



GOVERNMENT OF TAMIL NADU

**STANDARD FIVE**  
**MATHEMATICS**  
**SCIENCE**  
**SOCIAL SCIENCE**

**Term - II**

**Volume-2**

A publication under Free Textbook Programme of Government of Tamil Nadu

**Department of School Education**

**Untouchability is Inhuman and a Crime**



## Government of Tamil Nadu

First Edition - 2019

(Published under New syllabus in  
Trimester Pattern)

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## Content Creation



State Council of Educational  
Research and Training

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## Printing & Publishing



Tamil Nadu Textbook and Educational  
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# MATHEMATICS

**Term - II**

(iii)



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# MATHEMATICS

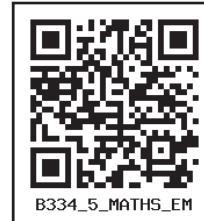
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E-book



Assessment



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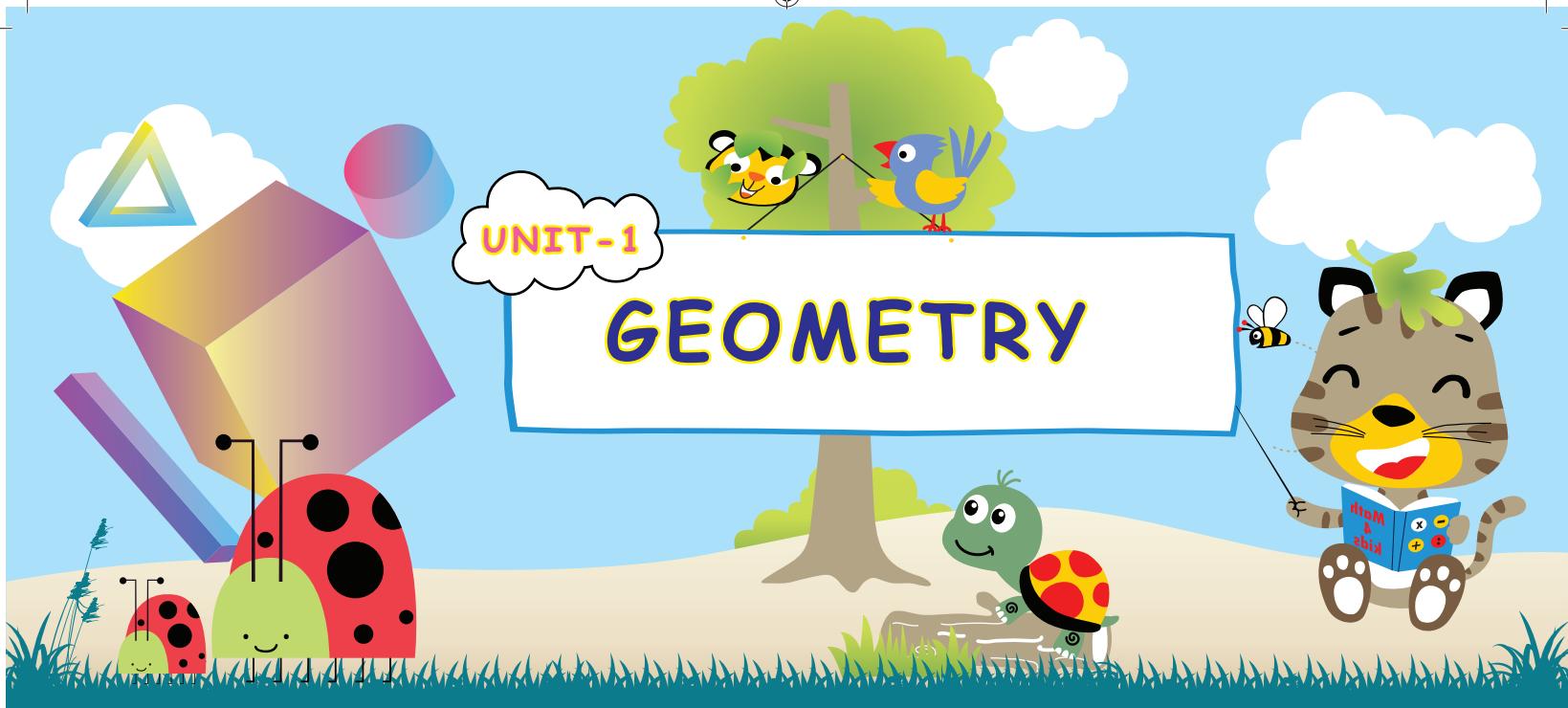
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## UNIT - 1

# GEOMETRY



### Recall:

**Point, line, line segment and Ray:**

**point** •

A point is an exact position on a plane surface

**line** ← →

A line is a set of points in a straight path that extends in opposite directions without ending.

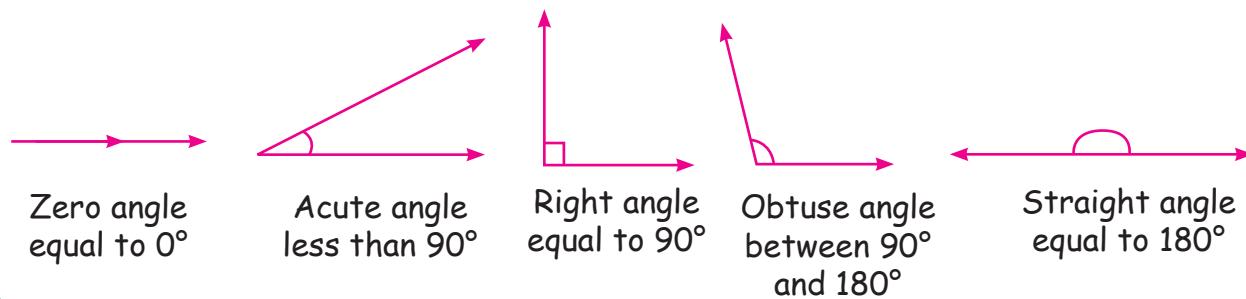
**line segment** •————•

A line segment is a part of a line between two end points.

**Ray** •→

A ray is a part of a line that has one end point and extends in one direction without ending.

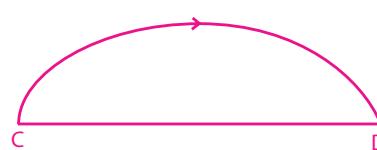
### Types of Angles



### Try this

#### 1 Tick (✓) the correct alternative

i)



The shortest distance between the points C and D is shown by the segment CD / the curve CD

ii)



line PQ and line QP represent different lines / the same line

iii)



point C lies on the ray AB/ray BD

iv)



Segment MN has infinite / finite length

v)



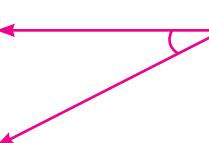
Ray RT is a part / is not a part of the line TR

#### 2 Write the type of the angle

i)



ii)



iii)



iv)

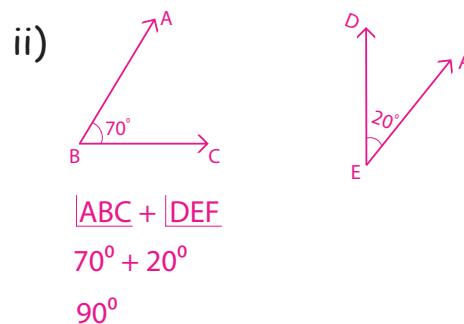
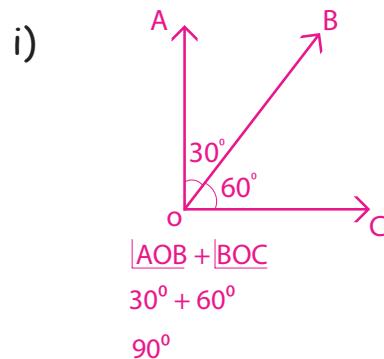


## 1.1 COMPLEMENTARY ANGLES AND SUPPLEMENTARY ANGLES

### 1. Complementary angles

When the sum of the measures of two angles is  $90^\circ$ , pair of angles are called complementary angles.

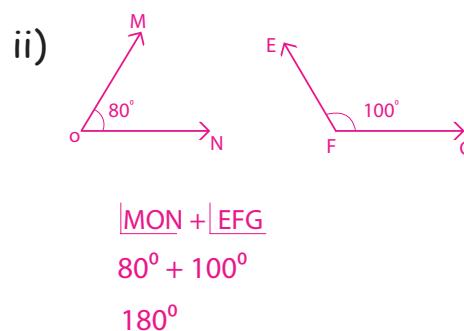
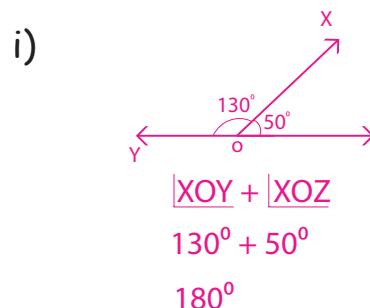
### Examples



## 2. Supplementary Angles

When the sum of the measures of two angles is 180, the pair of angles are called supplementary angles.

### Examples



### Exercise 1.1

- 1 Write the measures of the complementary angles of the following angles

i)  $45^\circ$     ii)  $30^\circ$     iii)  $72^\circ$     iv)  $88^\circ$     v)  $38^\circ$



- 2 Write the measures of the supplementary angles of the following angles

i)  $80^\circ$     ii)  $95^\circ$     iii)  $110^\circ$     iv)  $135^\circ$     v)  $150^\circ$

## **1.2 Fractals**

### **Definition of Fractals:**

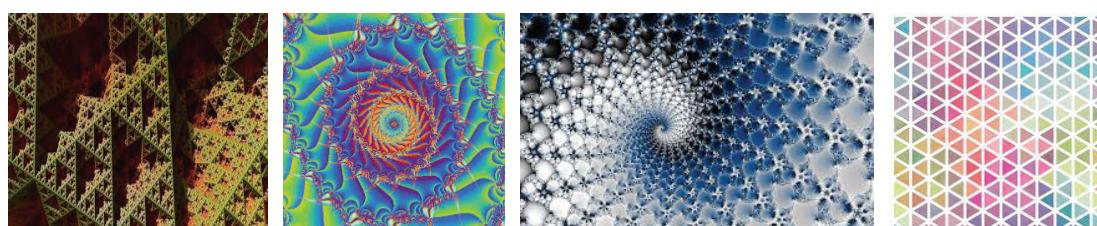
A fractal is a never ending pattern that repeats itself at different scales. This property is called "Self-similarity".

