun.



Take a white sheet and write the alphabet 'B' in bold letter using crayons, fold and scratch it gently so that the impression is formed on the other side. Open it and see.

Ok, Kamala, I will try with number 5.

Very interesting Kamala, Shall we create many pictures like this and stick in our notebook and show to our teacher.

Reflections through Mirror

Saranya : Teacher, is there any special name for these pictures?

Teacher : Yes, these are called Mirror images. These pictures are in mirror reflections.

Fathima : Teacher, I see a line between the two sides which divides the pictures equally on either side.

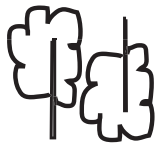
Teacher : Oh, that line is called "Mirror line symmetry".

Tick the mirror images.

1) R Я ☑

2)  ☐

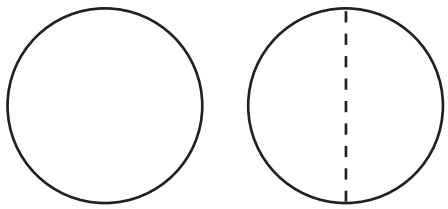
3) C C ☐

4)  ☐

5) 4 ⅃ ☐

6)  ☐

Line of symmetry

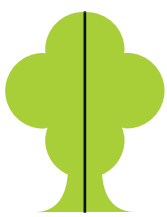
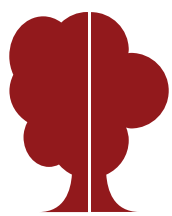


Cut a circular paper, fold it equally. A line divides it into two equal halves. This line is called 'line of symmetry', which means it is exactly the same on both sides of the line.

Practice

Cut a rectangular paper, fold it equally. Draw a line on the folding and stick the paper in your notebook.

Check for symmetry.

Symmetric figure (1)	Not Symmetric figure (2)
	

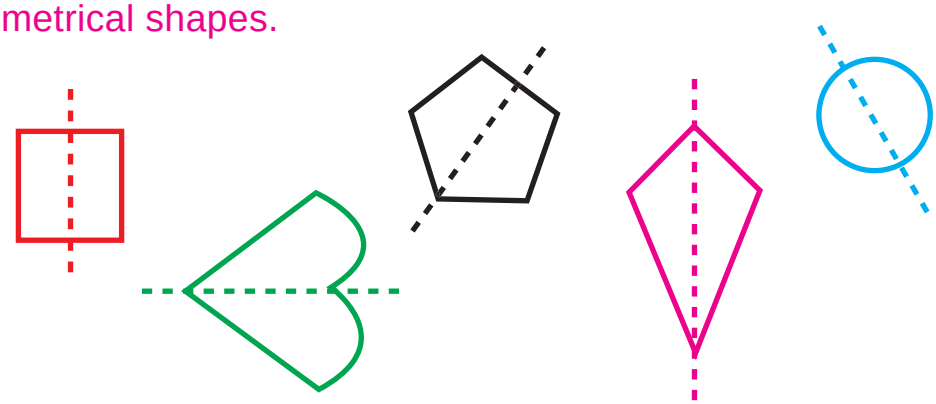
★ Trace two given figures in a small paper separately, fold it and check for the line of symmetry.

★ In figure(1) you get a line of symmetry so that the two parts coincide exactly, figure(1) is symmetrical. In figure(2), two parts do not coincide, so figure (2) is not symmetrical.

Symmetry in geometrical shapes

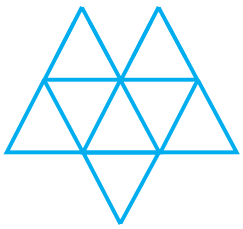
Observe the following shapes:

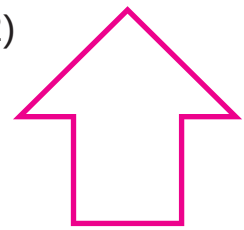
A line of symmetry divides a figure into mirror - images. The dotted lines below are the line of symmetry. It divides the figure into two equal parts. Both the sides are symmetrical. These are called symmetrical shapes.

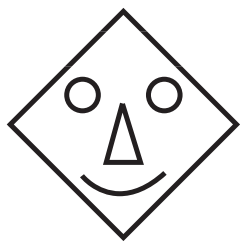


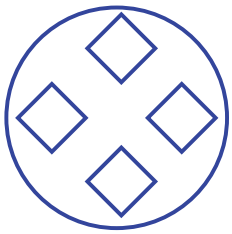
Practice

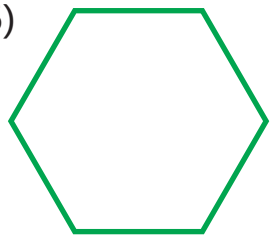
Draw line of symmetry for the following figures.

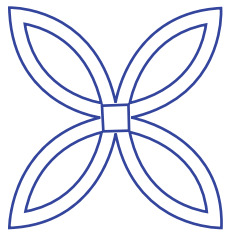
1) 

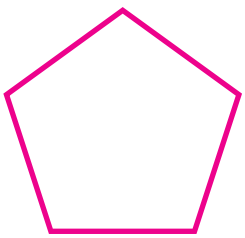
2) 

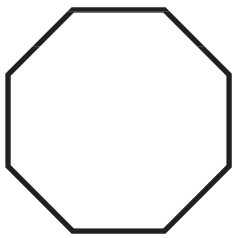
3) 

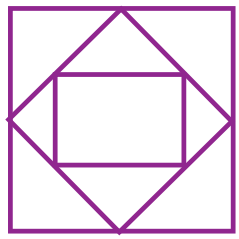
4) 

5) 

6) 

7) 

8) 

9) 

Draw the line of symmetry and encircle the letters which do not have line of symmetry.

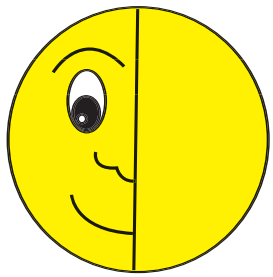
1) A B F G H

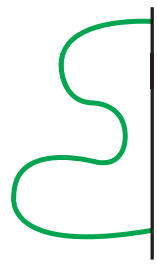
2) K M N O P

3) S U V Z L

4) J Y R C D

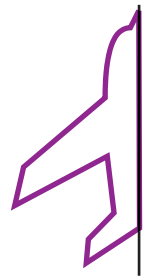
Draw other half to make the given pictures symmetrical.

1) 

2) 

3) 

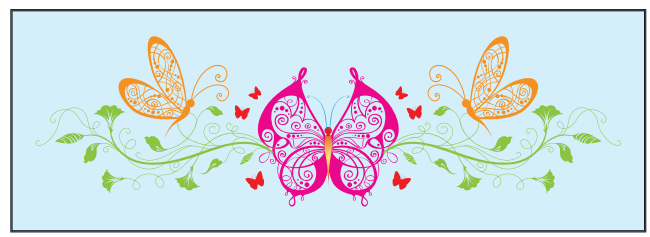
4) 

5) 

6) 

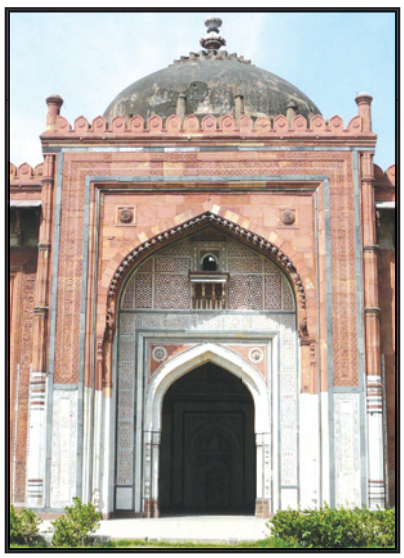
PROJECT

- Nowadays children like to decorate their hands with tattoos.
- Many of the designs of tattoos are symmetrical.
- Some designs are given below.
- Stick some designs of your choice in your notebook.



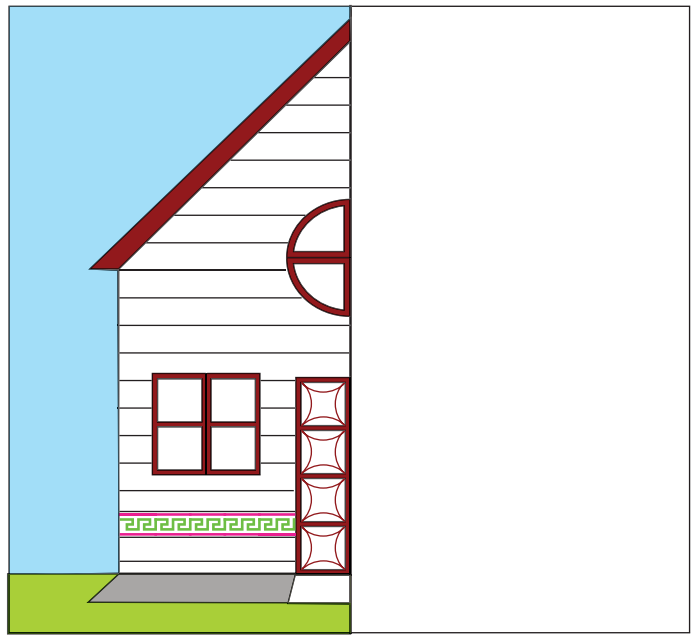
Visualizing and drawing symmetrical figures

Observe the pictures. They are very beautiful. Symmetry is maintained on the left and right side of the buildings.

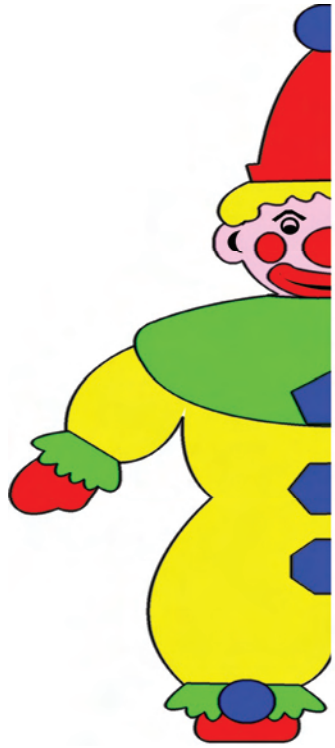


Practice

1) Complete the other side of the house and colour it.



2) Complete the other side of the clown and colour it.



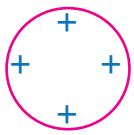
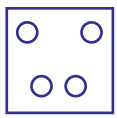
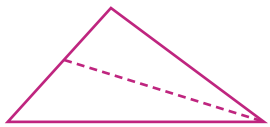
REVISION

1) A line that divides the picture equally on either side is called

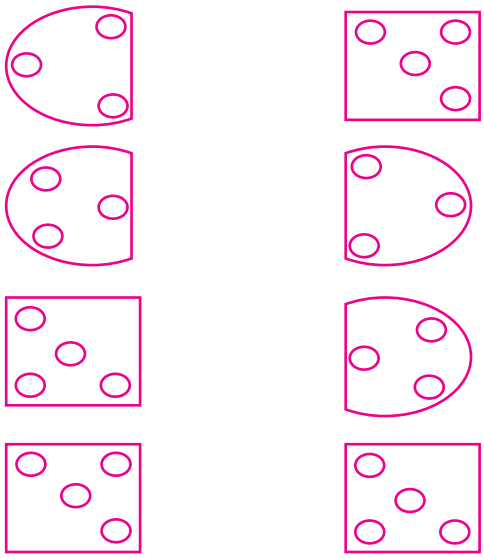
_____

2) Draw the line of symmetry. Tick the symmetrical alphabets and pictures given below.

K M N

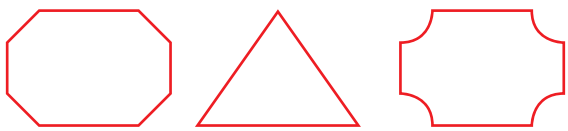





3) Match the mirror images.



4) Draw the lines of symmetry.

X M W



9 CALCULATING TIME

Two friends studying in different schools are conversing each other.

At what time your school starts?

My school starts at 9 o' clock. What about you?

My school starts at 9:10. How do you find the time?

I see the wall clock.

I use my wrist watch.

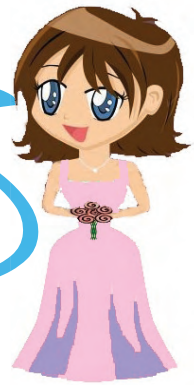
My grandfather looks the sun and tells the time.

Look at the clock. It has two hands. One is long and the other one is short.

Yes, the long hand shows the minute and the short hand shows the hour.

What is the time now?

It is 3 o' clock because the minute hand is at 12 and the hour hand is at 3.



Hour and minute are standard units for calculating time.

Practice

Look at the clock and write the time.

1)  _____ o' clock

2)  _____ o' clock

3)  _____ o' clock

4)  _____ o' clock

5)  _____ o' clock

6)  _____ o' clock

Hours and minutes

Look at the clock. The minute hand is at 1 and the hour hand is at 3.

Yes, now the time is 5 minutes past 3 or three-five or 3:05.

Look at the clock. The minute hand is at 2 and the hour hand lies between 3 and 4. Is it 10 minutes past 3?

Yes we write it as three - ten or 10 minutes past 3 or 3:10

Can you tell me to find the time quickly?

Oh, sure! look here.

Quarter of an hour = $\frac{1}{4}$ hour = 15 minutes

One half of an hour = $\frac{1}{2}$ hour = 30 minutes

Three - quarter of an hour = $\frac{3}{4}$ hour = 45 minutes

When the minute hand shows 3, the time is 15 minutes past 3 or quarter past 3 or three - fifteen.
It is written as **3:15.**

When the minute hand shows 6, the time is 30 minutes past 3 or half past 3 or three - thirty.
It is written as **3:30.**

When the minute hand shows 9, the time is 45 minutes past three or 15 minutes to four or three - forty five.
It is written as **3:45.**

The minute hand moves from one clock number to the next number means, 5 minutes have passed.
Minute hand takes 60 minutes to complete one rotation. That is one hour**. So, 1 hour = 60 minutes.**

Practice

See the clock and write the time.




1:20			

Lab activity

Fill in the blanks to show your daily activities. Draw the hour and minute hands on the clock faces.

1) I get up at 6 o' clock

2) I take bath at _____

3) My break fast time is _____

4) I go to school at _____

5) My lunch time is _____

6) School gets over at _____

7) My evening play time is ____

8) My study time is ____

Time with a.m and p.m

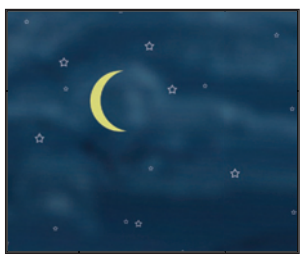
In the above pictures both the clock shows 6 o'clock only.

One clock shows 6 o' clock in the morning and the other clock shows 6 o' clock in the evening.

6 o' clock in the morning is 6 anti meridian.

6 o' clock in the evening is 6 post meridian.

We can write anti meridian as a.m. and post meridian as p.m.