Although fractals are very complex, they are made by repeating a simple process.

Fractals are extremely complex, sometimes infinitely complex - meaning you can zoom in and find the same shapes for ever.

Amazingly, fractals are extremely simple to make.

### **Examples**



### **Activity**

Create/make/set the fractal image by using of matchstick/fire cracker.

**Step I**



**Step II**

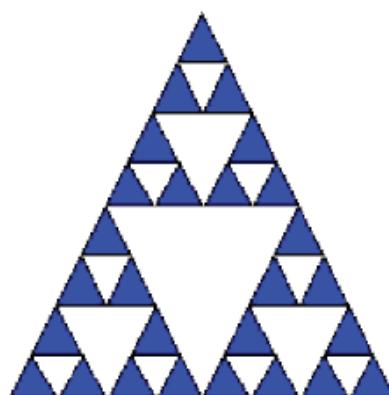


**Step III**



### **Activity**

Using clay/match stick/paper to form fractals which you know?



## UNIT-2

# 13 NUMBERS



### 2.1 Introduction of square numbers.

To understand the meaning of square numbers.  
Square numbers end with digits 0, 1, 4, 6, 9 or 25.



4  $2^2 \text{ or } 2 \times 2 = 4$

9  $3^2 \text{ or } 3 \times 3 = 9$

16  $4^2 \text{ or } 4 \times 4 = 16$

25  $5^2 \text{ or } 5 \times 5 = 25$

36  $6^2 \text{ or } 6 \times 6 = 36$

#### Definition:

A square number is multiplied by the same number.

#### Try this

$1^2$	$2^2$	$3^2$	$4^2$	$5^2$	$6^2$	$7^2$	$8^2$	$9^2$	$10^2$
$1 \times 1$	$2 \times 2$	$3 \times 3$	$4 \times 4$	$5 \times 5$	$6 \times 6$	$7 \times 7$	$8 \times 8$	$9 \times 9$	$10 \times 10$
1	4	9	16	25	36	—	—	—	—

### Activity: 1

A. Count and write the number of boxes:

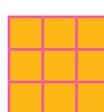
$$1^2$$



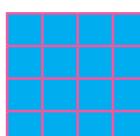
$$2^2$$



$$3^2$$



$$4^2$$



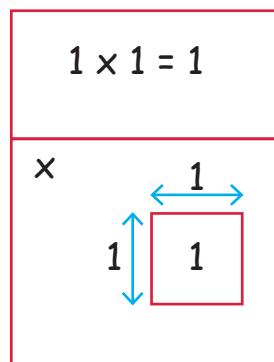
### Activity: 2

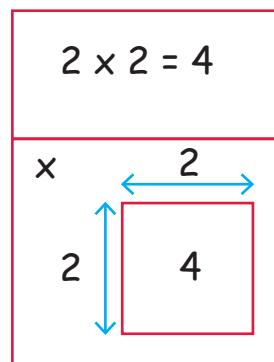
B. Circle and Colour the square numbers:

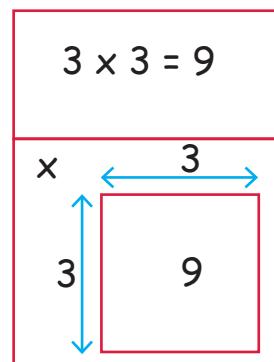
X	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

### Activity: 3

Let's draw and enjoy: (Using grid sheet or Graph sheet)

$$1 \times 1 = 1$$


$$2 \times 2 = 4$$


$$3 \times 3 = 9$$


### Activity: 4

Teacher shall prepare two sets of cards. One set with numbers 1 to 9 and another set with their square numbers (1, 4, 9, 16,...) and keep them in two separate bowls.

Teacher shall call a child randomly and ask the child to pick a card from first bowl and it has to be shown to the class.

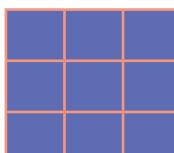
Now the child has to pick the square of that number from the second bowl. If the child finds the correct card that child can be considered as winner.

### WORK SHEET

#### I. Answer the following:

1 The square number of 2 is -----

2 The square number of 5 is -----

3  These number of boxes is equal to one square number. The number is -----

4 Which of following number is square number -----

- a. 23    b. 54    c. 36    d. 45

5 What is next square number of 49?

- a. 76    b. 95    c. 64    d. 54

## 2.2 Factors and multiples

Kavitha brought 12 laddus from her home. She gave one laddu for each friend. She was able to give laddus to 12 friends without any remaining.

If she gives 2 for each, she could give to 6 friends.

If she gives 3 for each, She could give to 4 friends. Like this how can she give laddus so that no laddu would be remaining? She can give each 4, 6, 12.

Numbers that divide 12 without remaining are 1, 2, 3, 4, 6 and 12.

The numbers which can divide a number without leaving a remainder is called its factor.

### Try this

Find the Factors:

Factors of 4 are 1, 2 and 4.

Factors of 10 are 1, 2, 5 and 10.

Factors of 16 are 1, 2, 4, 8 and 16.

Factors of 18 are -----

Factors of 20 are -----

Factors of 24 are -----

Factors of 42 are -----

### Another Method

Find the factor of 18:

$$\begin{array}{ccc} & \nearrow & \searrow \\ 18 & & \\ & \searrow & \nearrow \\ & 2 \times 9 & \\ & \searrow & \nearrow \\ & 3 \times 6 & \end{array}$$

1, 2, 3, 6, 9 and 18 are the factors of 18.

## 2.3 Composite And Prime Numbers

### Activity

Tick the factors of the following numbers

NUMBERS	Factors							
	1	2	3	4	5	6	8	10
316								
37								
20								
60								
448								
29								

### Composite Number:

A natural number having more than 2 factors is called a **composite number**.

### Examples

4, 6, 8, 9, 12, 26, 60, 448, 816,...

### Prime number:

A natural number greater than 1, having only two factors namely one and the number itself is called a **prime number**.

### Do you know?

2 is the only even prime number.

### Examples

2, 3, 5, 7, 11, 13, 29, 37,...

## COMMON FACTORS:

The factors that are common to two or more numbers is called **common factors**.

### Example

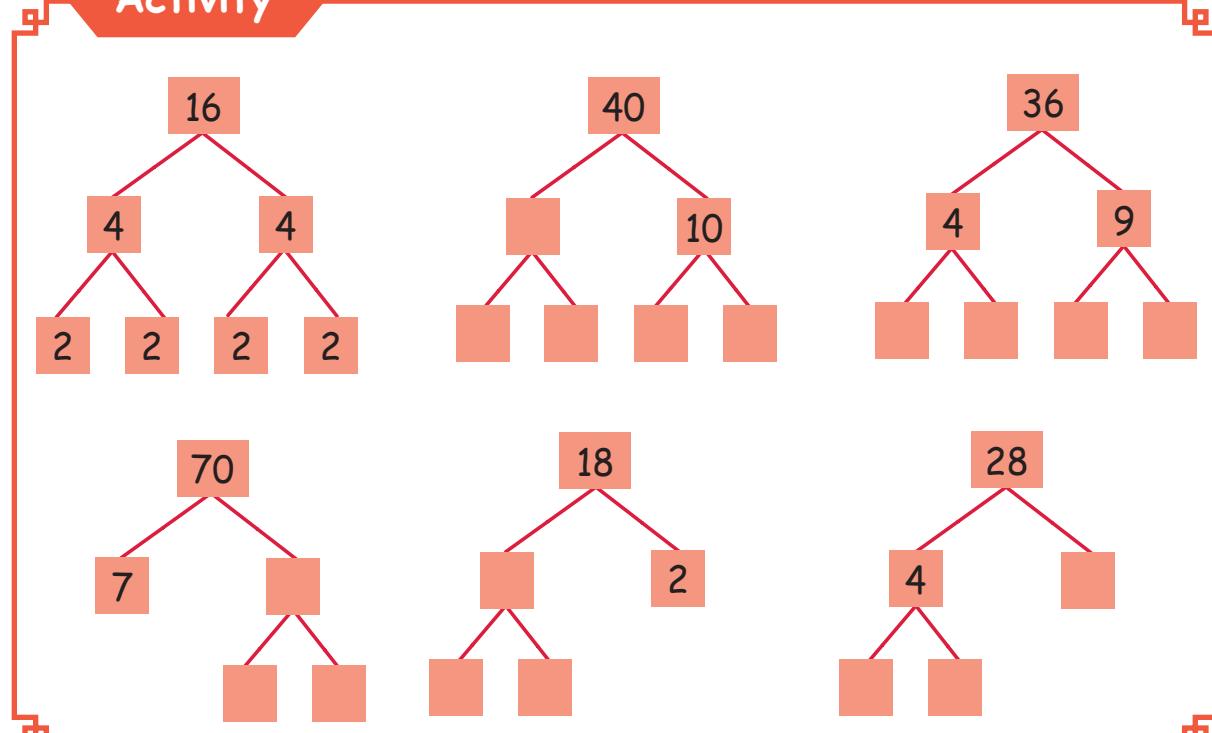
The factors of 12, 18 are :

The factors of 12 - 1, 2, 3, 4, 6, 12

The factors of 18 - 1, 2, 3, 6, 9, 18

The common factors of 12, 18 are 1, 2, 3 and 6.

### Activity



### Exercise 2.1

1 Find the common factors for:

- (i) 8 and 12      (ii) 24 and 30      (iii) 20 and 30

## 2.4 Least Common Multiple (L.C.M )

L. C. M of two or more given numbers is the smallest number which is divisible by all the given numbers.

### Multiples

How many steps can a rabbit jump if it is jumping 4 steps for 10 times?

4, 8, 12, 16, 20, 24, 28, 32, 36, 40

### Try this

5, 10, 15, ----, ----, ----, ----, ----  
-----

### Do you know?

Each number is the first multiple of that number.

There is a relation between the multiples and multiplication table of a number.

### Common Multiples:-

The Multiples that are common to two numbers are their common multiples.

### Example

Find the common multiples of 9, 12

Multiples of 9 - 9, 18, 27, 36, 45, 54, 63, 72, 81, 90,...

Multiples of 12 - 12, 24, 36, 48, 60, 72, 84, 96, 108, 120,...

The common multiples of 9, 12 are 36, 72,...

### Example

Find L.C.M of 4 and 6

Multiples of 4 - 4, 8, 12, 16, 20, 24, 28, 32, 36,...

Multiples of 6 - 6, 12, 18, 24, 30, 36, 42, 48, 54,...

Common multiples of 4, 6 are 12, 24, 36,...

L.C.M of 4, 6 is 12.

### Try this

Find L.C.M

1. 10 and 15
2. 8 and 6
3. 4 and 10
4. 6 and 16

### Example

Find L.C.M of 8 and 12

2	8	2	12
2	4	2	6
2	2	3	3
1		1	

$$8 = [2] \times [2] \times 2$$

$$12 = [2] \times [2] \times 3$$

$$\text{L.C.M of } 8, 12 = 2 \times 2 \times 2 \times 3 = 24.$$

Multiply the common factors  
and other Factors of two numbers  
to get its L.C.M

### Do you Know?

If one number is a multiple of another number, then the bigger number is L.C.M and smaller number is H.C.F.

### Example

L.C.M of 4, 16 is 16

H.C.F of 4, 16 is 4

Think it

Can we say the highest common  
multiples for two numbers?

## 2.5 Life Applications Of L.C.M

### Example

Raja is a cloth seller. Suja is a Bangle seller both of them started from their native place of trichy for selling. Raja returned after 8 days, suja returned after 6 days, when they will meet at trichy if they started in same day?

**Solution:**

We have to find L.C.M

L.C.M of 8, 6

$$\begin{array}{r} 2 \mid 8 \\ 2 \mid 4 \\ 2 \mid 2 \\ 1 \end{array}$$

$$8 = \boxed{2} \times \boxed{2} \times 2$$

$$6 = \boxed{2} \times \boxed{3}$$

L.C.M of 8, 6 =  $2 \times 2 \times 2 \times 3$

$$= 24$$

They both will meet 24<sup>th</sup> day at Trichy.

### Exercise 2.2

#### 1 Choose the best answer:

- (i) The number divisible by 5 with no remainder  
a. 14      b. 535      c. 447      d. 316
- (ii) Pick the number which is not a multiple of 6.  
a. 18      b. 26      c. 72      d. 36
- (iii) The common multiple of 4 and 8 among the given number is.  
a. 32      b. 84      c. 68      d. 76
- (iv) Factors of 6  
a. 1, 2, 3      b. 1, 6      c. 1, 2, 3, 6      d. 2, 3



T6H3E9

(v) Multiple of 9 is

- a. 79      b. 87      c. 29      d. 72

**2** Fill in the blanks:

(i) Factors of 7 -----

(ii) The only even prime number is -----

(iii) L.C.M of 4, 12 -----

(iv) L.C.M of 5, 15 -----

(v) The numbers which divides 35 without reminders are ----,----,----

**3** Write down the factors of the given numbers.

- (i) 25    (ii) 36    (iii) 14    (iv) 16    (v) 12

**4** Draw a picture of factor tree.

- (i) 18      (ii) 33      (iii) 16      (iv) 50

**5** Write down the first 5 multiples of the given numbers.

- (i) 7    (ii) 9    (iii) 16    (iv) 11    (v) 21

**6** Find first three common multiples of the given numbers.

- (i) 24, 16    (ii) 12, 9    (iii) 24, 36

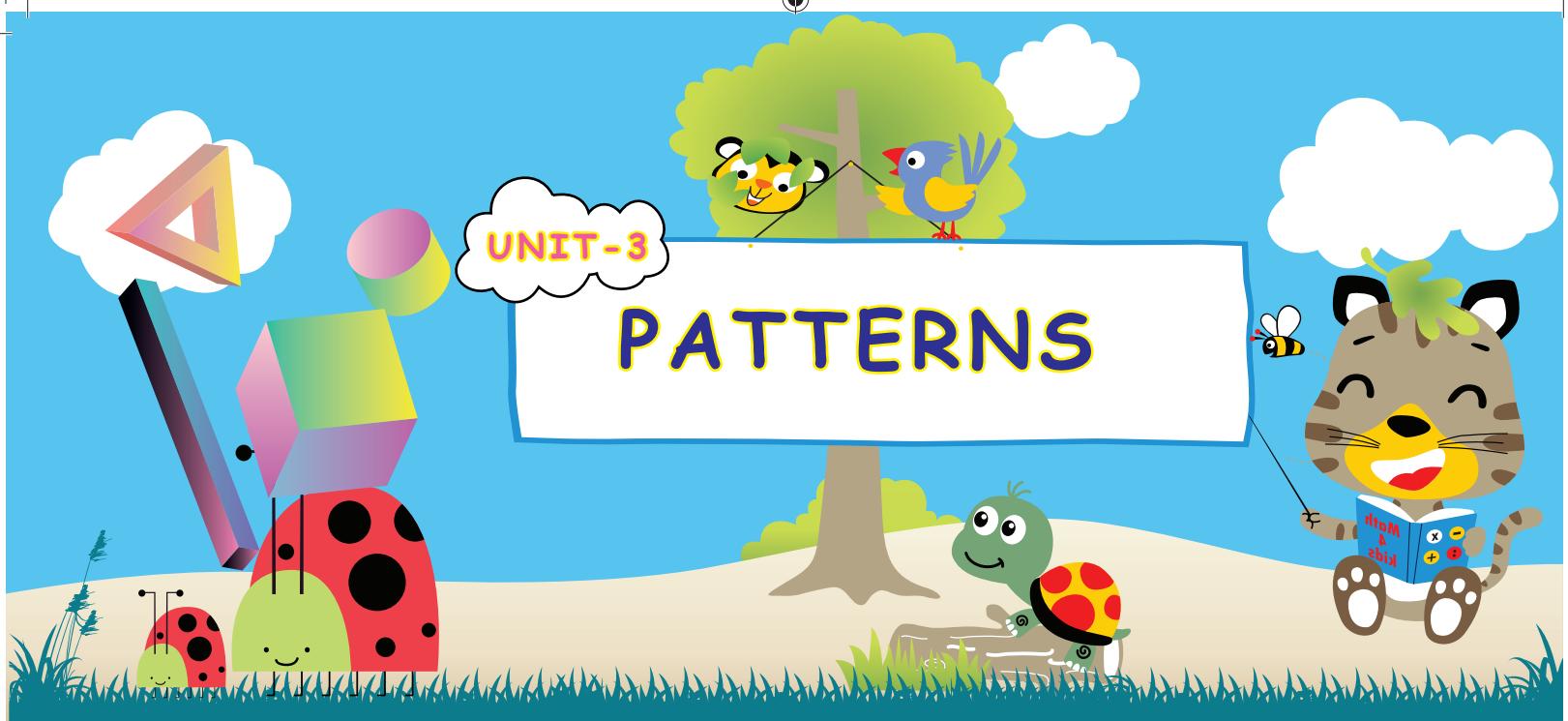
**7** Find L. C.M of the given numbers.

- (i) 12 and 28    (ii) 16 and 24    (iii) 8 and 14    (iv) 30 and 20

**8** Ramya visits the gym five days once and Kavitha visits the gym six days once. In which day will they meet each other?

**9** Arun and shahjahan goes for walking in a circular path of a park in the same direction. Arun takes 6 minutes to complete one round, while shahjahan takes 8 minutes to completed one round. In how many minutes will they meet each other?

# PATTERNS



## 3.1

### Patterns in Geometry

Able to make border strip and tiling



**Tiles:** A *tiling* of the plane is a collection of subsets of the plane, i.e. *tiles*, which cover the plane without gaps or overlaps.

#### Example

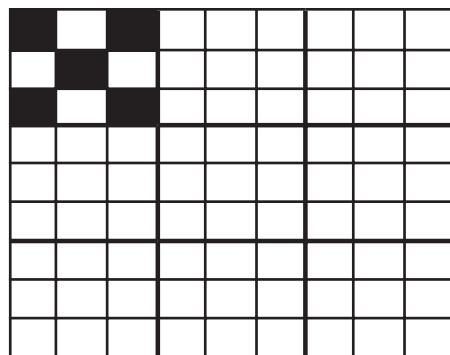
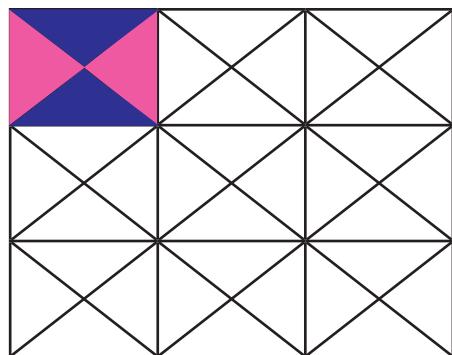


#### Note:

A design can be made of more than one kind of shapes .

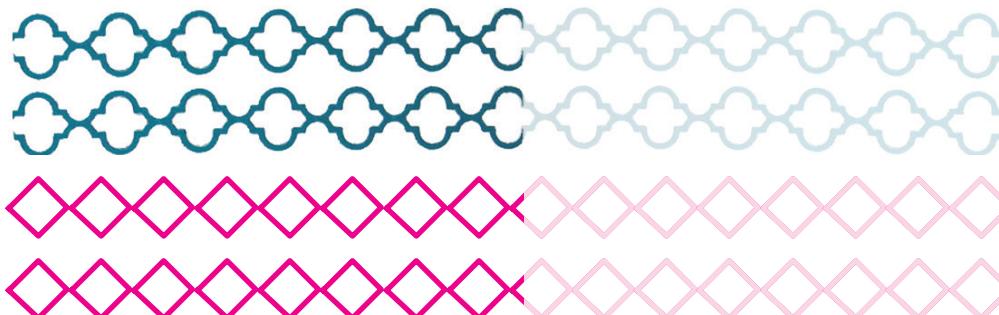
### Activity 1

Continue the pattern as done in first to complete the tile.