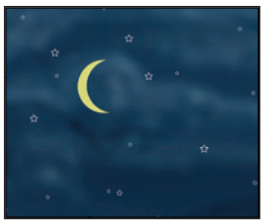


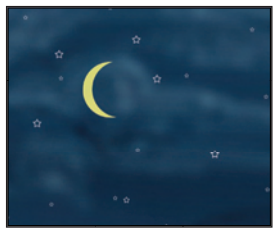
12 o' clock at night is 12 midnight.

12 o' clock in the day is 12 midday or noon.

When it is exactly 12 noon or 12 midnight it is not mentioned with a.m. or p.m.

Day Chart





Midnight 12 o' clock to Noon 12 o' clock to Midnight 12 o' clock

a.m p.m

Midnight 12 o' clock to Noon 12 o' clock

Noon 12 o' clock to Midnight 12 o' clock

12 hours → 24 hours ← 12 hours

24 hours → 1 day

1 day = 24 hours

Practice

Write time using a.m. or p.m.

1) 10:30 in the night is 10:30 p.m.
2) 7:40 in the night is _____
3) 6:15 in the evening is _____
4) 3:30 in the morning is _____
5) 8:30 in the morning is _____
6) 9:00 in the morning is _____
7) 1:30 in the afternoon is _____
8) 2:45 in the afternoonis _____

Duration of daily activities

Sundar is studying in class IV. He gets up at 6 o' clock in the morning. He goes to school at 8.30 a.m. and comes back home at 5 o' clock in the evening. He plays for some time and sits for studies. He goes to bed at 9 0' clock in the night.

Can you find the duration of his daily activities?



Sundar gets up at 6 o' clock in the morning and then he goes to school at 8:30 a.m.

Duration between 6:00 a.m to 8:30 a.m is **2 hours 30 minutes.**

Minute can be written as **min.** and

hour can be written as **hr.** .

1) First period starts at 9:30 a.m, and duration of one period is an hour. The first period gets over at _____a.m.

2) Morning session gets over by 12:40 p.m.
Duration of the morning session is _____ hrs _____ mins.

3) After noon session starts at 2:00 p.m.
How long is the lunch break?_____ hr _____ mins.

4) School gets over by 4:10 p.m.
Duration of the after noon session is _____ hrs ____mins.

5) Sundar studies from 6:30 p. m to 8:30 p.m. Duration of his study time is _____ hrs.

CALENDER

2011

January						
Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

Febraury						
Su	Mo	Tu	We	Th	Fr	Sa
		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					

March						
Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

April						
Su	Mo	Tu	We	Th	Fr	Sa
					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

May						
Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

June						
Su	Mo	Tu	We	Th	Fr	Sa
			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		

July						
Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

August						
Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

September						
Su	Mo	Tu	We	Th	Fr	Sa
				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	

October						
Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

November						
Su	Mo	Tu	We	Th	Fr	Sa
		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			

December						
Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

The calender shows days of the weeks and months of the year. We can find a date of a particular day of a particular month from it.

Look at the calendar and write down the names of the months.

Months having 31 days	Months having 30 days

February month has ____ days.

Practice

Look at the month of July and answer the following questions.

July 2011						
Sun	**Mon**	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

1) How many Mondays are there in this month? _____

2) How many Sundays are there in this month? _____

3) Which celebration falls on 15th July? _____

4) Mention the dates fall on Friday. _____

5) Write the first day of this month. _____

6) Name the last day of this month. _____

Months, weeks and days in the year 2011

Fill in the boxes.

Name of the month	Number of days in the month	Number of weeks and days
January	31	4 weeks 3 days
February	28	4 weeks 0 days
March	31	4 weeks 3 days
April	30	4 weeks 2 days
May	31	___ weeks ___ days
June	30	___ weeks ___ days
July	31	___ weeks ___ days
August	31	___ weeks ___ days
September	30	___ weeks ___ days
October	31	___ weeks ___ days
November	30	___ weeks ___ days
December	31	___ weeks ___ days
Total	365	48 weeks 29 days

1 Week = 7 days

48 weeks + 29 days = 48 weeks + 28 days + 1 day
= 48 weeks + 4 weeks + 1 day
= 52 weeks and 1 day

Approximately

1 month = 4 weeks 1 year = 52 weeks

An ordinary year = 365 days

A leap year = 366 days

In a leap year February has 29 days.

Normally a leap year comes once in four years.

Number of days between the given two dates

How many days are there to celebrate my birth day?

Tell your date of birth and today's date.

My date of birth is 12th August and today is 15th July.

How many days are there from 15th July to 31st July?

17 days.
(15,16,17.....31)

How many days are there from 1st August to 12th August?

12 days.

Now tell total number of days.

In July 17 days and in August 12 days. So 29 days to go.

Count the number of days from 13th April to 3rd June.

April _____	18 days	
May _____	31 days	
June _____	+ 3 days	
Total	52 days	

April
30 days
– 12 days
18 days

Practice

Calculate the number of days between given two dates.

1) From 4th May to 21st June.
2) From 9th October to 11th December.
3) From 3rd January to 15th February.
4) From 15th August to 2nd October.

Calculate the number of holidays.

Holidays	From	To	Total days
Half yearly holidays			
Summer holidays			

PROJECT

Look at the current year calendar and fill up the table.

Festival	Month	Date	Day
Deepawali			
Christmas			
Miladinabi			
Children's day			
Teacher's day			

REVISION

Answer the following questions.

1) Write the time of the following.

_____

_____

2) Write time with a.m or p.m.

i) 4 o' clock in the morning _____

ii) 11 : 30 in the night _____

iii) 11 : 30 before noon _____

3) Which two successive months have 31 days?

4) Name the month which has less than 30 days.

5) How many days are there in a leap year?

6) Which is the last month of the year?

7) Calculate the number of days between Children's day and Christmas.

Fill in the blanks.

1) 1 hour = _____ minutes

2) _____ hours = 1 day

3) 1 year = _____ days

4) 1 year = _____ weeks

5) 12 months = _____ year

6) Quarter of an hour = _____ minutes

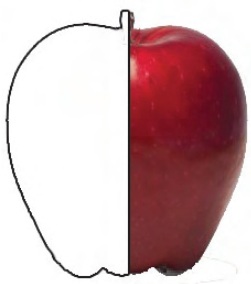
7) Three - quarter of an hour = _____ minutes

10 SHARING WHOLE

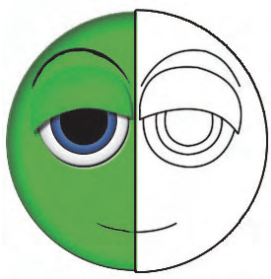
Fraction of a whole

Colour the remaining half in the following figures.

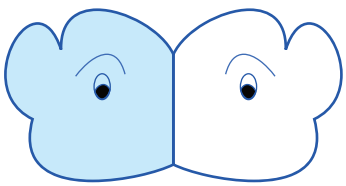
(1)



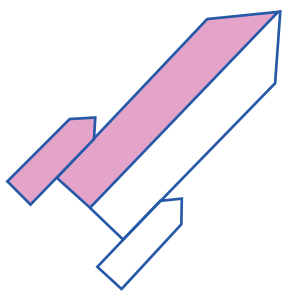
(2)



(3)

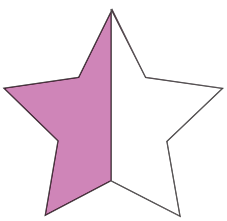


(4)



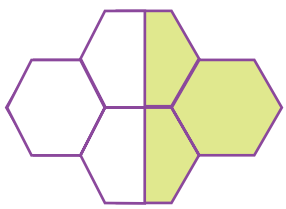
(5)

(6)



(7)

(8)

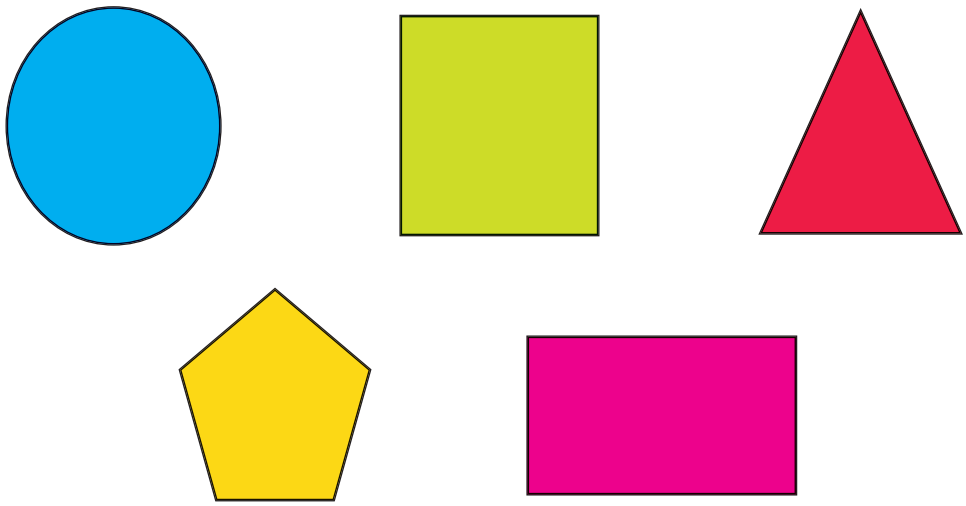


(9)

Each figure is divided into two equal parts.
Each part is called half. We write it as $\frac{1}{2}$

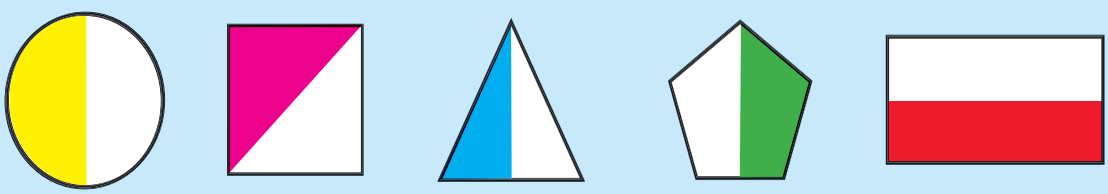
Representation of fractions for the coloured part

1 means the **whole.** Here the whole part is coloured.

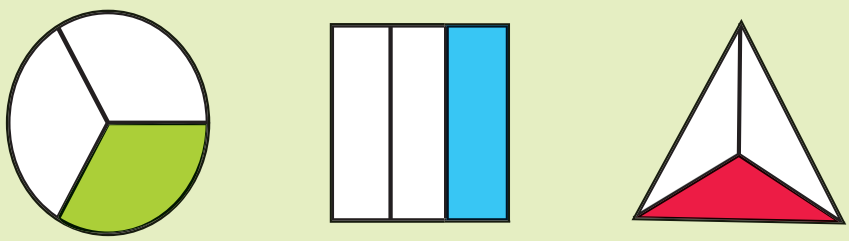


Dividing the whole

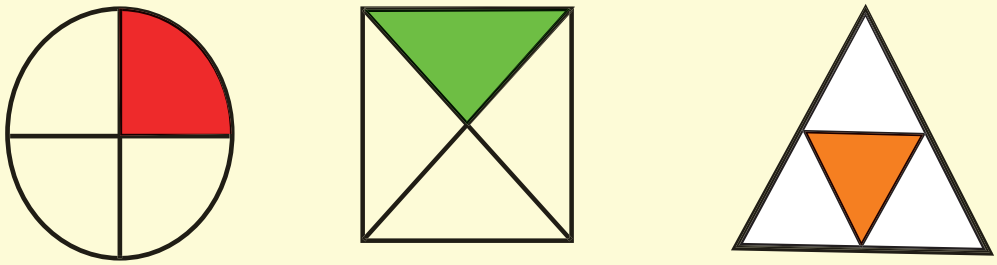
Whole is divided into 2 equal parts. One part is coloured. The coloured part represents $\frac{1}{2}$



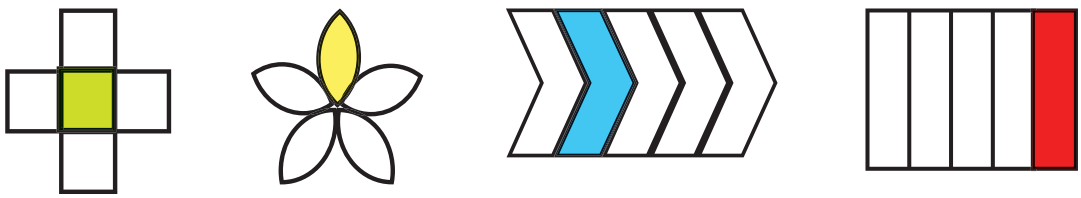
Whole is divided into 3 equal parts. One part is coloured. The coloured part represents $\frac{1}{3}$.



Whole is divided into 4 equal parts. One part is coloured. The coloured part represents $\frac{1}{4}$.



Whole is divided into 5 equal parts. One part is coloured. The coloured part represents $\frac{1}{5}$.



$\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$ **are called fractional numbers.**

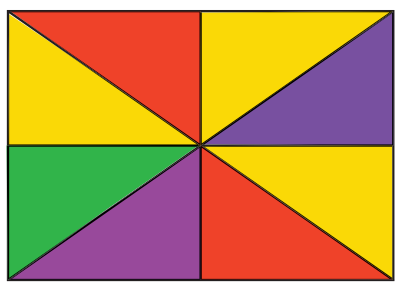
Fractions representing the coloured part

The fraction part coloured in red = $\frac{2}{8}$

The fraction part coloured in green = $\frac{1}{8}$

The fraction part coloured in yellow = $\frac{3}{8}$

The fraction part coloured in violet = $\frac{2}{8}$

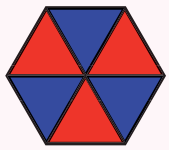


Representation of fractions for the uncoloured part

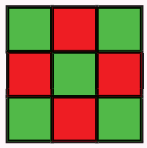
Picture	Fractional number	Words
	$\frac{1}{2}$	Half
	$\frac{1}{3}$	One - third
	$\frac{1}{4}$	One - fourth
	$\frac{1}{5}$	One - fifth
	$\frac{1}{6}$	One - sixth
	$\frac{1}{7}$	One - seventh
	$\frac{1}{8}$	One - eighth
	$\frac{1}{9}$	One - nineth

The circle is divided into two, three, four, five, six, seven, eight and nine equal parts. One part is uncoloured. The fraction of the uncoloured parts are $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{6}$, $\frac{1}{7}$, $\frac{1}{8}$ and $\frac{1}{9}$ respectively.

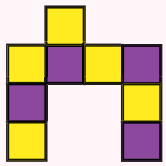
Practice

1) 

- The fraction for the coloured part in red = ☐
- The fraction for the coloured part in blue = ☐

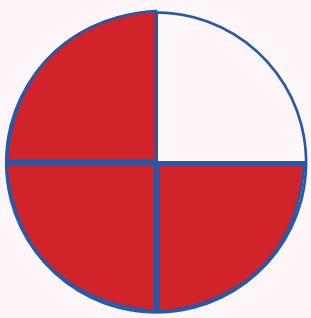
2) 

- The fraction for the coloured part in red = ☐
- The fraction for the coloured part in green = ☐

3) 

- The fraction for the coloured part in yellow = ☐
- The fraction for the coloured part in violet = ☐

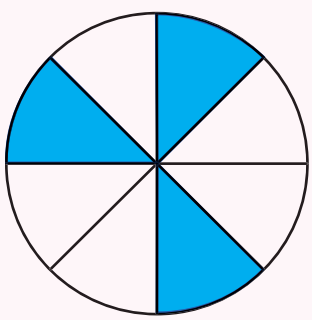
Numerator and denominator



$\frac{3}{4}$

Numerator = 3

Denominator = 4



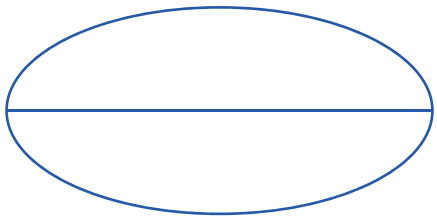
$\frac{3}{8}$

Numerator = 3

Denominator = 8

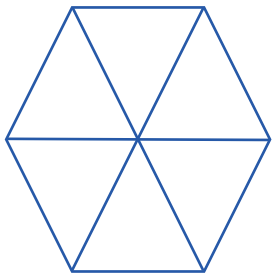
Practice

Colour the following as indicated and write the numerator and denominator

1) 

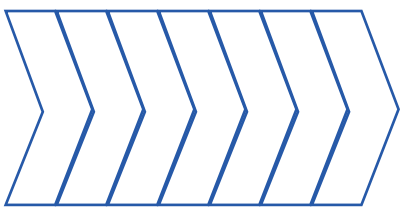
$\frac{1}{2}$

Numerator =
Denominator =

2) 

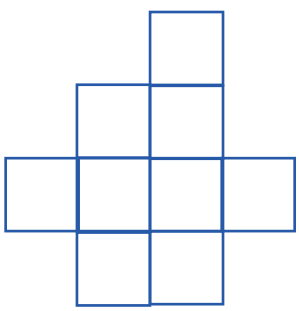
$\frac{5}{6}$

Numerator =
Denominator =

3) 

$\frac{4}{7}$

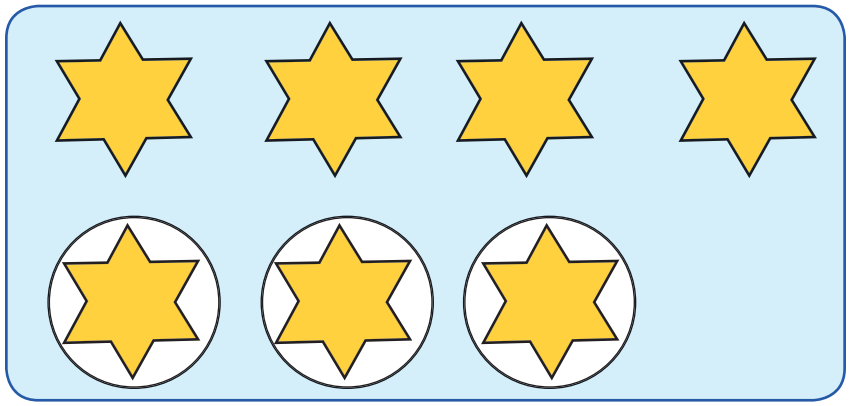
Numerator =
Denominator =

4) 

$\frac{2}{9}$

Numerator =
Denominator =

Fraction as a part of collection



There are seven stars.

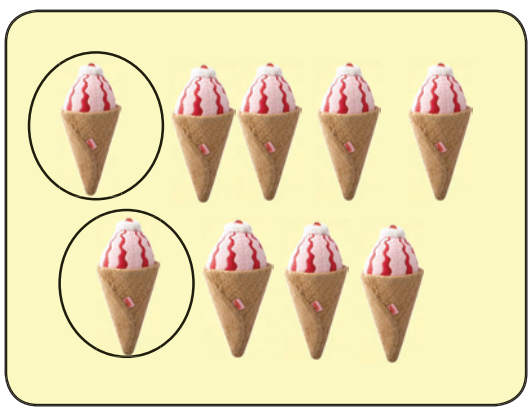
Three stars are encircled.

$\frac{3}{7}$ represents the fractional number of stars encircled.

Practice

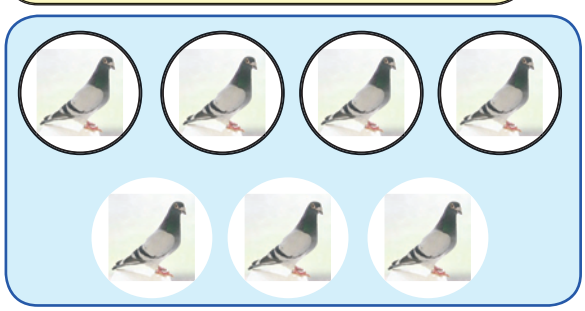
Write the fractions for encircled figures.

1)

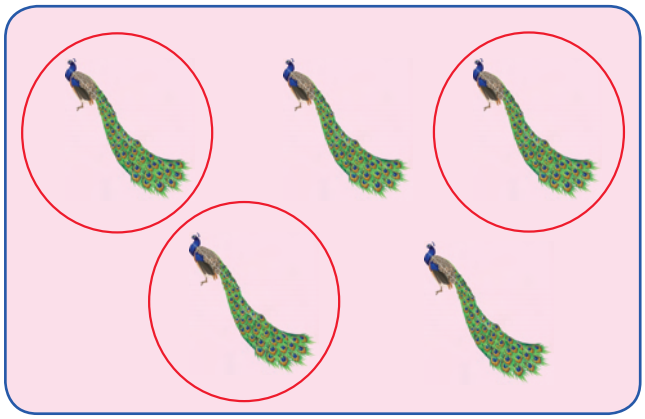


Fractional number of encircled cone ice-creams is $\frac{2}{9}$

2)

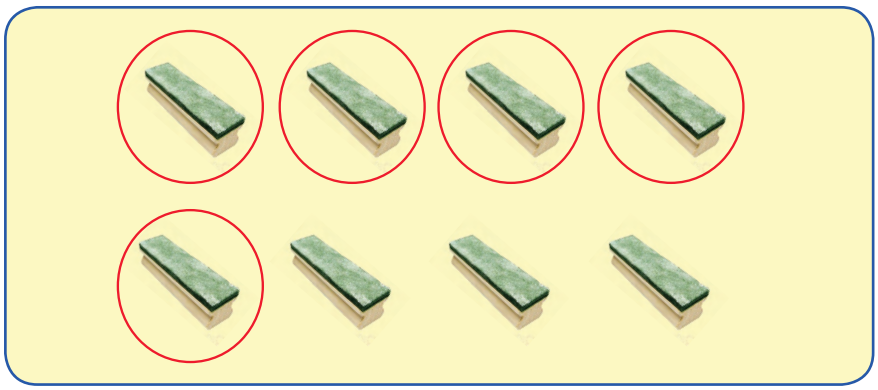


$\square$ represents the fractional number of encircled pigeons.

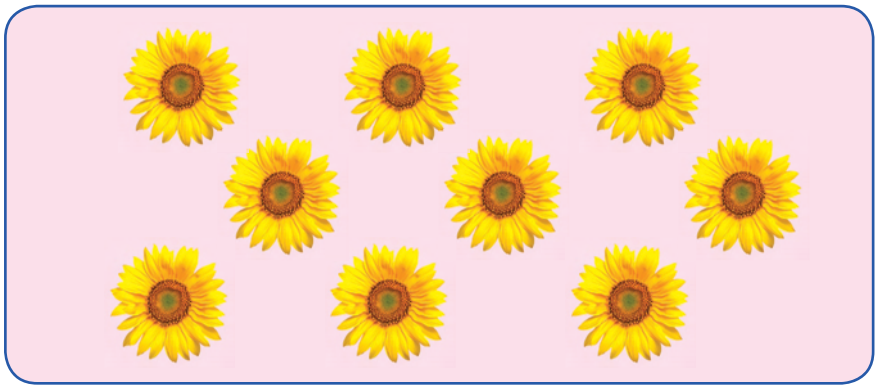
3) 

☐ represents the fractional number of encircled peacocks.

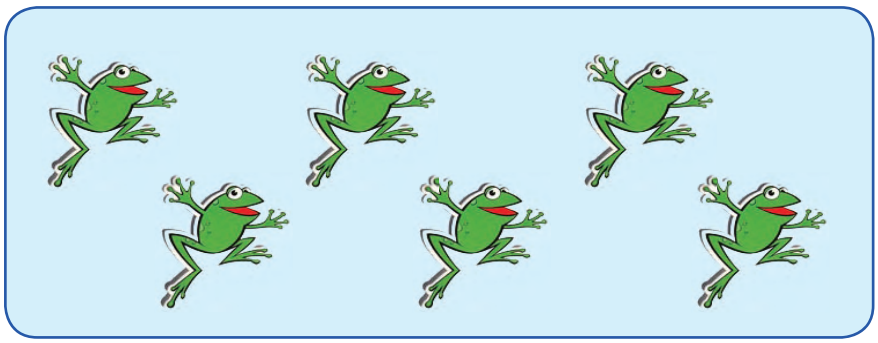
Encircle the figures to the given fractions.

1) 

$\frac{5}{8}$

2) 

$\frac{4}{9}$

3) 

$\frac{1}{6}$

Equivalent fractions

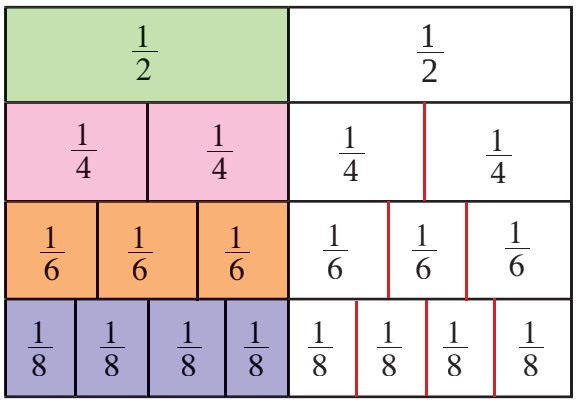
Out of six students, 3 are boys.

3 is half of 6

Out of eight equal diamonds, 4 are coloured.

4 is half of 8

Observe the picture and discuss.



The same portion of each rectangle is coloured.

Green rectangle refers to $\frac{1}{2}$.

Pink rectangle refers to $\frac{2}{4}$.

Orange rectangle refers to $\frac{3}{6}$.

Violet rectangle refers to $\frac{4}{8}$.

All colour rectangles are same in size.

$$\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8}$$

$\frac{1}{2}, \frac{2}{4}, \frac{3}{6}, \frac{4}{8}$ ... **are equivalent fractions.**

Let us frame equivalent fractions.

$$\frac{1}{2} = \frac{1 \times 1}{2 \times 1} = \frac{1}{2}$$

$$\frac{1}{2} = \frac{1 \times 2}{2 \times 2} = \frac{2}{4}$$

$$\frac{1}{2} = \frac{1 \times 3}{2 \times 3} = \frac{3}{6}$$

$$\frac{1}{2} = \frac{1 \times 4}{2 \times 4} = \frac{4}{8}$$

Multiply the numerator and denominator of the fraction by the same number to form equivalent fractions.

Practice

Write the equivalent fractions.

(1) $\frac{2}{3} = \frac{4}{6} = \frac{6}{9}$

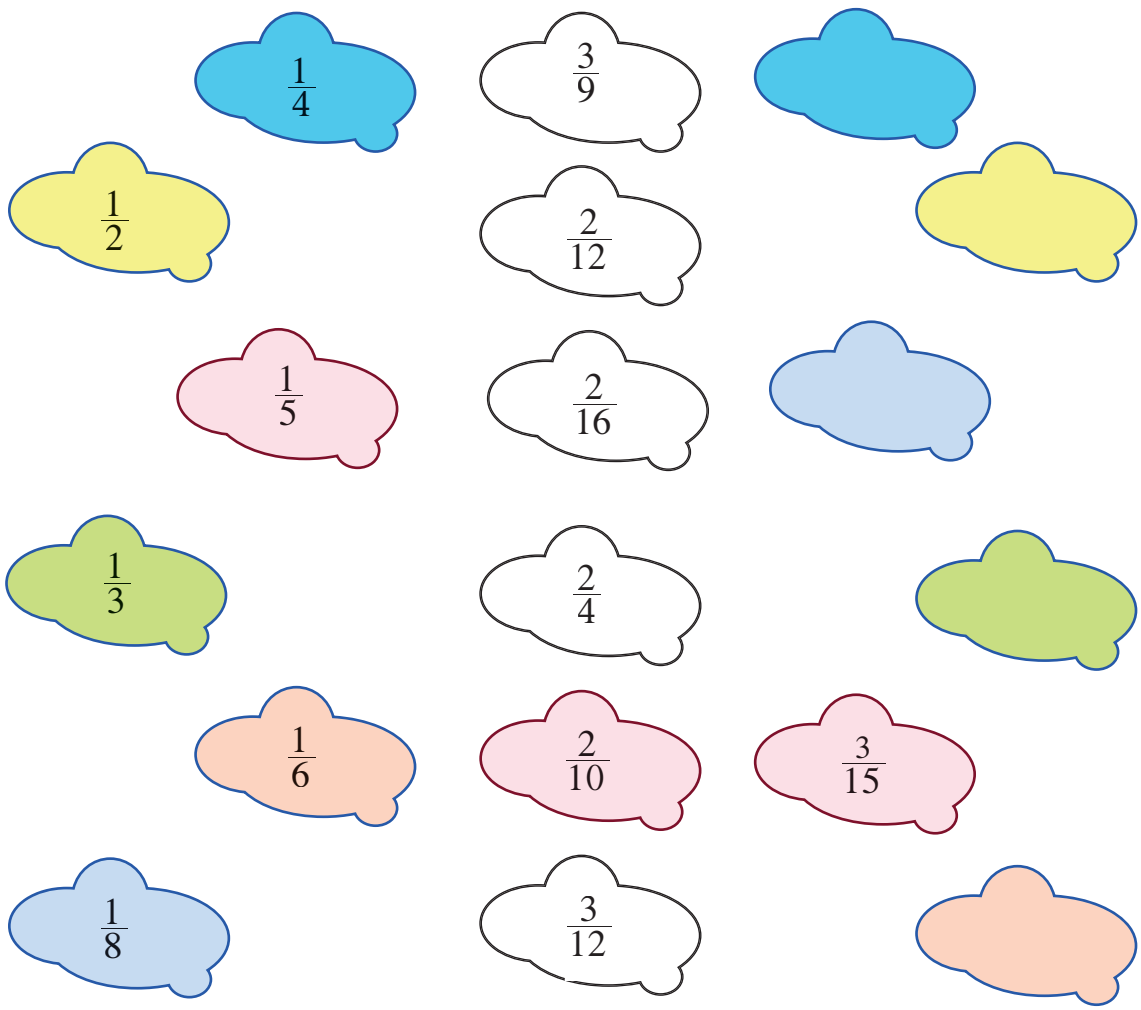
(2) $\frac{1}{4} = \square = \square$

(3) $\frac{2}{5} = \square = \square$

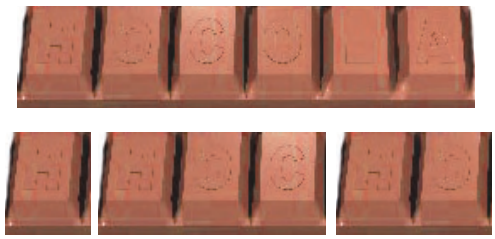
(4) $\frac{1}{3} = \square = \square$

Lab activity

Look at the fractions in the coloured clouds. For each fraction one equivalent fraction is given in the middle. Colour the equivalent fraction with corresponding colour in the cloud and write one more equivalent fraction in the corresponding coloured cloud.