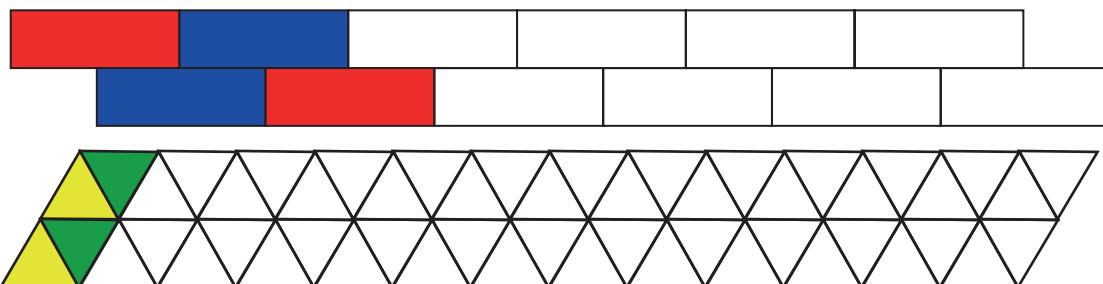
### Activity 2

Continue the border stripe.



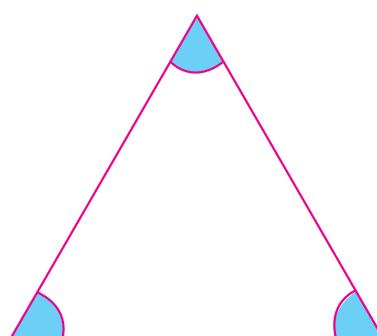
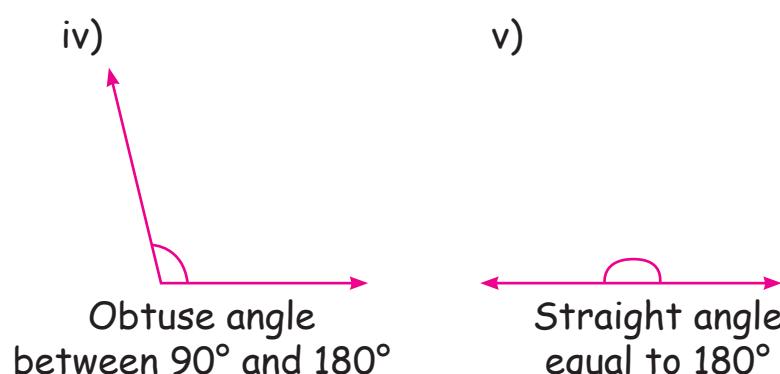
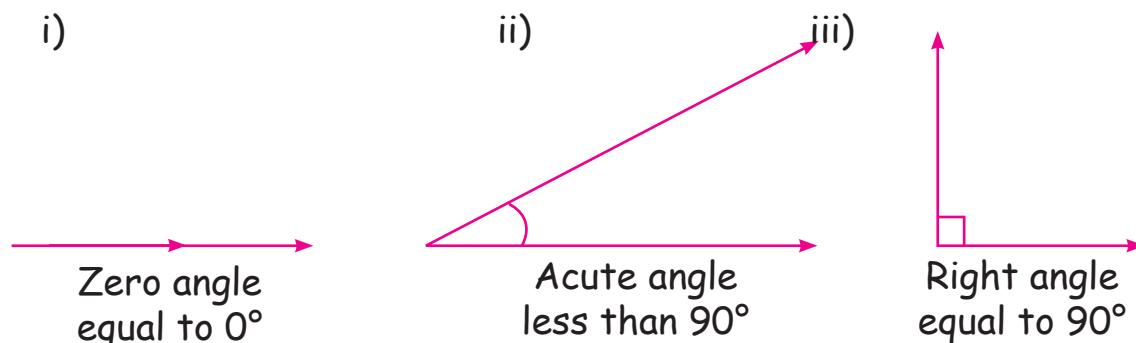
### Activity 3

Colour the shapes to complete the pattern.



### **3.2 To make patterns of shapes using different number of angles / types of angles**

Let us recall the types of angles.



Observe the angles formed at the vertex of the following shapes.

This is an equilateral triangle.

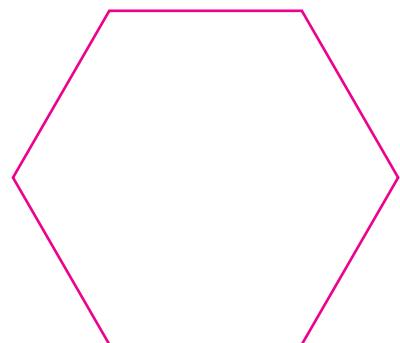
It has 3 angles formed at 3 vertices.

The 3 angles are equal in measure and they are equal to  $60^\circ$ .

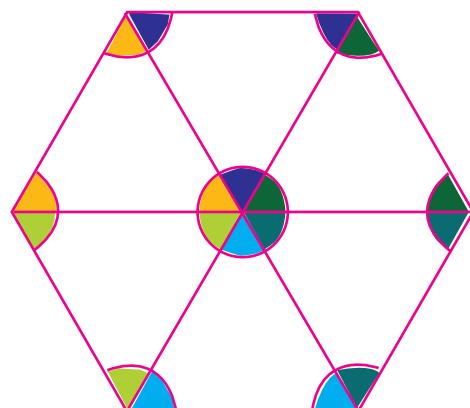
It can be demonstrated as follows.



## Finding the angle of a regular hexagon using the equilateral triangle.



We shall find the angles of a regular hexagon using the equilateral triangle. Place the equilateral triangles in a regular hexagon as shown in the figure.

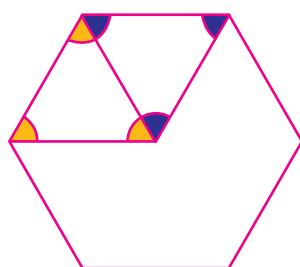


$$60^\circ + 60^\circ + 60^\circ + 60^\circ + 60^\circ + 60^\circ = 360^\circ$$

Angle at the centre of a regular hexagon is  $360^\circ$ .

This is also the angle of a circle.

Angle at each vertex of a regular hexagon is  $120^\circ$

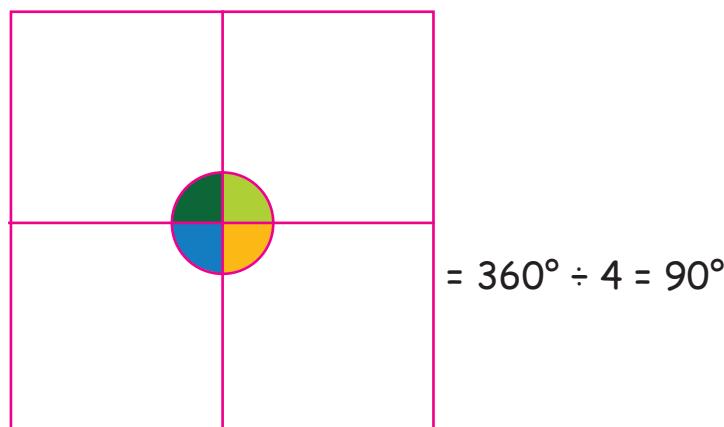


$$60^\circ + 60^\circ = 120^\circ$$

## Finding the angle of a square.

Angle of a circle is  $360^\circ$  .

Let us find the angle of square using a circle.



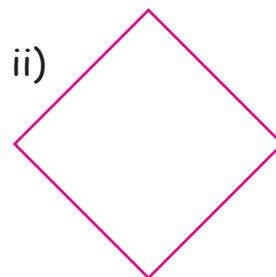
Place 4 squares as shown in the above figure.

The shape formed at the centre is a circle. The angle of circle is  $360^\circ$ .

Now the angle of a square is  $360^\circ \div 4 = 90^\circ$ .

## Exercise 3.1

- 1) Find the angle of the given shapes using the equilateral triangle.

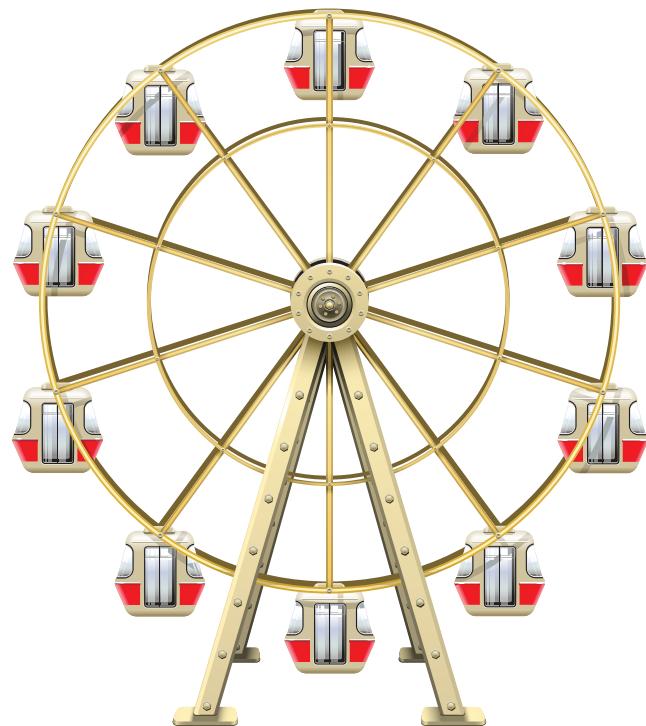


- 2) Find the angles of a rectangle using a circle.