Comparing fractions



$\frac{1}{6}$ $\frac{3}{6}$ $\frac{2}{6}$

A bar chocolate has 6 pieces. One piece is taken out from six pieces. Its fraction is $\frac{1}{6}$ (one - sixth)

3 pieces are taken out from 6 pieces. Its fraction is $\frac{3}{6}$ (three - sixths)

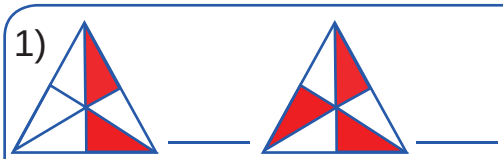
Comparing the two fractions $\frac{1}{6}$ and $\frac{3}{6}$

$\frac{3}{6}$ is greater fraction

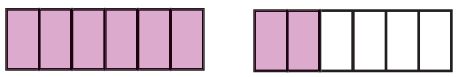
$\frac{1}{6}$ is smaller fraction

Practice

Write the fractions for the coloured parts and encircle the smaller fractions

1) 

2) 

3) 

4) 

Encircle the greater fraction

5) $\frac{2}{7}$, $\frac{3}{7}$

6) $\frac{5}{8}$, $\frac{4}{8}$

7) $\frac{4}{9}$, $\frac{7}{9}$

Encircle the smaller fraction

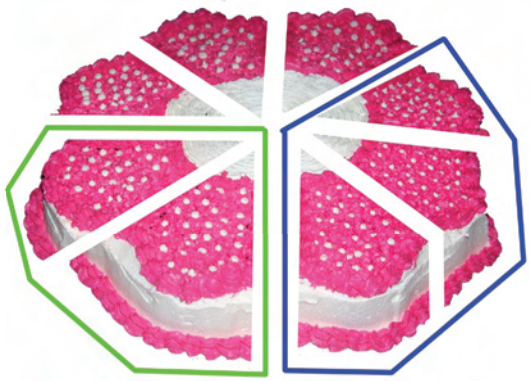
8) $\frac{2}{6}$, $\frac{5}{6}$

9) $\frac{6}{9}$, $\frac{3}{9}$

10) $\frac{2}{5}$, $\frac{4}{5}$

Addition in fractions

Birthday party



Akash celebrated his birthday by giving cakes to his friends. Out of 8 equal cake pieces, he gave 3 pieces to Anandhi and 2 pieces to Ram.

Anandhi's parts = Three - eighths = $\frac{3}{8}$

Ram's parts = Two - eighths = $\frac{2}{8}$

Total parts given to his friends = $\frac{3}{8} + \frac{2}{8}$

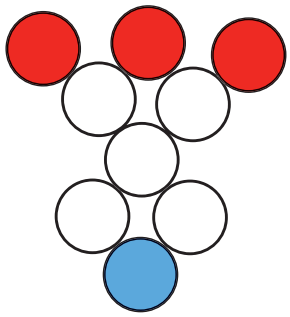
$= \frac{3+2}{8}$

Total parts given to his friends = $\frac{5}{8}$

$$\frac{3}{8} + \frac{2}{8} = \frac{5}{8}$$

For adding two fractions with the same denominators, add the numerators and keep the same denominator.

Add the fractions

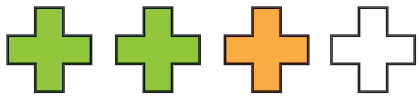


$$\frac{3}{9} + \frac{1}{9} = \frac{3+1}{9} = \frac{4}{9}$$

Practice

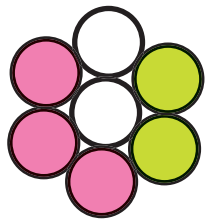
Write the fraction for the coloured and add.

1)



$\frac{2}{4}$ + $\frac{1}{4}$ = $\frac{3}{4}$

2)

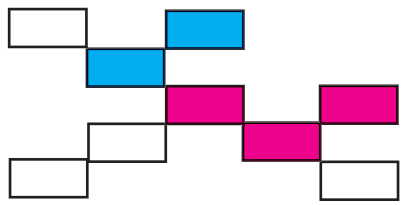


____ + ____ = ____

3)

____ + ____ = ____

4)



____ + ____ = ____

Add the fractions.

1) $\frac{3}{5} + \frac{1}{5}$

2) $\frac{2}{9} + \frac{5}{9}$

3) $\frac{2}{5} + \frac{2}{5}$

4) $\frac{1}{3} + \frac{1}{3}$

5) $\frac{4}{9} + \frac{3}{9}$

6) $\frac{3}{6} + \frac{2}{6}$

7) $\frac{3}{7} + \frac{1}{7}$

8) $\frac{2}{8} + \frac{4}{8}$

Subtraction in fractions

Pizza Corner

Raghul took $\frac{4}{6}$ parts of pizza. Of them he gave $\frac{3}{6}$ parts to his sister Meenu. How many parts of pizza was left with him?

Parts of pizza taken by Raghul $= \frac{4}{6}$

Parts of pizza given to Meenu $= \frac{3}{6}$

Parts of pizza left with him $= \frac{4}{6} - \frac{3}{6}$

$= \frac{4-3}{6}$

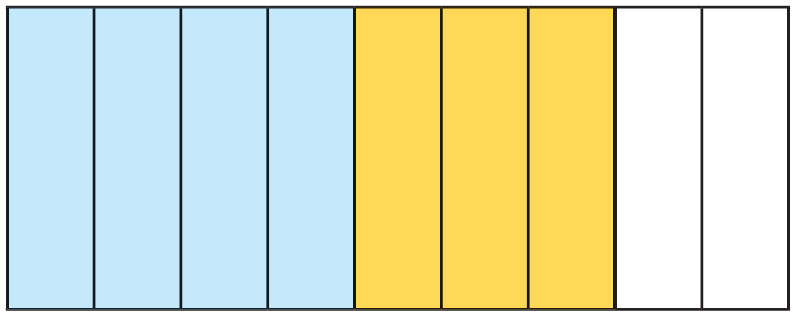
$= \frac{1}{6}$

Fractional number of pizza left with him $= \frac{1}{6}$

$$\frac{4}{6} - \frac{3}{6} = \frac{1}{6}$$

For subtracting of fractions with the same denominators, subtract the numerators and keep the same denominator.

Subtract the fractions : $\frac{7}{9} - \frac{4}{9}$



Seven parts are coloured.

The fraction for the coloured part = $\frac{7}{9}$

The fraction for the coloured part in blue = $\frac{4}{9}$

The fraction for the coloured part in orange = $\frac{7}{9} - \frac{4}{9}$

= $\frac{7-4}{9}$

The fraction for the coloured part in orange = $\frac{3}{9}$

$\frac{7}{9} - \frac{4}{9} = \frac{3}{9}$

Practice

Subtract the fractios

1) $\frac{5}{6} - \frac{2}{6}$

2) $\frac{5}{9} - \frac{3}{9}$

3) $\frac{3}{4} - \frac{1}{4}$

4) $\frac{5}{8} - \frac{3}{8}$

5) $\frac{6}{9} - \frac{1}{9}$

6) $\frac{7}{8} - \frac{3}{8}$

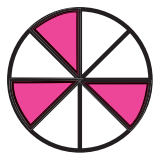
REVISION

Answer the following questions.

1) Write the fractions for the coloured part.

i) 

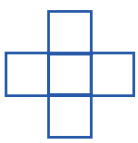
ii) 

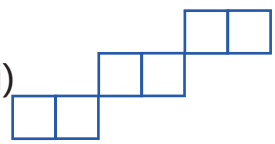
iii) 

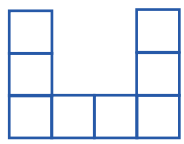
2) Write any two equivalent fractions.

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

3) Colour the figures for the given fractions.

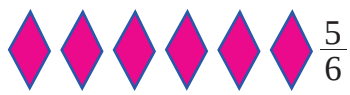
i)  $\frac{2}{5}$

ii)  $\frac{2}{6}$

iii)  $\frac{3}{8}$

4) Encircle the figures to the given fractions.

i)  $\frac{5}{7}$

ii)  $\frac{5}{6}$

5) Add the fractions.

i) $\frac{2}{4}+\frac{1}{4}$ ii) $\frac{1}{5}+\frac{3}{5}$ iii) $\frac{3}{9}+\frac{2}{9}$

iv) $\frac{1}{3}+\frac{1}{3}$ v) $\frac{4}{7}+\frac{1}{7}$ vi) $\frac{2}{6}+\frac{3}{6}$

6) Subtract the fractions.

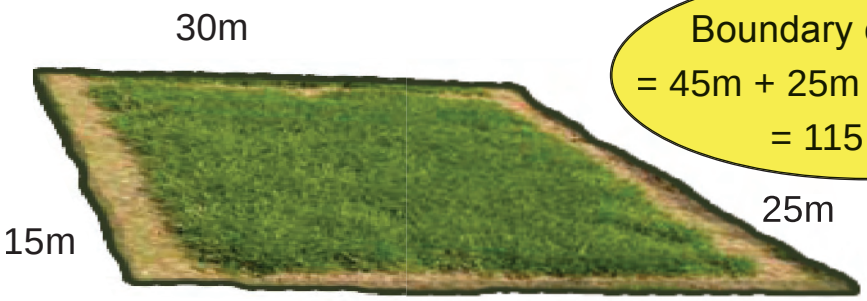
i) $\frac{3}{4}-\frac{1}{4}$ ii) $\frac{3}{6}-\frac{2}{6}$ iii) $\frac{4}{9}-\frac{2}{9}$

iv) $\frac{4}{5}-\frac{3}{5}$ v) $\frac{5}{7}-\frac{3}{7}$ vi) $\frac{2}{3}-\frac{1}{3}$

11 PERIMETER AND AREA

Suresh is a farmer. He wants to fence his field.

He is measuring the sides of the field with the help of his son.



Boundary of the field
= 45m + 25m + 30m + 15m
= 115 metre

To fence the field I need 115m of wire for each row.

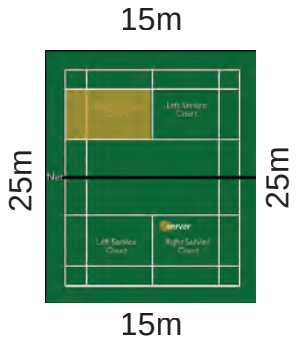
Sum of all the sides of the field is called its perimeter. The length of the boundary of a closed figure is called its perimeter.

Perimeter = Sum of all the sides of the shape.

Practice

Find the perimeter for the following.

1)

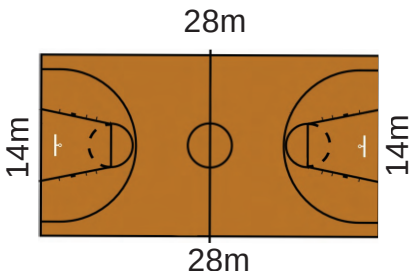


Perimeter of badminton court

= 15m + 25m + 15m + 25m

= ____ m

2)

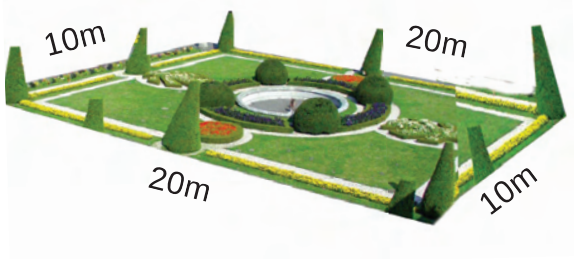


Perimeter of basketball court

= _____

= ____ m

3)



Jothi goes for a walk around the park every morning. What is the total distance she covers by walk ?

Distance covered by walk = perimeter

= _____

= ____ m

4)

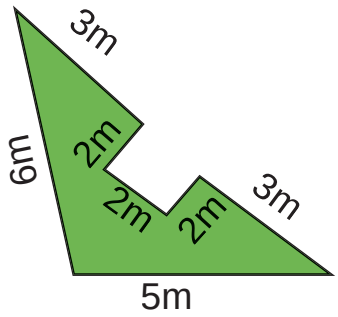
Anu's mother Devi planted marigolds in her garden. Now she wants to fence her garden. Find the length of fence.

Length of the fence = perimeter

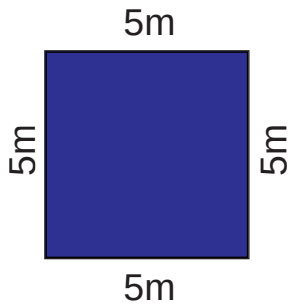
= _____

= ____ m

Perimeter

5) 

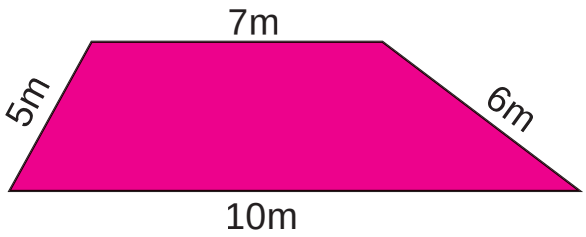
= 5m + 3m + 2m + 2m + 2m +3m + 6m
= 23m

6) 

Perimeter

= _____

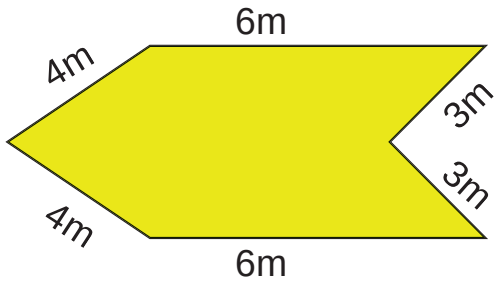
= _____

7) 

Perimeter

= _____

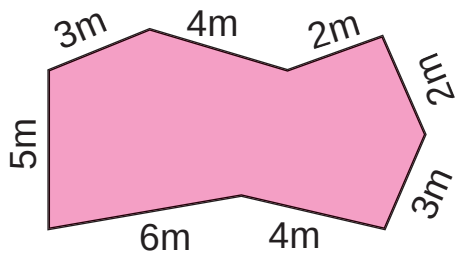
= _____

8) 

Perimeter

= _____

= _____

9) 

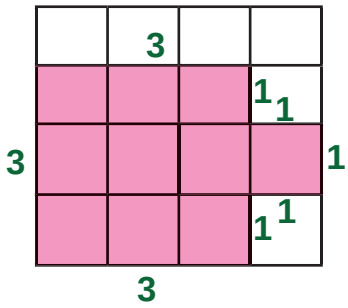
Perimeter

= _____

= _____

Perimeter on a square paper

We can easily find the perimeter of a shape drawn on square paper.

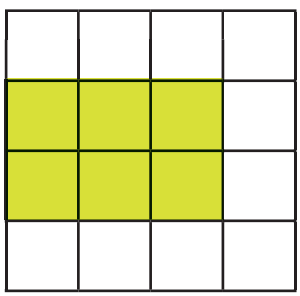


The side of each square is 1cm.

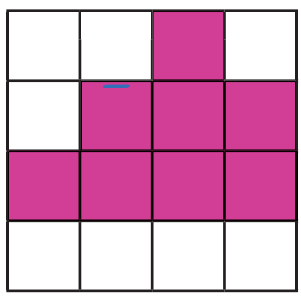
Perimeter of the shape on the square paper = 14cm.

Practice

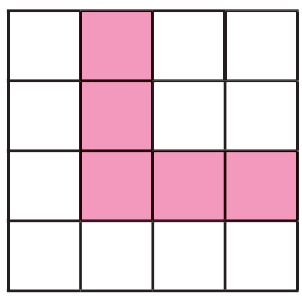
Find out perimeter of the shapes given below.

1) 

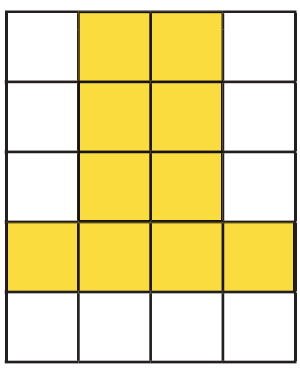
Perimeter = _____

2) 

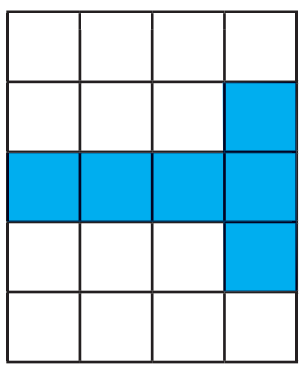
Perimeter = _____

3) 

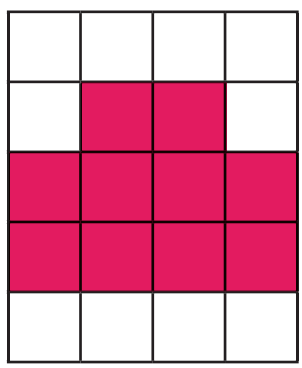
Perimeter = _____

4) 

Perimeter = _____

5) 

Perimeter = _____

6) 

Perimeter = _____

Area

Look at the picture drawn in the post card.

The picture occupies some space on the card.

This space is area of the picture.

The space occupied by a shape is called its area

Lab activity

* Collect stamps.
* Stick them as shown.

Observe the area of each stamp.

* Place your pencil box on your notebook.
* Trace and colour.

The coloured space is the area of base of the box.

* Collect a few greeting cards of different sizes. Find out the areas by tracing

Comparing area

picture (1)

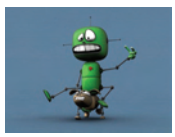
picture (2)

Two pictures are given. The areas of the pictures are not equal. Area of the picture (1) is greater than the area of the picture (2)

Practice

Tick the figure which has the greater area.

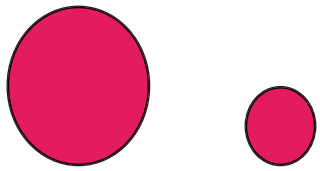
1)



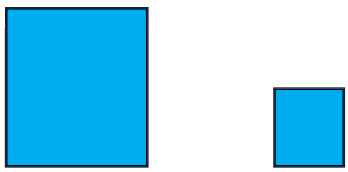
2)

3)

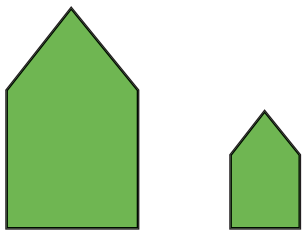
4)



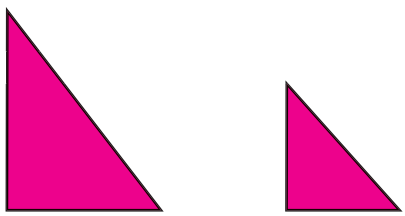
5)



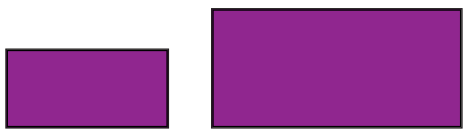
6)



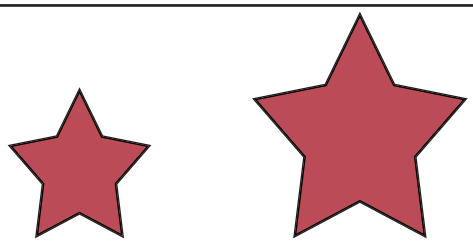
7)



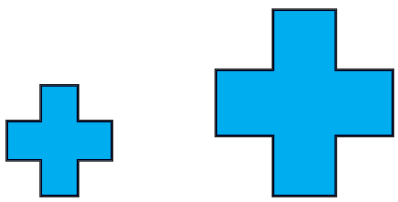
8)



9)



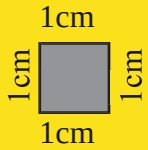
10)



Area on the square paper

The unit for measuring area is square unit.

Square unit can be written as sq. unit.



Area of this unit square is 1 sq.cm.

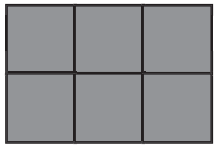
There are four unit squares in this square.

1 unit square = 1 sq.cm.

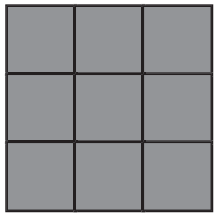
Area of this square = 4 sq.cm.

Practice

Find the areas of the following shapes.  = 1 sq.cm.

1) 

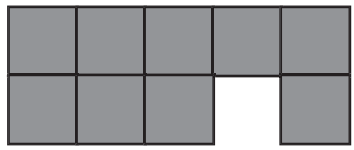
Area = 6 sq.cm.

2) 

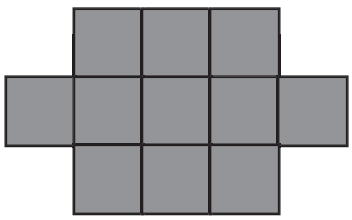
Area = _____

3) 

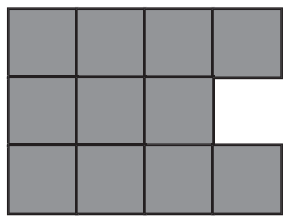
Area = _____

4) 

Area = _____

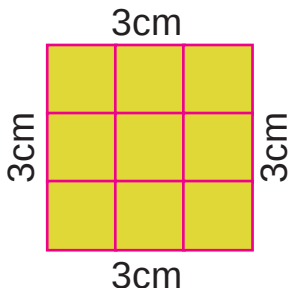
5) 

Area = _____

6) 

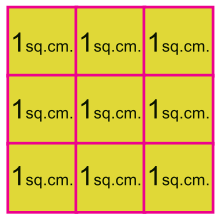
Area = _____

Comparing perimeter and area



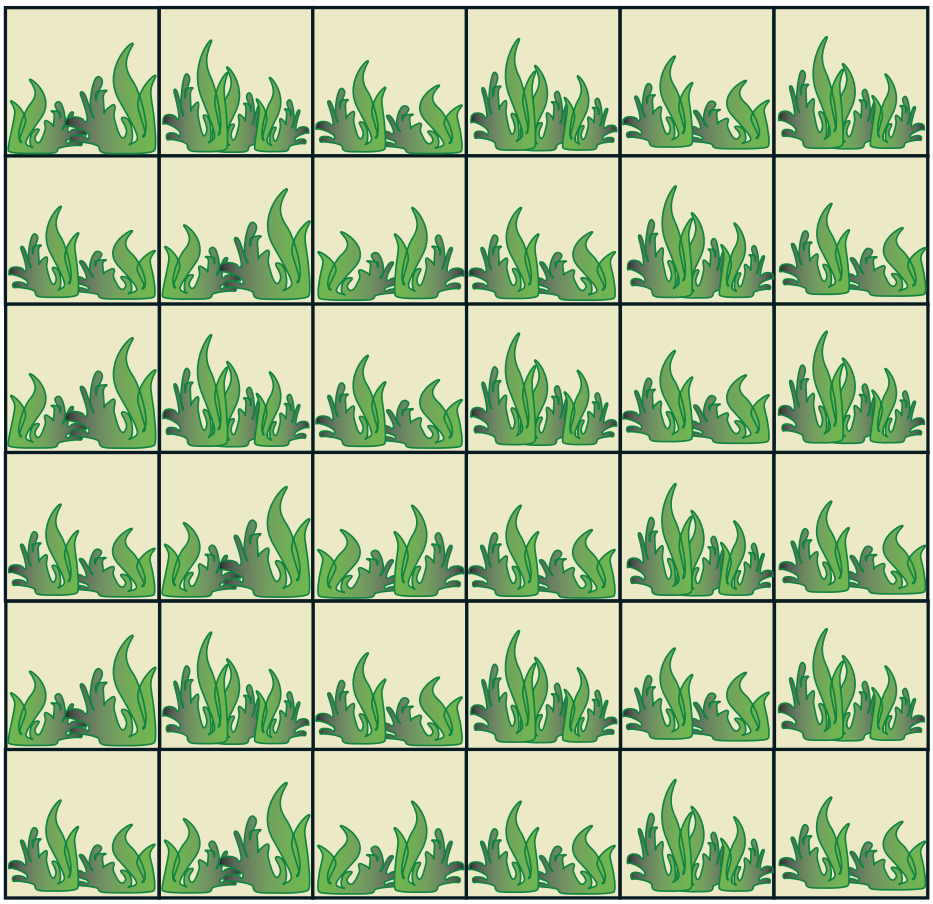
Perimeter of this square = 12 cm

Area of the square = 9 sq.cm.



Puzzle

- Look at the field given below.
- Divide the field into 4 equal areas
- The four divided areas should be in different shapes.



REVISION

Fill in the blanks.

1) Area of 1 unit square is _____

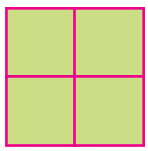
2) Sum of all the sides of shape is _____

3) Square unit can be written as _____

4) We can easily find the perimeter and area of a shape drawn on a _____ paper.

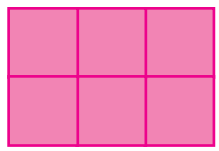
5) The space occupied by a shape is called _____

Find the areas and perimeter of the following figures. The area of each unit square is 1 sq cm.

1) 

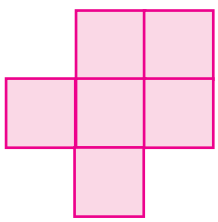
Perimeter = _____

Area = _____

2) 

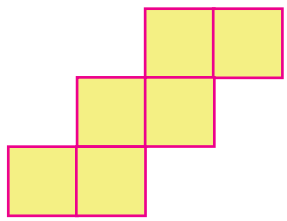
Perimeter = _____

Area = _____

3) 

Perimeter = _____

Area = _____

4) 

Perimeter = _____

Area = _____

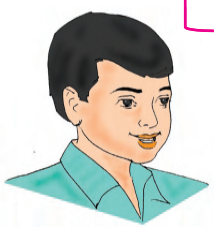
12 HANDLING MONEY

Two friends are talking about the change of rupees.

Do you have change for 1000 rupees ?

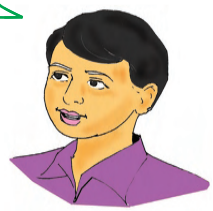
Shall I give two 500 rupee notes?

No, I want in 100 rupee notes?



I am not having ten 100 rupee notes. Only I have five 100 rupee notes.

O.K. you give one 500 rupee note and five 100 rupee notes.



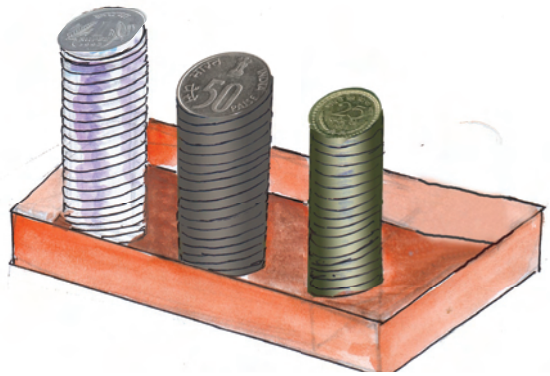
Rupees can be expressed as ₹
and paise can be expressed as p.

₹5.75 can be written in words as Rupees five and seventy five paise or Five rupees and seventy five paise.

5 Rupees ← → 75 paise

₹ 5.75

Play with coins



Can you make ₹1 using 25 p coins ?

Look here !

★ ₹ 2 using 50 p coins

Now try !

★ Make ₹ 5 using 1 rupee coins.

★ Make ₹ 10 using 2 rupee coins.

★ Make ₹ 50 using 5 rupee coins.

Know it.

50 p + 50 p = 100 p

100 p = ₹ 1

Denominations

Write down the denominations for the given amount.

₹ 595 = ₹ 500 ₹ 50 ₹ 20 ₹ 20 ₹ 5


₹ 500	x	1	=	₹ 500
₹ 50	x	1	=	₹ 50
₹ 20	x	2	=	₹ 40
₹ 5	x	1	=	₹ 5
Total			=	₹ 595



₹ 325 = ₹ 100 ₹ 100 ₹ 100 ₹ 20 ₹ 5


₹ 100	x	____	=	____
₹ 20	x	____	=	____
₹ 5	x	____	=	____
Total			=	____



₹ 660 = ☐ ☐ ☐ ☐




Convert ₹ 23 into paise.

₹ 1 = 100 p

₹ 23 = 23 × 100 p

₹ 23 = 2300 p

To change ₹ into p multiply by 100

Convert ₹ 35.75 into paise.

₹ 35. 75

Step 1

₹ 35 = 35 × 100 p

= 3500 p

Step 2

3500 p

+ 75 p

= 3575 p

₹ 35. 75 = 3575 p

Convert 600 p into ₹

100 p = ₹ 1

600 ÷ 100 = 6

600 p = ₹ 6

Express 750 p into ₹

750 p = 700 p + 50 p

= ₹ 7 + 50 p

750 p = ₹ 7.50

Practice

Convert the following.

1) ₹ 2 = _____ p.

2) ₹ 5 = _____ p.

3) ₹10 = _____ p.

4) ₹ 50 = _____ p.

5) ₹ 65 = _____ p.

6) ₹ 100 = _____ p.