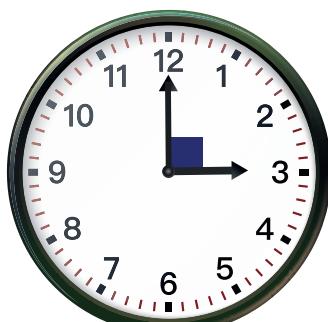
### 3.3 Rotating angles

#### Giant wheel

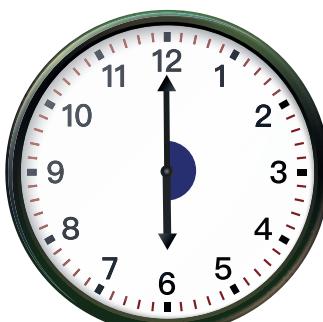
Look at the rotation of the giant wheel. Every compartment moves to a position and comes back to the original position.



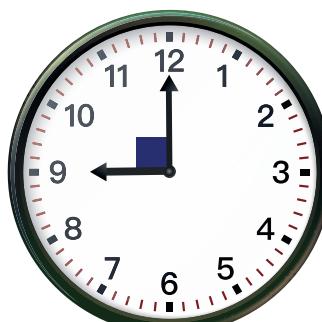
A clock shows time by the rotation of minute hand and hour hand.  
The minute hand and hour hand of a clock form an angle.  
Observe the various angle formed by the rotation of the hands of the clock.



Right angle



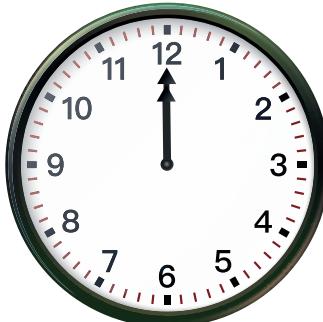
Straight angle



Right angle



Acute angle



Zero angle

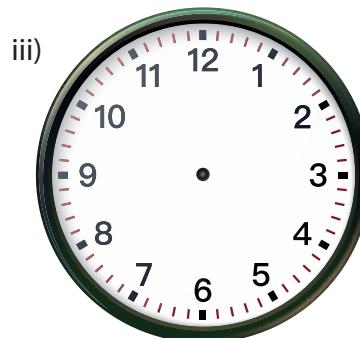
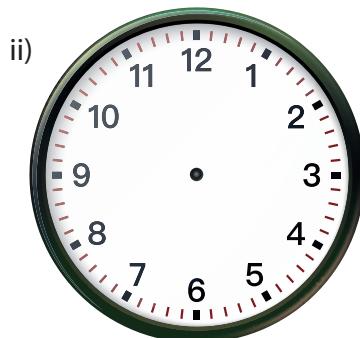
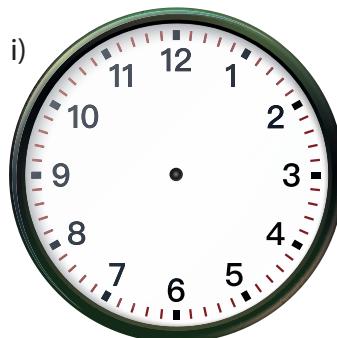


Obtuse angle

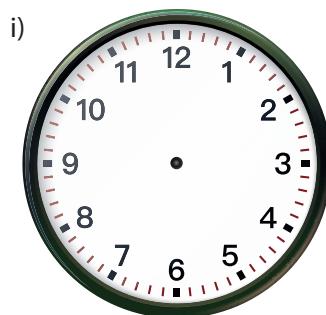
You can note that from 12.00 midnight to 12 noon the hour hand of the clock has completed one rotation. That is, it has completed  $360^\circ$  once. While the minute hand has completed 12 rotations. That is, it has completed  $360^\circ$  twelve times.

### Exercise 3.2

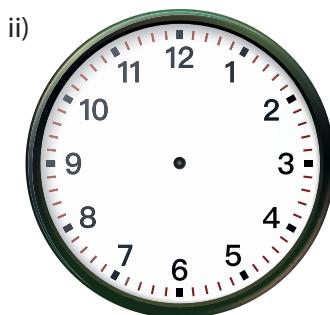
- 1 Mention the time in the clock when the angle is i)  $180^\circ$ , ii)  $90^\circ$ , iii)  $60^\circ$ .



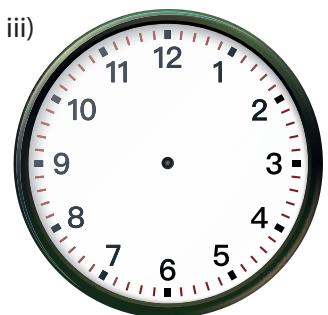
- 2 Find the angle made by the hands of the clock at the given time.



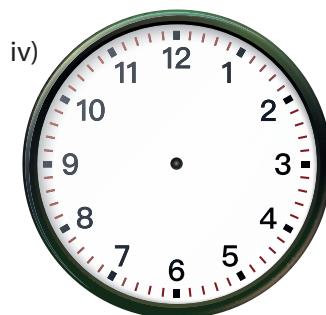
11'o Clock



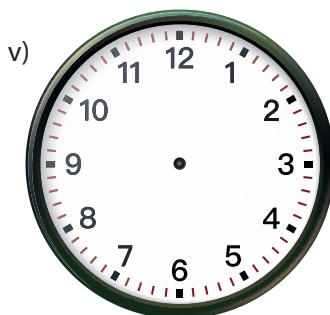
9'o Clock



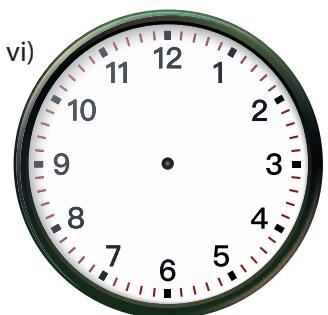
6'o Clock



06.10



06.45



06.30

### 3.4 Able to find patterns in a collection of words.

#### Example

Observe the words given below.

**few, cop, cut, new, hop, hut, knew, shop, put**

The last two letters of the words follow the pattern **ew, op, ut.**

#### Activity 4

Arrange the given words to form a pattern.

Depth, called, walked, mice, played, pulled, breadth, rice, length, width, price, voice

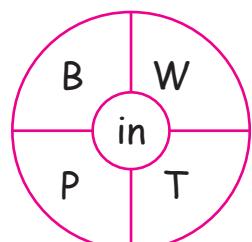
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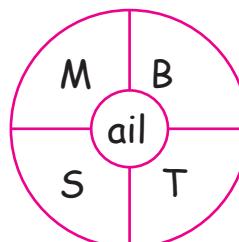
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#### Example

Form the words ending with 'in' and 'ail' to make a pattern.



\_\_\_\_\_, \_\_\_\_\_,  
\_\_\_\_\_, \_\_\_\_\_



\_\_\_\_\_, \_\_\_\_\_,  
\_\_\_\_\_, \_\_\_\_\_

#### Exercise 3.3

1

Write down the collection of words by ending with "ENT" AND "HT"

(i) WENT, SENT, B-----, R-----, T-----

(ii) NIGHT, LIGHT, R-----, B-----, M-----

2

Fill in the blanks

(i) C---AT, B---AT, G---AT

(ii) R---D, B---D, W---D





## WEIGHT



**4.1** Able to apply the four operations in solving problems involving weight.

### Recall

Sort out the following things and write



Need to measure

No need to measure



### Let us recall

10 milligram = \_\_\_\_\_ centigram

10 centigram = \_\_\_\_\_ decigram

10 decigram = \_\_\_\_\_ gram

\_\_\_\_\_ gram = \_\_\_\_\_ decagram

\_\_\_\_\_ decagram = 1 hectogram

10 hectogram = \_\_\_\_\_ kilogram

### Weighing Machines:

These are some examples of weighing machines



Simple balance



Analog weighing machine



Digital weighing machine

### Do you know?

1 gram = 1000 milligram

1 kilogram = 1000 gram

$\frac{1}{2}$  kilogram = 500 gram

$\frac{1}{4}$  kilogram = 250 gram

$\frac{3}{4}$  kilogram = 750 gram

### Activity

Tick the suitable unit to measure the following objects



mg/kg



mg/kg



mg/kg



mg/kg



mg/kg



mg/kg



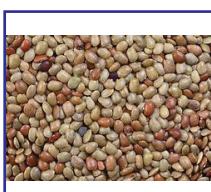
mg/kg



mg/kg



mg/kg



mg/kg

## CONVERSION

### Examples

Convert the following into grams.

(i) 2 kg 250 g      1 kg = 1000 g

$$2 \text{ kg } 250 \text{ g} = (2 \times 1000) + 250 \text{ g}$$
$$= 2000 + 250$$
$$2 \text{ kg } 250 \text{ g} = 2250 \text{ g}$$

(ii) 15 kg 30 g

$$15 \text{ kg } 30 \text{ g} = (15 \times 1000) + 30 \text{ g}$$
$$= 15000 + 30$$
$$15 \text{ kg } 30 \text{ g} = 15030 \text{ g}$$

(iii) 3500 mg      1000 mg = 1 g

$$3500 \text{ mg} = 3500 \div 1000 \text{ g}$$
$$= 3 \text{ g } 500 \text{ mg}$$

**Note:**  
To convert kilogram into gram multiply the given gram by 1000.

**Note:**  
To convert milligram into gram divide the given milligram by 1000.

**Note:**  
To convert gram into kilogram divide the given gram by 1000.

**Try this**  
**Convert into gram**

1. 2250 mg
2. 5 kg 400 g

1000  
F  
3 g  
3500  
3000  
500 g



## Examples

Convert into kilograms

(i) 7500 g

$$1000 \text{ g} = 1 \text{ kg}$$

$$\begin{array}{r} 7 \text{ kg} \\ 1000 \\ 7500 \\ 7000 \\ \hline 500 \text{ g} \end{array}$$

$$\begin{aligned} 7500 \text{ g} &= 7500 \div 1000 \text{ g} \\ &= 7 \text{ kg } 500 \text{ g} \end{aligned}$$

(i) 4250 g

$$\begin{aligned} 4250 \text{ g} &= 4250 \div 1000 \text{ g} \\ &= 4 \text{ kg } 250 \text{ g} \end{aligned}$$

$$\begin{array}{r} 4 \text{ kg} \\ 1000 \\ 4250 \\ 4000 \\ \hline 250 \text{ g} \end{array}$$

Try this  
Convert into kilogram

1. 4000 gram
2. 7350 gram
3. 4750 gram

## Addition

## Examples

Find the sum of the following.