7) 300 p = ₹ 3

8) 700 p = ₹_____

9) 500 p = ₹ _____

10) 1670 p = ₹ 16 .70

11) 950 p = ₹ _____

12) 2540 p = ₹ _____

Addition without conversion

₹ 24 . 50
+ ₹ 55 . 20
₹ 79 . 70

Step 1:
Add paise
50p + 20p = 70p

Step 2:
Add rupees
₹ 24 + ₹ 55 = ₹ 79

₹ 24 . 25
₹ 42 . 40
+ ₹ 63 . 10
₹ 129 . 75

Step 1:
Add paise
25p + 40p + 10p = 75p

Step 2:
Add rupees
₹ 24 + ₹ 42 + ₹ 63 = ₹ 129

Practice

1) ₹ 40 . 75
+ ₹ 25 . 20

2) ₹ 20 . 50
+ ₹ 18 . 15

3) ₹ 12 . 10
+ ₹ 68 . 30

4) ₹ 48 . 30
₹ 67 . 25
+ ₹ 32 . 15

5) ₹ 51 . 15
₹ 34 . 25
+ ₹ 48 . 30

6) ₹ 95 . 30
₹ 58 . 20
+ ₹ 71 . 25

Addition with conversion

₹ 80 . 85
+ ₹ 65 . 75
₹ 146 . 60

Step 1:

Add the paise

85p + 75p = 160p = ₹ 1.60

Step 2:

Add the rupees

₹ 1 + ₹ 80 + ₹ 65 = ₹ 146

₹ 54 . 25
₹ 42 . 45
+ ₹ 63 . 70
₹ 160 . 40

Step 1:

Add the paise

25p + 45p + 70p = 140p = ₹ 1.40

Step 2:

Add the rupees

₹ 1 + ₹ 54 + ₹ 42 + ₹ 63 = ₹ 160

Practice

1)
₹ 145 . 65
+ ₹ 69 . 50

2)
₹ 124 . 50
+ ₹ 215 . 75

3)
₹ 48 . 90
+ ₹ 67 . 60

4)
₹ 87 . 85
+ ₹ 96 . 95

5)
₹ 74 . 35
₹ 27 . 75
+ ₹ 61 . 50

Stationary shop

Yokesh bought a pencil box for ₹ 24.50 and a pen for ₹ 15.50. Find the total amount paid.

Cost of a pencil box	=	₹ 24 . 50
Cost of a pen	=	+ ₹ 15 . 50
Total cost	=	₹ 40 . 00

The amount paid by him = ₹ 40

Practice

1) chandra bought notebooks for ₹ 55.50 and pen for ₹ 73.50. Find the total amount she paid.

2) Ravi bought bread for ₹ 18 and Jam bottle for ₹ 12.50. How much did he spend in all ?

3) Vinisha bought chapathi for ₹ 25.50 and a fruit juice for ₹ 15.50. How much should she pay ?

Subtraction with conversion

₹ 52 . 20	Step 1:
− ₹ 38 . 75	Subtract paise
₹ 13 . 45	75 p cannot be subtracted from 20 p.
	So, take ₹ 1 from ₹ 52.
	Now ₹ 1 = 100 p
	100p + 20p = 120p.
	120p – 75p = 45p.
	Step 2:
	Subtract rupees
	₹ 51 – ₹ 38 = ₹ 13

Practice

1)

₹ 75 . 65
− ₹ 28 . 30

2)

₹ 92 . 50
− ₹ 48 . 10

3)

₹ 42 . 25
− ₹ 24 . 40

4)

₹ 34 . 60
− ₹ 15 . 85

5)

₹ 64 . 10
− ₹ 36 . 95

6)

₹ 83 . 50
− ₹ 33 . 75

Life related problems

Arun bought a book for ₹ 24 . 50 and a pen for ₹ 18 . 50. How much more did he spend more to buy a book?

Cost of a book = ₹ 24 . 50

Cost of a pen = – ₹ 18 . 50

₹ 6 . 00

Aruna spent ₹ 6 more to buy a book.

Fruit stall

Rani bought fruits for ₹ 45 . 50. She gave ₹ 100 to the seller. How much did she get it back?

Amount given to the seller = ₹ 100 . 00

Cost of fruits = – ₹ 45 . 50

Amount she got back = ₹ 54 . 50

Practice

1. Seetha bought family pack icecream for ₹ 230 . 50. She gave ₹ 500 to the shop keeper. Find the balance amount.
2. Prakash bought a cake and a cherry packet for ₹ 97 . 50. The cost of a cake is ₹ 49 . 50. Find the cost of a cherry packet.

Multiple cost

Ramesh bought 3 kg of laddus at the rate of ₹ 150 per kg. Find the amount paid by him.

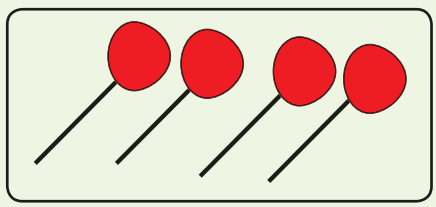
Cost of 1 kg of laddus = ₹ 150

Cost of 3 kg of laddus = ₹ 150 × 3

Cost of 3 kg of laddus = ₹ 450

Ramesh spent the amount = ₹ 450

Cost of a lollipop is ₹ 2 . 50. Find the cost of 4 lollipops.



Cost of 1 lollipop = ₹ 2 . 50

Cost of 4 lollipops = ₹ 2 . 50

× 4

10 . 00

Cost of 4 lollipops = ₹ 10

Step 1:

Multiply paise

50p × 4 = 200p = ₹ 2

Step 2:

Multiply rupees

₹ 2 × 4 = ₹ 8 and

adding with ₹ 2 = ₹ 10

Unit cost

Five friends went to a theme park. They paid ₹ 850 towards the entry fee. Find the amount paid by each.

Total amount given by them = ₹ 850

Number of persons = 5

Amount paid by each person = ₹ 850 ÷ 5

= ₹ 170

```
   170
5 | 850
    5
    --
    35
    35
    --
     0
```

Practice

1) Rajan bought 3 litres of coconut oil at ₹ 150 per litre. Find the total cost paid by Rajan.

2) Priya bought 8 bananas for ₹ 32. Find the cost of one banana.

3) If 6 apples cost ₹ 108, how much will one apple cost ?

4) Vijaya bought 35 eggs at ₹ 3 per egg. Find the total cost.

Estimate to nearest rupees

Amount	Estimated cost	Reason
₹ 15 . 20	₹ 15	20 paise is less than 50 paise
₹ 18 . 80	₹ 19	80 paise is more than 50 paise

Estimate

* Vivek bought a soap cake for ₹ 22.40, a tooth brush for ₹ 18.70 and tooth paste for ₹ 35.50. He prepared the estmation to close the nearest one rupee.

Items Purchased	Actual cost	Estimated cost	Difference in paise
Soap cake	₹ 22 . 40	₹ 22	40 p
Tooth brush	₹ 18 . 70	₹ 19	30 p
Tooth paste	₹ 35 . 50	₹ 36	50 p
Total	₹ 76 . 60	₹ 77	-

* Leena wants to make rava sweets. She wants to estimate the expenditure to the nearest ten rupees. She draws the following estimation table.

Items required	Quan-tity	Actual cost ₹	Estimated cost ₹	Difference in ₹
Rava	1 kg	₹ 33	₹ 30	₹ 3
Sugar	1 kg	₹ 47	₹ 50	₹ 3
Cashewnuts	250 g	₹ 54	₹ 50	₹ 4
Ghee	100 g	₹ 28	₹ 30	₹ 2
Total		₹ 162	₹ 160	-

Practice

1) Lalitha bought talcum powder for ₹ 31.35, hair clips for ₹ 23.40 and naphthalene balls for ₹ 48.60. Estimate the total and find the difference, close to the nearest one rupee.

2) Siva bought balloons for ₹ 27, colour paper for ₹ 41, wall picture for ₹ 63. Find the estimated cost and difference in estimation, close to the nearest ten rupee.

Lab activity

- Materials and their cost are given.
- you have ₹ 500.
- List out different ways you have to select the materials within ₹ 500.

₹ 15

₹ 120

₹ 25

₹ 175

₹ 70

₹ 150

₹ 100

₹ 75

₹ 3

₹ 60

₹ 275

₹ 50

REVISION

1) Express rupees in paise.

i) ₹ 3 = _____ p. ii) ₹ 12 = _____ p.

iii) ₹ 75 = _____ p. iv) ₹ 60 = _____ p.

2) Express paise into rupees.

i) 700 p = ₹_____ ii) 1900 p = ₹ _____

iii) 800 p = ₹ _____ iv) 2600 p = ₹ _____

3) i) ₹ 35 . 75 ii) ₹ 73 . 25 iii) ₹ 13 . 50

+ ₹ 40 . 50 + ₹ 81 . 50 + ₹ 45 . 75

_____ _____ _____

4) i) ₹ 75 . 50 ii) ₹ 47 . 25 iii) ₹ 77 . 50

– ₹ 13 . 25 – ₹ 17 . 50 – ₹ 52 . 75

_____ _____ _____

5) Estimate to nearest rupees.

₹ 17.25 is estimated as ₹ _____

₹ 79.79 is estimated as ₹ _____

6) Write the denominations for the given amount ₹ 975.

7) Raju bought apples and mangoes for ₹ 96.50. Cost of the apples is ₹ 53.50. Find the cost of the mangoes.

8) Cost of a pencil is ₹ 4. Find out the cost of 56 pencils.

9) Cost of a kerchief is ₹ 5.50. What is the cost of 8 kerchieves ?

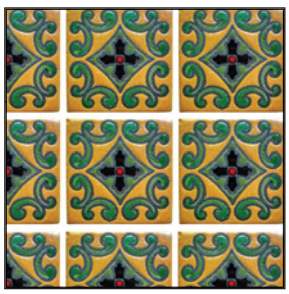
10) Cost of four pens is ₹ 128. Find out the cost of a pen.

11) If 4 toys cost ₹ 560, how much will be the cost of a toy ?

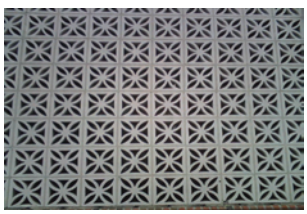
13 PATTERNS

Observe the patterns in geometry

Ceramic tiles

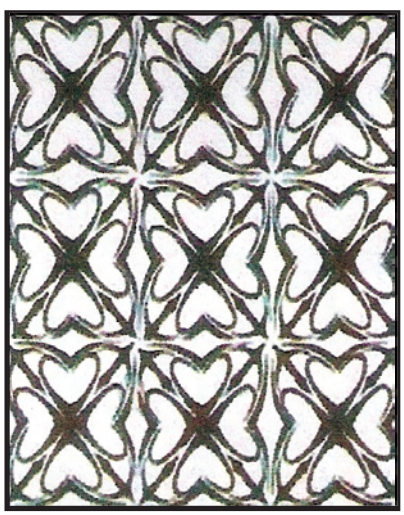


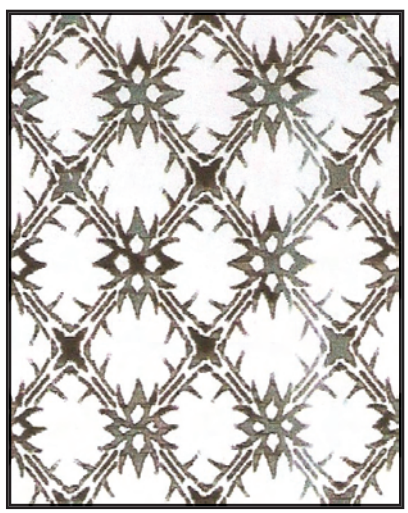
Cement blocks



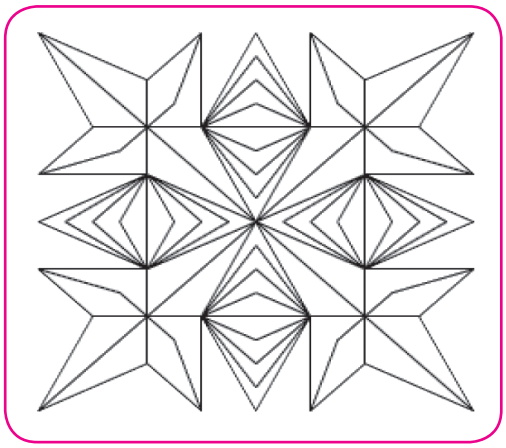
Patterns are found in nature, in science, in buildings and in mathematics. Patterns in nature are leaves and rocks. Patterns in buildings are shown in the above ceramic tiles and cement blocks.

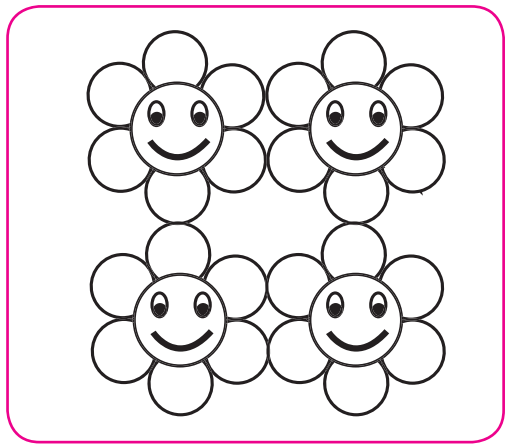
Colour the given geometry patterns.





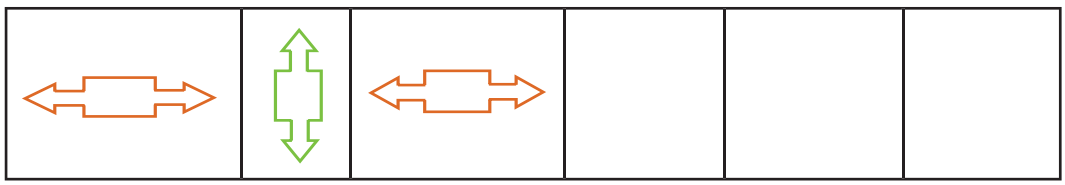
By joining the 4 tiles one geometry pattern is formed. Colour it.



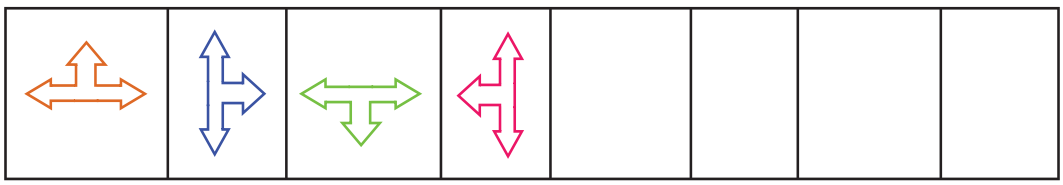


Complete the geometry pattern.