(i) 7 kg 400 g + 5 kg 350 g

$$\begin{array}{r} \text{kg} \quad \text{g} \\ \hline 7 \quad 400 \\ + \quad 5 \quad 350 \\ \hline 12 \quad 750 \end{array}$$

$$\text{Sum} = 12 \text{ kg } 750 \text{ g}$$



(ii)  $14 \text{ g } 500 \text{ mg} + 10 \text{ g } 750 \text{ mg}$

<u>g</u>	<u>mg</u>
①	
14	500
+	
10	750
<u>25</u>	<u>250</u>

Try this

Find the sum of the following:

1.  $5 \text{ kg } 300 \text{ g} + 19 \text{ kg } 850 \text{ g}$
2.  $15 \text{ g } 450 \text{ mg} + 14 \text{ g } 25 \text{ mg} + 3 \text{ g } 700 \text{ mg}$
3.  $18 \text{ kg } 750 \text{ g} + 16 \text{ kg } 400 \text{ g} + 3 \text{ kg } 500 \text{ g}$

Sum = 25 g 150 mg

### Example

In a market Rahman bought 12 kg 500 g of brinjal, 15 kg 250 g of ladies finger and 17 kg 350 g of onion what is the total weight of vegetables?

Solution:



	<u>kg</u>	<u>g</u>
①		
Weight of the brinjal	=	12 500
Weight of the ladies finger	=	15 250
Weight of the onion	=	+ 17 350
Total weight	=	<u>45 100</u>

Total weight of the three vegetables = 45 kg 100 g



## Subtraction

### Examples

#### Find the difference

(i)  $39 \text{ kg } 500 \text{ g} - 33 \text{ kg } 750 \text{ g}$

kg	g
39	500
-	33 750
<b>5</b>	<b>750</b>

Difference = 5 kg 750 g

(ii)  $750 \text{ g } 350 \text{ mg} - 350 \text{ g } 225 \text{ mg}$

g	mg
750	350
-	350 225
<b>400</b>	<b>125</b>

Try this

Subtract the following

- $75 \text{ kg} - 35 \text{ kg } 400 \text{ g}$
- $57 \text{ kg } 750 \text{ g} - 23 \text{ kg } 450 \text{ g}$
- $975 \text{ kg } 400 \text{ g} - 755 \text{ kg } 550 \text{ g}$

Difference = 400 g 125 mg

### Example

A sack had 25 kg rice. Out of 25 kg rice 13 kg 500 g of rice which was used for noon meal. What is the weight of the remaining rice?

Solution:



	kg	g
Rice in the sack	=	25 000
Rice used for noon meal	=	- 13 500
Remaining rice	=	<b>11 500</b>

Remaining amount of rice in sack = 11 kg 500 g



## Multiplication

### Examples

Write the answer in multiply:

(i)  $7 \text{ kg } 400 \text{ g} \times 3$

kg	g
7	400
x	3
22	200

$$7 \text{ kg } 400 \text{ g} \times 3 = 22 \text{ kg } 200 \text{ g}$$

(ii)  $52 \text{ kg } 350 \text{ g} \times 8$

kg	g
52	350
x	8
418	800

$$52 \text{ kg } 350 \text{ g} \times 8 = 418 \text{ kg } 800 \text{ g}$$

Try this

Multiply the following:

- a.  $7 \text{ kg } 350 \text{ g} \times 7$
- b.  $9 \text{ kg } 750 \text{ g} \times 3$
- c.  $9 \text{ kg } 750 \text{ g} \times 3$
- d.  $45 \text{ kg } 800 \text{ g} \times 6$

### Example

A packet can contain  $3 \text{ kg } 500 \text{ g}$  of sugar, how much amount of sugar can 7 such packets contain?

Solution:

	kg	g
Weight of one packet of sugar	=	3 500
Weight of 7 packets of sugar	=	$3 \text{ kg } 500 \times 7$
	=	24 500

$$\text{Weight of 7 packets of sugar} = 24 \text{ kg } 500 \text{ g}$$



## Division

### Examples

Divide the following:

(i)  $70 \text{ kg } 350 \text{ g} \div 7$

$$\begin{array}{r} \text{kg} \quad \text{g} \\ 10 \quad 050 \\ \hline 7 \quad | \quad | \\ 70 \quad 350 \\ - 7 \quad | \\ \hline 0 \quad 35 \\ - 35 \\ \hline 0 \end{array}$$

$$70 \text{ kg } 350 \text{ g} \div 7 = 10 \text{ kg } 50 \text{ g}$$

(ii)  $66 \text{ g } 720 \text{ mg} \div 6$

$$\begin{array}{r} \text{g} \quad \text{mg} \\ 11 \quad 120 \\ \hline 6 \quad | \quad | \\ 66 \quad 720 \\ - 6 \quad | \\ \hline 06 \\ - 6 \quad | \\ \hline 7 \\ - 6 \quad | \\ \hline 12 \\ - 12 \quad | \\ \hline 0 \end{array}$$

$$66 \text{ g } 720 \text{ mg} \div 6 = 11 \text{ g } 120 \text{ mg}$$

### Try this

Divide the following:

- a.  $7 \text{ kg } 490 \text{ g} \div 7$
- b.  $35 \text{ kg } 650 \text{ g} \div 5$
- c.  $6 \text{ g } 240 \text{ mg} \div 4$
- d.  $150 \text{ g } 750 \text{ mg} \div 15$



### Example

How many packets of 3 kg groundnut cookies can be made from 75 kg of groundnut cookies?

**Solution:**



Total amount of groundnut cookies = 75 kg

Weight of 1 packet of groundnut cookies = 3 kg

$$\begin{aligned}\text{Number of packets of 3 kg groundnut cookies} &= 75 \div 3 \\ &= 25 \text{ packets}\end{aligned}$$

we can separate 75 kg groundnut cookies as 3 kg groundnut cookies in 25 packets.

### Exercise 4.1

#### 1 Fill in the blanks:

- (i) 7 kg 400 g = \_\_\_\_\_ g
- (ii) 5g 50mg = \_\_\_\_\_ mg
- (iii) 9500 mg = \_\_\_\_\_ g \_\_\_\_\_ mg
- (iv) 15 kg 350 g = \_\_\_\_\_ g
- (v) 6250g = \_\_\_\_\_ kg \_\_\_\_\_ g

#### 2 Add the following:

- (i) 4 kg 250 g + 3 kg 450 g
- (ii) 75 g 430 mg + 750 g.
- (iii) 97 kg 45 g + 77 kg 450 g + 33 kg 250 g
- (iv) 75 kg 400 g + 30 kg 250 g



**3** Subtract the following:

- (i)  $40 \text{ kg } 350 \text{ g} - 25 \text{ kg } 200 \text{ g}$
- (ii)  $35 \text{ kg } 850 \text{ g} - 18 \text{ kg } 500 \text{ g}$
- (iii)  $985 \text{ kg } 475 \text{ g} - 275 \text{ kg } 325 \text{ g}$
- (iv)  $700 \text{ kg} - 300 \text{ kg } 500 \text{ g}$

**4** Multiply the following:

- (i)  $4 \text{ kg } 300 \text{ g} \times 7$
- (ii)  $17 \text{ kg } 750 \text{ g} \times 8$
- (iii)  $25 \text{ kg } 550 \times 4$
- (iv)  $72 \text{ g } 350 \text{ mg} \times 5$

**5** Divide the following:

- (i)  $99 \text{ kg } 990 \text{ g} \div 3$
- (ii)  $147 \text{ g } 630 \text{ mg} \div 7$
- (iii)  $550 \text{ kg } 220 \text{ g} \div 11$
- (iv)  $484 \text{ g } 384 \text{ mg} \div 4$

**6** What is the total weight of  $7 \text{ kg } 500 \text{ g}$  of cashew nut and  $3 \text{ kg } 350 \text{ g}$  of pista?

**7** Vimal had a sack of cotton seeds weighing  $50 \text{ kg } 350 \text{ g}$ . He used  $7 \text{ kg } 300 \text{ g}$  cotton seeds to feed his cow. How much cotton seed will be remaining after feeding his cow?

**8** A glass bottle can contain  $25 \text{ g } 125 \text{ mg}$  of medicine, how much medicine can 7 such bottles contain?

**9**  $75 \text{ kg } 750 \text{ g}$  of groundnut seed is filled in five bags, how much groundnut seed can a bag contain?