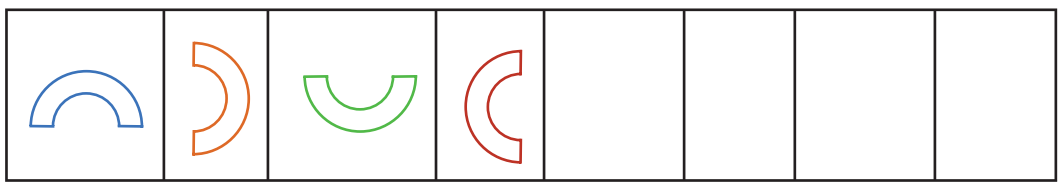
1)



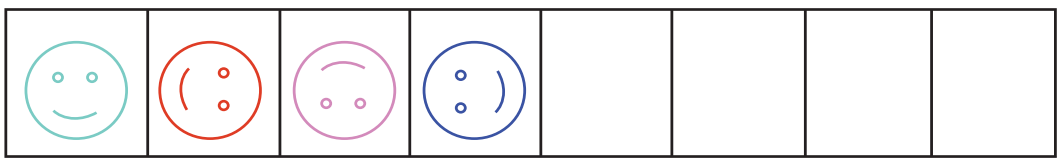
2)



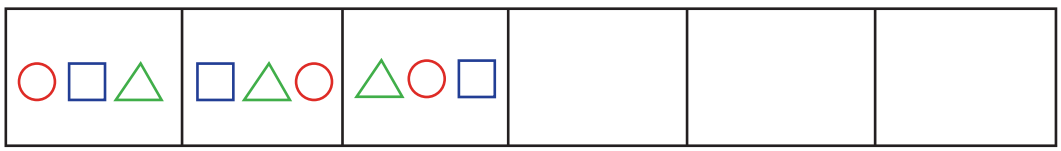
3)



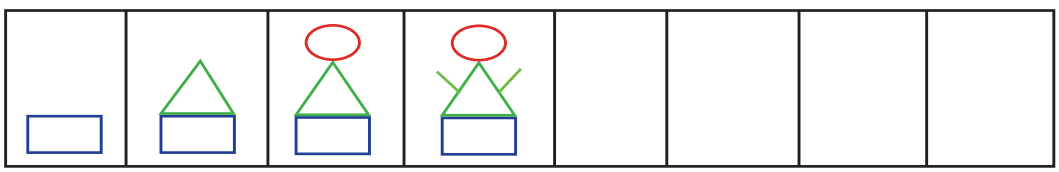
4)



5)



6)



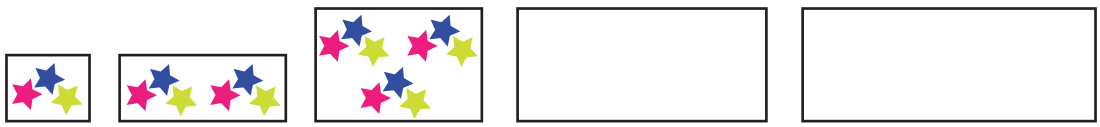
Patterns in Numbers

Complete the pattern and write the numbers.

1.

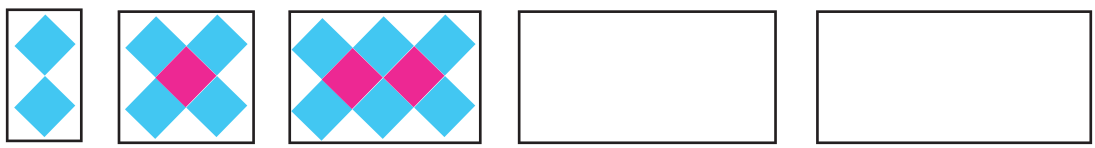
1 3 5 ___ ___ ___

2.



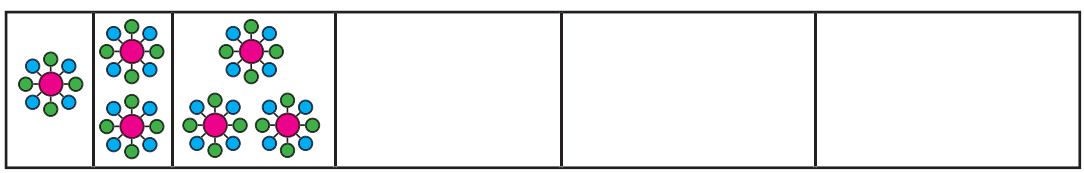
3 6 9 ___ ___

3.



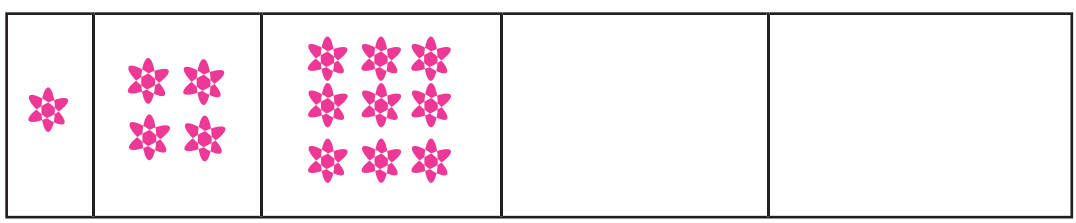
2 5 8 ☐ ☐

4.



9 18 ☐ ☐ ☐ ☐

5.



1 2 + 2 3 + 3 + 3 ☐ ☐

Pattern is a set of shapes or numbers that are repeated again and again.

Number patterns in addition and subtraction

1) Observe the number patterns and fill in the blanks.

1 + 3 + 5 = 09

3 + 5 + 7 = 15

5 + 7 + 9 = 21

7 + 9 +11= 27

9 + 11 + 13 = _____

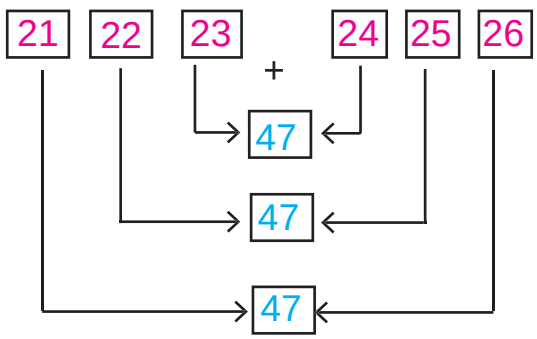
_____

_____

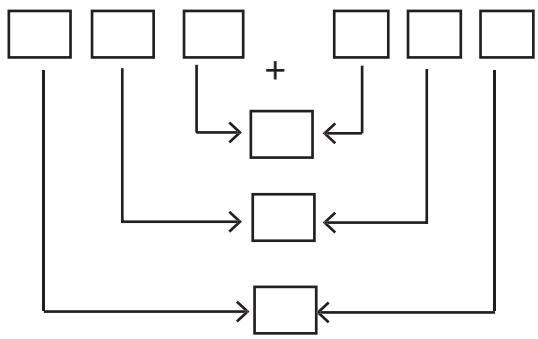
15 + 17 +19 = _____

9, 15 , 21 , 27, ___ , ___ , ___ , ___

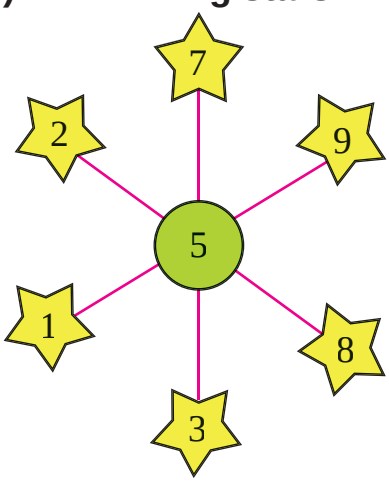
2) Six number cards are taken in order and two numbers are added as shown below.



In the same way, take any six number cards in order and check the total.



3) Twinkling stars



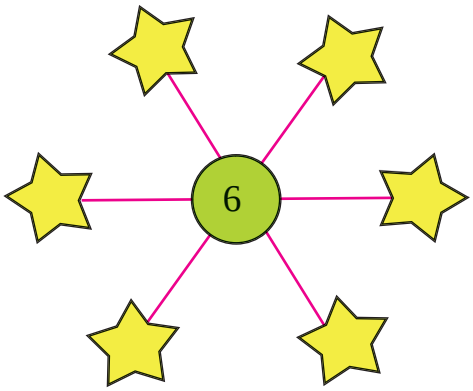
In the given figure add the numbers in a straight line.

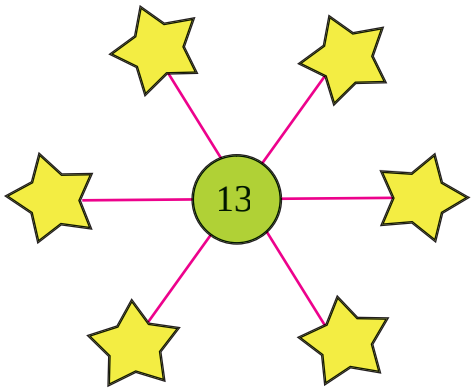
1 + 5 + 9 = 15

2 + 5 + 8 = 15

3 + 5 + 7 = 15

Fill in the following stars as the total is same.

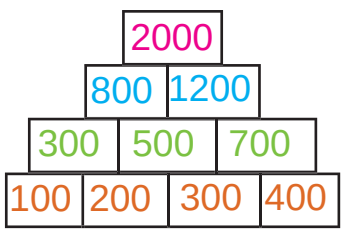




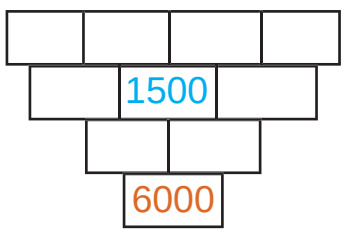
Sum is 18. Use the numbers 3, 4, 5, 7, 8 and 9

Sum is 23. Use the numbers 9, 8, 7, 3, 2 and 1

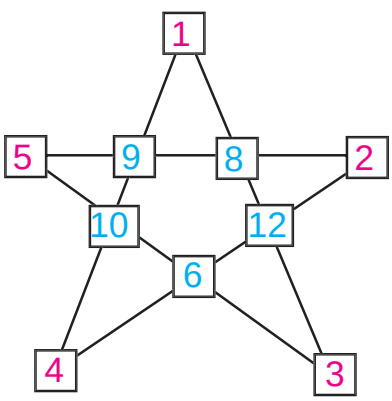
4) **Build the blocks with numbers.**



Complete the blocks.

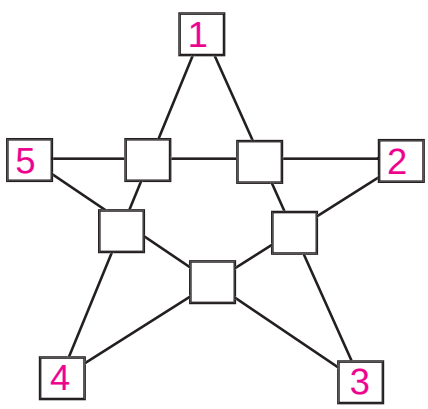


5) **Magic star.**



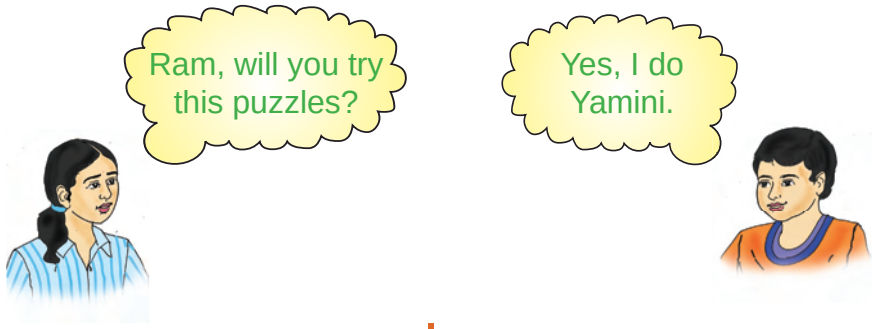
Sum of the numbers in each straight line is 24

Complete the magic star.



Sum is 30. Use the numbers 9, 11, 12, 13 and 15 in the empty boxes.

Fun with number patterns



Write the numbers from 1 to 9 and reverse the order, add and observe.

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

Do you find any pattern? Oh yes, one is repeated nine times followed by 0.

Write the numbers from 2 to 9 and reverse the order as shown and add. Enter the result and your findings.

$$\begin{array}{r} 2\,3\,4\,5\,6\,7\,8\,9 \\ +\,9\,8\,7\,6\,5\,4\,3\,2 \\ \hline \\ \hline \end{array}$$

Observe the number patterns and complete it.

(2 x 2) – (1 x 1) = 3 = 2 + 1

(3 x 3) – (2 x 2) = 5 = 3 + 2

(4 x 4) – (3 x 3) = 7 = 4 + 3

(5 x 5) – (4 x 4) = ____ = ____

(6 x 6) – (5 x 5) = ____ = ____

(7 x 7) – (6 x 6) = ____ = ____

Fill in the table by increasing and decreasing 10 or 100.

826	726			426		226	
900			870	860			
310	320						380
	106	206					

Number patterns in multiplication and division

Observe the following pattern and complete it.

1) 

2) 1000, 500 | 1100, 550 | 1200,___ | 1300,___ | 1400,___ | 1500,___

3) 20 x 9, 18 x 10 | 30 x 9, 27 x 10 | 40 x 9, _____

50 x 9, _____ | 60 x 9, _____ | 70 x 9, _____

4)

2	4	8	16				
2	6	18	54				
2	8	32	128				
2	10	50	250				
2	12						

5) **Magic square.**

Take three multiples of ten say, 10, 30 and 50. Arrange the numbers as shown. Add the numbers in a straight line. The total is 90.

30	10	50
50	30	10
10	50	30

\+

30
10
50
90

Complete the magic square.

In the same way, take any three multiples of ten, Arrange the numbers in squares such that when the numbers are added in a straight line or crosswise the total must be the same.

Number patterns in multiples of nine

Complete the 9th table.

1	x	9	=	9
2	x	9	=	18
3	x	9	=	27
4	x	9	=	----
5	x	9	=	----
6	x	9	=	54
7	x	9	=	63
8	x	9	=	----
9	x	9	=	----
10	x	9	=	----

What happens when you add the digits in the product?

Total is 9

Complete the addition.

0	+	9	=	9
1	+	8	=	--
2	+	7	=	--
3	+	6	=	--
4	+	5	=	--
5	+	4	=	--
6	+	3	=	--
7	+	2	=	--
8	+	1	=	--
9	+	0	=	--

The digits in ones place are 9, 8, 7, 6, 5, 4, 3, 2 and 1. They are in decreasing order.

The digits in tens place are 1, 2, 3, 4, 5, 6, 7, 8 and 9. They are in increasing order.

Record your observations after adding and check your findings.

- Sum of the digits of the product is _____
- The digits in tens place _____
- The digits in ones place _____
- The digits in tens place are in _____ order.
- The digits in ones place are in _____ order.

Fun with 9

Take any three digit number	736
Multiply by 9	736 x 9 = 6624
Add the digits in the product	6 + 6 + 2 + 4 = 18
until a single digit is found	1 + 8 = 9

Practice

1) 437 x 9 = _____ 2) 336 x 9 = _____ 3) 167 x 9 = _____

Grouping into nine

Teacher gave 41 pencils to Vishal and 36 to Varsha. Ask them to make bundles such that each bundle has 9 pencils.