## CAPACITY

**4.2** Able to apply the four operation in solving problems involving capacity.

### Recall



50ml



250ml



500ml



750ml



1000ml

### Let us recall

10 millilitre	= 1 centilitre
10 centilitre	= 1 decilitre
10 decilitre	= 1 litre
10 litre	= 1 decalitre
10 decalitre	= 1 hectalitre
10 hectalitre	= 1 kilolitre

### Let us know

1 litre	=	1000ml
$\frac{1}{2}$ litre	=	500ml
$\frac{1}{4}$ litre	=	250ml
$\frac{3}{4}$ litre	=	750ml

## CONVERSION

### Examples

Convert into millilitre.

$$(i) \ 2 \text{ l } 500 \text{ ml}$$

$$1 \text{ l} = 1000 \text{ ml}$$

$$\begin{aligned}2 \text{ l } 500 \text{ ml} &= (2 \times 1000) + 500 \text{ ml} \\&= 2000 + 500 \\&= 2500 \text{ ml}\end{aligned}$$

$$2 \text{ l } 500 \text{ ml} = 2500 \text{ ml}$$

#### Note:

To convert litre into millilitre multiply the given litre by 1000.



$$\begin{aligned} \text{(ii)} \quad 7 \text{ Litre} &= (7 \times 1000) \text{ ml} \\ &= 7000 \text{ ml} \end{aligned}$$

$$\begin{aligned} \text{(iii)} \quad 6 \text{ Litre} &= (6 \times 1000) \text{ ml} \\ &= 6000 \text{ ml} \end{aligned}$$

$$\begin{aligned} \text{(iv)} \quad 5 \text{ l } 700 \text{ ml} &= (5 \times 1000) + 700 \text{ ml} \\ &= 5000 + 700 = 5700 \text{ ml} \end{aligned}$$

Try this

Convert into millilitre:

- a. 5 l 500 ml
- b. 9 l 200 ml
- c. 2 l 300 ml

### Activity

Litre	Millilitre
1 l	1000 ml
2 l	2000 ml
3 l	
4 l	
5 l 300 ml	5300 ml
6 l	
7 l	
8 l 400ml	
9 l	
10 l 200ml	

### Example

#### Conversion Millilitre into litre

$$\text{(i)} \quad 7000 \text{ ml}$$

$$7000 \text{ ml} = 7000 \div 1000$$

$$= 7 \text{ l}$$

$$\begin{array}{r} 7 \\ 1000 \overline{)7000} \\ -7000 \\ \hline 0 \end{array}$$

Millilitre	Litre
10000	10
9000	
8000	
7000	
6000	

#### Note:

To convert millilitre into litre divide the given millilitre by 1000



## Addition

### Example

(i) Add 6 l 700 ml and 12 l 800 ml.

$$\begin{array}{r} \text{l} \quad \text{ml} \\ \hline \textcircled{1} \\ 6 \quad 700 \\ + \quad 12 \quad 800 \\ \hline 19 \quad 500 \end{array}$$

$$700 \text{ ml} + 800 \text{ ml} = 1500 \text{ ml}$$

$$1500 \text{ ml} = 1 \text{ l } 500 \text{ ml}$$

## Subtraction

### Examples

#### Find the difference

(i) 15 l 500 ml - 6 l 300 ml

$$\begin{array}{r} \text{l} \quad \text{ml} \\ \hline 15 \quad 500 \\ - \quad 6 \quad 300 \\ \hline 9 \quad 200 \end{array}$$

$$\text{Difference} = 9 \text{ l } 200 \text{ ml}$$

(ii) 36 l 400 ml - 12 l 550 ml

$$\begin{array}{r} \text{l} \quad \text{ml} \\ \hline \textcircled{5} \quad \textcircled{13} \\ \cancel{36} \quad \cancel{400} \\ - \quad 12 \quad 550 \\ \hline 23 \quad 850 \end{array}$$

#### Try this

1. 4 l 300 ml + 6 l 700 ml
2. 7 l 250 ml + 2 l 300 ml
3. 5 l 500 ml - 4 l 450 ml
4. 46 l 300 ml - 12 l 550 ml

$$36 \text{ l } 400 \text{ ml} - 12 \text{ l } 550 \text{ ml} = 23 \text{ l } 850 \text{ ml}$$



### Example

Look at the amount of milk bought for three days to make sweets in a bakery. Find the total amount of milk bought for three days?

Monday	7 l	300ml
Tuesday	15 l	350ml
Wednesday	16 l	200ml

Solution:

	l	ml
Amount of milk bought on Monday	= 7	300
Amount of milk bought on Tuesday	= 15	350
Amount of milk bought on Wednesday	= 16	200
<b>Total amount of milk bought</b>	<b>= 38</b>	<b>850</b>

Total amount of milk bought on Monday,  
Tuesday and Wednesday } = 38 l 850 ml

### DO IT YOURSELF

Find the total amount of milk bought in seven days.

### Example

A tin contains 10 l 500 ml of coconut oil out of this 7 l 250 ml oil was used. What is the remaining quantity of coconut oil?

Solution:

	l	ml
Total amount of coconut oil	= 10	500
The quantity of coconut oil used	= 7	250
<b>Remaining coconut oil</b>	<b>= 3</b>	<b>250</b>



## Multiplication in capacity

### Example

Multiply the following:

$$4 \text{ l } 200 \text{ ml} \times 3$$

$$\begin{array}{r} \text{l ml} \\ \hline 4 & 200 \\ \times & 3 \\ \hline 12 & 600 \end{array}$$

Try this  
 $2 \text{ l } 250 \text{ ml} \times 2$

$$4 \text{ l } 200 \text{ ml} \times 3 = 12 \text{ l } 600 \text{ ml}$$

### Example

Deepak fills 1 litre 500 ml petrol in a day. How much amount of petrol will he fill in 5 days?

Solution:

$$\begin{array}{rcl} \text{Petrol filled by Deepak in a day} & = & \text{l ml} \\ & = & 1 \quad 500 \\ \text{Petrol filled by Deepak in 5 days} & = & \times \quad 5 \\ \text{Total quantity of petrol} & = & \hline & = & 7 \quad 500 \end{array}$$

## Division in capacity

### Examples

(i)  $2 \text{ l } 320 \text{ ml} \div 2$

$$\begin{array}{r} \text{l ml} \\ \hline 1 & 160 \\ 2 & \boxed{2} \quad 320 \\ - 2 & \downarrow \\ \hline 3 & \\ - 2 & \downarrow \\ \hline 12 & \\ - 12 & \downarrow \\ \hline 0 & \end{array}$$

Try this  
 $18 \text{ l } 240 \text{ ml} \div 6$

$$2 \text{ l } 320 \text{ ml} \div 2 = 1 \text{ l } 160 \text{ ml}$$



- (ii) Vimal shared 500 ml cooldrink equally, to his two children.  
How much amount of cooldrink would each child get?

**Solution:**

$$\text{The amount of cooldrink that vimal bought} = 500\text{ml}$$

$$\text{Number of children} = 2$$

$$\text{The amount of cooldrink that each child get} = \frac{500}{2}$$

Each child will get 250ml of cooldrink.

## Exercise 4.2



J7Q1M4

### 1 Fill in the blanks

- (i) \_\_\_\_\_ is the smallest metric measure of capacity.
- (ii) \_\_\_\_\_ is the largest unit of volume and equals \_\_\_\_\_ litres.
- (iii)  $7 \text{ kl } 30\text{l} = \text{_____ l.}$
- (iv)  $5 \text{ l } 400 \text{ ml} = \text{_____ ml.}$
- (v)  $1300 \text{ ml} = \text{_____ l } \text{_____ ml}$

### 2 Match the following

- (i) 4500 ml - 6 l 500 ml
- (ii) 3250 ml - 8 l 200 ml
- (iii) 6500 ml - 7 l 50 ml
- (iv) 8200 ml - 4 l 500 ml
- (v) 7050 ml - 3 l 250 ml

### 3 Add and write in litres

- (i) 400 l; 50 l; 500 ml
- (ii) 3 kl; 400 l; 3 ml
- (iii) 1400 ml; 5680 ml; 280 l



#### 4 Subtract:

- (i) 3 kl from 15485 l
- (ii) 15 kl from 20 kl
- (iii) 345 ml from 5 l

#### 5 Multiply the following:

- (i) 3 l 200 ml  $\times$  8
- (ii) 4 l 450 ml  $\times$  4
- (iii) 5 l 300 ml  $\times$  5
- (iv) 6 l 700 ml  $\times$  6

#### 6 Divide the following:

- (i) 18 l 240 ml  $\div$  6
- (ii) 20 l 600 ml  $\div$  2
- (iii) 21 l 490 ml  $\div$  7
- (iv) 25 l 350 ml  $\div$  5

7 Kalaiyarasi bought 5 l 500 ml groundnut oil and 750 ml sesame oil. How much oil did she bought in all?

8 In a fuel station there was 70 l 500 ml of fuel. How much amount of fuel will be left after selling 35 l 700 ml of fuel?

9 A pot contains 9 l 500 ml of water, how much amount of water will 7 such pots contain?

10 25 l 500 ml of milk is filled in 5 milk cans, how much milk is filled in one can?



## 5.1 Able to reason out in solving problems by comparing Time, Money, Distance



### Recall:

- Teacher: Hello children,  
Did you all reach the school in time today?
- Children: Yes, Teacher
- Teacher: Do you know the relation of distance, time and money? Shall we discuss about that?  
Prabu, where are you coming from? How much money did you spend for travel? How many kilometres did you travel to reach the school daily?
- Children: Prabu replied, "I Started 8:30 a.m and spent rupees 8 for 3 kilometres and I have been reaching the school 8:45 a.m regularly".
- Teacher: So, you have been spending 15 minutes and rupees 8 for 3 kilometres daily.
- Teacher: Ok, children let us discuss topic about distance, time and money.





## Activities

1. Write distance, bus fares and travel time from your town to the nearest cities:

Distance, Time and money are interrelated in our daily life situations.  
Can you discuss and complete the table given below:

S. No	Departure location	Going to town	Distance	Time	Bus Charge

2. Distances are given below from Chennai to Kanyakumari

City	Distance [KM]
Chennai	0 Km
Tambaram	35 Km
Tindivanam	128 Km
Villupuram	172 Km
Trichy	332 Km
Madurai	462 Km
Virudunagar	520 Km
Tirunelveli	624 Km
Kanyakumari	707 Km

Complete the following:

- ▶ The distance between Chennai to Tindivanam \_\_\_\_\_
- ▶ The distance between Chennai to Villupuram \_\_\_\_\_
- ▶ The distance between Chennai to Trichy \_\_\_\_\_
- ▶ The distance between Trichy to Madurai \_\_\_\_\_
- ▶ The distance between Madurai to Tirunelveli \_\_\_\_\_
- ▶ The distance between Chennai to Kanyakumari \_\_\_\_\_
- ▶ The distance between Trichy to Kanyakumari \_\_\_\_\_
- ▶ The distance between Tindivanam to Tirunelveli \_\_\_\_\_
- ▶ The distance between Chennai to Madurai \_\_\_\_\_
- ▶ The largest distance is Chennai to Trichy or Chennai to Madurai? \_\_\_\_\_



## 5.2 Able to Create problems integrating time, money and distance

- Raju travelled 20 km in 1 hour Dinu travelled 5 km in Half an hour who travelled fast? Which vehicle he used?
- In metro train ₹ 60 charged for Half an hour. Deepa has ₹ 200. How many hours does she travel in metro train?
- Senthil spent ₹ 80 for 50 km. Gowtham spent ₹ 50 for 30 km. Who travelled at lowcost?