Vishal had 5 extra pencils after bundling 41 pencils into 4 bundles

Varsha bundled 36 pencils into 4 bundles. There is no extra pencil.

Casting out nine

Complete the following.

81 – 9 = 72	⇨	7 + 2 = 9
72 – 9 = 63	⇨	6 + 3 = 9
63 – 9 = 54	⇨	_____
54 – 9 = 45	⇨	_____
45 – 9 = 36	⇨	_____
36 – 9 = 27	⇨	_____
27 – 9 = 18	⇨	_____
18 – 9 = 09	⇨	_____
09 – 9 = 00	⇨	_____

When 9 is subtracted from multiple of 9, the remainder is a multiple of 9. The sum of the digits in the remainder is 9.

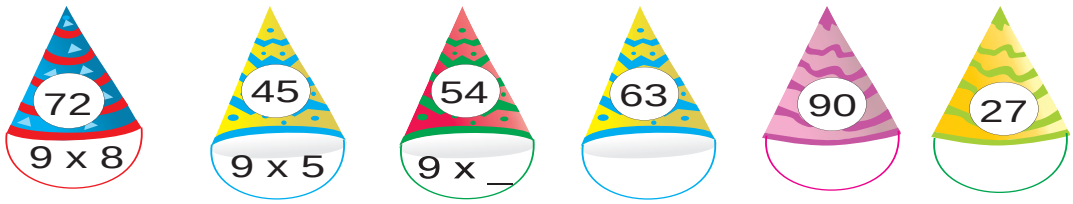
89 – 9 = 80	⇨	8 + 0 = 8
80 – 9 = 71	⇨	7 + 1 = 8
71 – 9 = 62	⇨	_____
62 – 9 = 53	⇨	_____
53 – 9 = 44	⇨	_____
44 – 9 = 35	⇨	_____
35 – 9 = 26	⇨	_____
26 – 9 = 17	⇨	_____
17 - 9 = 08	⇨	_____

When 9 is subtracted from other than multiple of 9, the remainder is not a multiple of 9. The sum of the digits in the remainder is less than 9.

Practice

Fill in the following blanks.

1)



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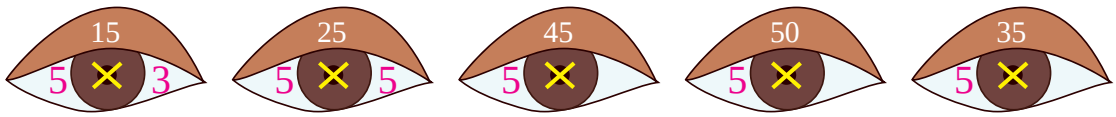

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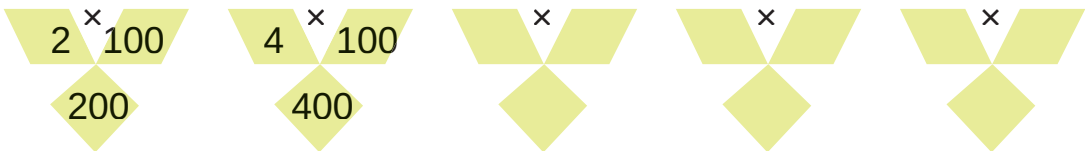
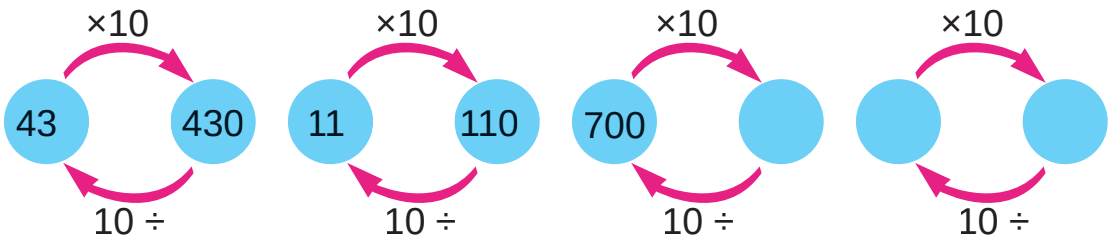


4)



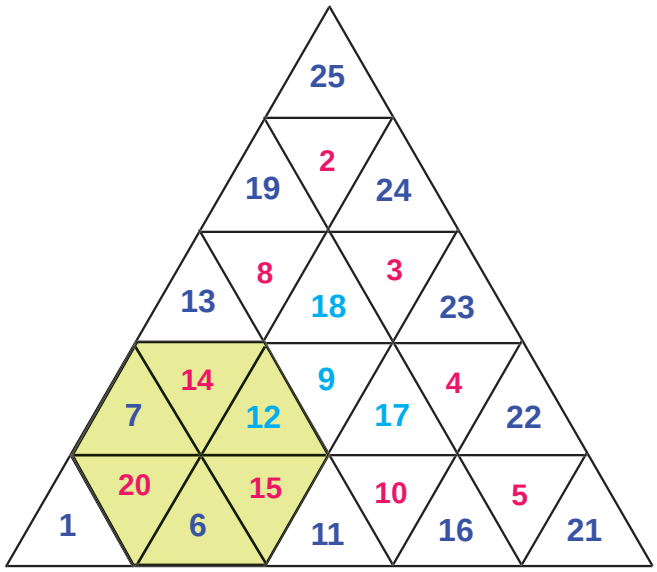
Puzzle

Two paths are described using numbers. Show the paths for the ants to reach the sugar pot. Write the number patterns.

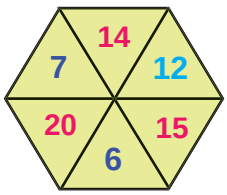
Lab activity

Look at the numbers given in the triangle.

The numbers from 1 to 25 are given in pattern.



Take the numbers coloured in the shape and add.

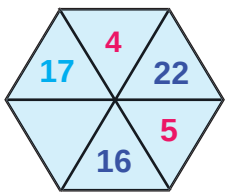


7 + 14 + 12 + 15 + 6 + 20 = 74

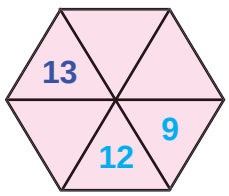
7
14
12
15
6
+ 20
74

Fill in the missing numbers to get the total 74 using the shape.

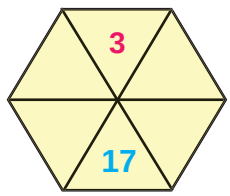
1)



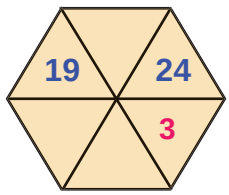
2)



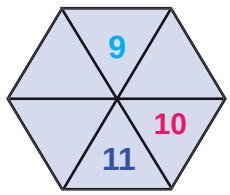
3)



4)



5)



REVISION

Complete the number patterns.

1) 9, 19, 29, 39, ____, ____, ____

2) 64, 55, 46, 37, ____, ____, ____

3) 19, 28, 37, 46, ____, ____, ____

4) 121, 222, 323, 424, ____, ____, ____

5) 609, 509, 409, 309, ____, ____, ____

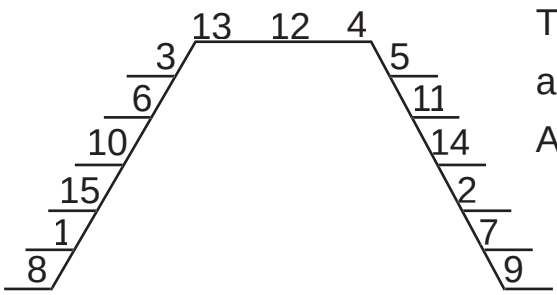
6)

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

Numbers from 1 to 16 are arranged in the square. Find the total of numbers vertically, horizontally and cross wise. Arrange the totals in increasing order. What do you find?

Observe and complete the following.

7)



The numbers from 1 to 15 are arranged in a horse shoe pattern. Add two consecutive numbers.

8 + 1 = 9 = 3 × 3

1 + 15 = 16 = 4 × 4

10 + 6 = 16 = ____

6 + 3 = __ = ____

3 + 13 = __ = ____

12 + 4 = ____ = ____

4 + 5 = ____ = ____

5 + 11 = ____ = ____

14 + 2 = ____ = ____

7 + 9 = ____ = ____

14 DATA HANDLING

Pictograph

Children went to a zoo. They listed the animals seen in the zoo by the following pictograph.

Monkeys	
Elephants	
Tigers	
Deers	
Bears	

The number of animals seen by them in the Zoo are given below:

1) Number of elephants = 10

2) Number of tigers = 15

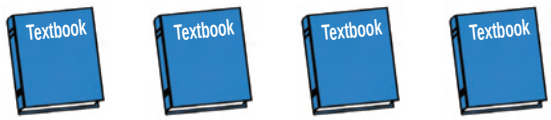
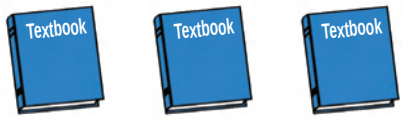
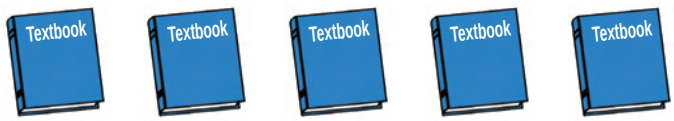
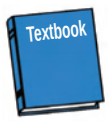
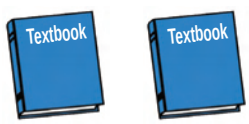
3) Number of bears = 10

4) Number of deers = 25

5) Number of monkeys = 30

Practice

The following pictograph shows the number of books sold in a bookshop in 5 days. Answer the following questions from the pictograph.

Monday	
Tuesday	
Wednesday	
Thursday	
Friday	

 represents 9

1) Number of books sold on Monday _____

2) Number of books sold on Tuesday _____

3) Number of books sold on Wednesday _____

4) Number of books sold on Thursday _____

5) Number of books sold on Friday _____

Pictograph - Another way.

We are in a Park

Children are playing and enjoying in the park.

1) 18 children are playing on the merry-go- round.
2) 12 children are skipping.
3) 16 children are sliding.
4) 2 children are playing in the see saw.

▭ represents 2 children. We can draw pictograph as follows.

Skipping	▭ ▭ ▭ ▭ ▭ ▭
Slider	▭ ▭ ▭ ▭ ▭ ▭ ▭ ▭
See saw	▭
Merry-go-round	▭ ▭ ▭ ▭ ▭ ▭ ▭ ▭ ▭

Representation of informations by pictures is called a **pictograph.**

Our favourite food.

Fill in the blanks using the pictograph given below.

▲ represents 3 children.

Idly	▲ ▲ ▲
Dosa	▲ ▲ ▲ ▲ ▲
Pongal	▲ ▲ ▲
Aappam	▲ ▲

1) ___ children like idly.
2) ___ children like dosa.
3) ___ children like pongal.
4) ___children like aappam.
5) ___ is liked by many children.

Complete the pictograph.

Colourful shirts

There are 40 yellow shirts, 20 blue shirts, 30 orange shirts and 60 green shirts in a textile shop.

■ represents 10 shirts.

Yellow shirts	■ ■ ■ ■
Blue shirts	
Orange shirts	
Green shirts	

Circle chart

Children are playing with toys.

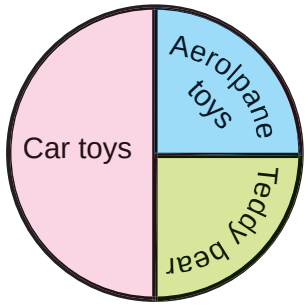
40 children are playing toys.

Half of them are playing with car toys.

Quarter of them are playing with aeroplane toys.

one-fourth of them are playing with teddy bear toys.

This data is shown by the circle chart.



From the circle chart :
20 children are playing with car toys.
10 children are playing with aeroplane toys.
10 children are playing with teddy bear toys.

Complete the circle chart for the following data.

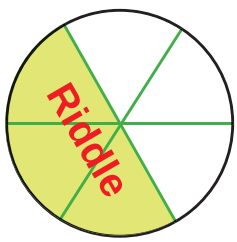
Children's day

60 children are participated in three competitions as given below.

30 of them participated in riddle competition.

20 of them participated in drawing competition.

10 of them participated in fancy dress competition.



Collection of data

Medal list of first five places of countries that participated in the Commonwealth Games held in New Delhi 2010.

Country	Gold	Silver	Bronze	Total
Australia	74	55	48	
India	38	27	36	
England	37	59	46	
Canada	26	17	32	
South Afica	12	11	10	

Answer the following from the table.

- Which country got maximum medals?
- Which country was in second place?
- Find the total of country viz.

Collected informations in the form of numbers is called data.

PROJECT

Write the number of students studying in your school.

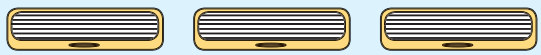
Name of the school:			Date:
Std	Boys	Girls	Total
I			
II			
III			
IV			
V			
Total			

Answer the following from the table.

- Which class has more number of students? _____
- Which class has more number of boys? _____
- Total number of students is _____

Practice

1) Look at the pictograph - Electornic items sold in a month in an electronic shop and answer the following.

Television	
Air conditioner	
Refrigerator	

   Each represents 20.

- How many televisions were sold?
- How many air conditioner were sold?
- How many refrigerator were sold?
- Which electronic item was sold more?

2) Prepare a pictograph for the following data. In a party children ate. 42 laddus, 56 jangiris, 64 gulabjamuns and 80 mysorepa.

    Each represents 8

3) If ● represents 10 vehicles prepare a pictograph for 50 cars, 30 motor bikes, 40 bicycles and 30 lorries are manufactured in a factory.

4) There are 60 children in a class. 15 students are girls and the remaining are the boys. Draw a circle chart.

5) There are 320 houses in a colony. Half of the houses are painted in two different colours. One fourth of the houses are painted in three different colours. The remaining houses are painted in many different colours. Prepare a circle chart.

REVISION

1) Children are coming to a school by walk, by bus and by bicycle. Answer the question from the given pictograph.

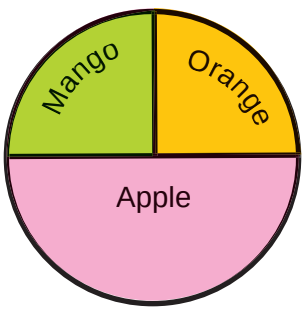
Walk	
Bus	
Bicycle	

represents 5

- ____ children come to school by walk.
- ____ children come to school by bus.
- ____ children come to school by bicycle.
- Most of the children come to school by ____.

2) An author is having 120 Tamil story books, 30 English story books, 90 Hindi story books and 80 Urudu story books. Prepare a pictograph.

3)



A Juice maker uses 100 fruits for making juice. Number of fruits used are given by circle chart. Find the number of mangoes, oranges and apples.

4) In a residential apartments. $\frac{1}{5}$ of people are having car, $\frac{3}{5}$ of people having motor cycle and the remaining people are having cycle. Total people are 500. Draw a circle chart and find out the number of people having car, motor cycle and cycle.