From these above questions, we can conclude the relationship between **Time, Distance and Money**. These are interrelated

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$$

$$\text{Time} = \frac{\text{Distance}}{\text{Speed}}$$

$$\text{Distance} = \text{Speed} \times \text{Time}$$

### Example

If Sabari Walked 5 Hours at a speed of 5Km/Hour, then how much did he covered?

$$\begin{aligned}\text{Distance} &= \text{Speed} \times \text{Time} \\ &= 5 \times 5\end{aligned}$$

$$\text{Distance covered by Sabari} = 25 \text{ Km}$$

### Exercise 5.1

1

Answer the following:

S.No	Speed	Time	Distance
i	48 Km/Hour	2 Hours	_____
ii	35 Km/Hour	3 Hours	_____
iii	30 Km/Hour	5 Hours	_____
iv	50 Km/Hour	4 Hours	_____
v	20 Km/Hour	6 Hours	_____



2

- i. Distance covered in 2 hours at the speed of 20 miles/hour: \_\_\_\_\_
- ii. Distance covered in 4 hours at the speed of 65 miles/hour: \_\_\_\_\_
- iii. Distance covered in 5 hours at the speed of 48 Km/hour: \_\_\_\_\_
- iv. Distance covered in 6 hours at the speed of 80 Km/hour: \_\_\_\_\_
- v. Distance covered in 3 hours at the speed of 42 Km/hour: \_\_\_\_\_

3

If Gopi ran 12 Hours at a speed of 14 Km/Hour, then how much distance did he ran?

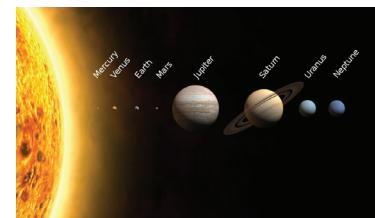
4

If Raja rides motorcycle for 4 Hours at a speed of 30 Km/Hour, then how much distance did he go?

### Activity 3

#### The distance between Planets and sun

Planets	Distance from sun (KM)
Mercury	57909175
Venus	108200000
Earth	149600011
Mars	227940000
Jupiter	778333000
Saturn	1429400000
Uranus	2870990000
Neptune	4504300000



Answer the following from the given table:

- The distance between Earth and Sun is \_\_\_\_\_.
- \_\_\_\_\_ Planet is in the longest distance from the sun.
- The Nearest Planet to Sun is \_\_\_\_\_.
- Arrange the planets in ascending order depending upon the Planets distance from the sun.
- Arrange the planets in descending order depending upon the Planets distance from the sun.



## 5.3 Relation between Speed, time and Distance

### Example

Raman reached 195 Km at the speed of 65 Km/hr. How much time did he travelled?

$$\text{Time} = \frac{\text{Distance}}{\text{Speed}} = \frac{195}{65} = 3 \text{ Hours}$$

Raman travelled 3 hours

### Exercise 5.2

- 1 Answer the following:

S.No	Speed	Distance	Time (Hours)
i	35 Km/hour	280 Km	
ii	40 Km/hour	360 Km	
iii	45 Km/hour	315 Km	
iv	50 Km/hour	300 Km	
v	55 Km/hour	275 Km	

- 2 Wilson reached 240 Km at the speed of 60 Km/hour. How much time did he travelled?
- 3 Anbarasan travelled 350 Km at the speed of 70 Km/hour. Find the time taken for his travel.
- 4 Nazar travelled 360 Km at the speed of 90 Km/hour. Find the time taken for his travel.
- 5 Fathima reached 480 Km at the speed of 120 Km/hour. How much time did she travelled?



## 5.4 Relation between Distance and Money

### Example

Akbar spent ₹ 4 per Km for a trip and he travelled 115 Km in that trip. How much is the total cost of the trip?

Cost per kilometre is ₹ 4.

$$\begin{aligned}\text{Cost for 115 kilometre} &= 115 \times ₹ 4 \\ &= ₹ 460\end{aligned}$$

The amount spent by Akbar = ₹ 460

### Exercise 5.3

- 1 Answer the following:

S.No	Distance	Money	Total cost
i	180 Km	₹5 per km	
ii	220 Km	₹8 per km	
iii	315 Km	₹4 per km	
iv	420 Km	₹6 per km	
v	580 Km	₹3 per km	

- 2 Sneha spent ₹ 7 per Km for a trip and she travelled 850km. How much is the total cost of the trip?
- 3 Prabhu spent ₹ 9 per Km for a trip and he travelled 580km. How much is the total cost of the trip?

## 5.5 Use fractions in the context of units of length, time and money

### Length (In fractions)

### Example

$$2 \text{ Km } 500 \text{ m} = 2 \frac{1}{2} \text{ Km}$$

$$1 \text{ Km } 250 \text{ m} = 1 \frac{1}{4} \text{ Km}$$

$$7 \text{ Km } 750 \text{ m} = 7 \frac{3}{4} \text{ Km}$$

$$8 \text{ Km } 500 \text{ m} = 8 \frac{1}{2} \text{ Km}$$

### Let us know

$$1 \text{ Km} = 1000 \text{ m}$$

$$\frac{1}{2} \text{ Km} = 500 \text{ m}$$

$$\frac{3}{4} \text{ Km} = 750 \text{ m}$$

$$\frac{1}{4} \text{ Km} = 250 \text{ m}$$



## Time (In fractions)

15 minutes =  $\frac{1}{4}$  Hour

30 minutes =  $\frac{1}{2}$  Hour

45 minutes =  $\frac{3}{4}$  Hour

60 minutes = 1 Hour

## Let us know

60 minutes = 1 Hours

Half part of 60 minutes = 30 minutes

Quarter part of 60 minutes = 15 minutes

There Quarter part of 60 minutes = 45 minutes

$$\frac{1}{4} \times 60 = \frac{60}{4} = 15 \text{ minutes}$$

$$\frac{3}{4} \times 60 = \frac{180}{4} = 45 \text{ minutes}$$

$$\frac{1}{2} \times 60 = \frac{60}{2} = 30 \text{ minutes}$$

$$1 \times 60 = 60 \text{ minutes}$$

## Examples

### 1 Convert into minutes

- a) 2 Hour =  $2 \times 60 = 120$  minutes      1 Hour = 60 minutes  
b) 3 Hour 20 minutes =  $(3 \times 60) + 20 = 200$  minutes  
c) 4 Hour =  $4 \times 60 = 240$  minutes  
d) 5 Hour 15 minutes =  $(5 \times 60) + 15 = 300 + 15 = 315$  minutes

### 2 Convert in to hours

- a) 42 minutes

$$42 \times \frac{1}{60} = \frac{42}{60} = \frac{7}{10} \text{ Hour}$$

- b) 55 minutes

$$55 \times \frac{1}{60} = \frac{55}{60} = \frac{11}{12} \text{ Hour}$$

## Money [In fractions]

### Example

#### In ₹1

$\frac{1}{4}$  part of ₹ 1 = 25 paise

Quarter part of ₹ 1 = 25 paise

$\frac{1}{2}$  part of ₹ 1 = 50 paise

Half part of ₹ 1 = 50 paise

$\frac{3}{4}$  part of ₹ 1 = 75 paise

Three quarter part of ₹ 1 = 75 paise

1 part of ₹ 1 = 100 paise

Full part of ₹ 1 = 100 paise



### Example

In ₹100

$\frac{1}{4}$ part of ₹ 100 = ₹ 25	Quarter part of ₹ 100 = ₹ 25
$\frac{1}{2}$ part of ₹ 100 = ₹ 50	Half part of ₹ 100 = ₹ 50
$\frac{3}{4}$ part of ₹ 100 = ₹ 75	Three quarter part of ₹ 100 = ₹ 75
1 part of ₹ 100 = ₹ 100	Full part of ₹ 100 = ₹ 100

### Example

In ₹2000

$\frac{1}{4}$ part of ₹ 2000 = ₹ 500	Quarter part of ₹ 2000 = ₹ 500
$\frac{1}{2}$ part of ₹ 2000 = ₹ 1000	Half part of ₹ 2000 = ₹ 1000
$\frac{3}{4}$ part of ₹ 2000 = ₹ 1500	Three quarter part of ₹ 2000 = ₹ 1500
1 part of ₹ 2000 = ₹ 2000	Full part of ₹ 2000 = ₹ 2000

### Exercise 5.4

1 Answer the following

- 3 Km 500 m =
- 25 Km 250 m =
- 17 Km 750 m =
- 35 Km 250 m =
- 45 Km 750 m =



2 Convert into Hours : [ In fraction]

- 10 minutes
- 25 minutes
- 36 minutes
- 48 minutes
- 50 minutes



**3** Convert into minutes:

- (i)  $\frac{5}{6}$  Hour
- (ii)  $\frac{8}{10}$  Hour
- (iii)  $\frac{4}{6}$  Hour
- (iv)  $\frac{5}{10}$  Hour
- (v)  $\frac{6}{10}$  Hour

**4** Match the following:

- |                                  |            |
|----------------------------------|------------|
| (i) $\frac{1}{2}$ part of ₹ 1    | - ₹ 100    |
| (ii) $\frac{1}{4}$ part of ₹ 4   | - 50 paise |
| (iii) $\frac{1}{2}$ part of ₹ 10 | - ₹ 75     |
| (iv) $\frac{3}{4}$ part of ₹ 100 | - ₹ 1      |
| (v) $\frac{1}{2}$ part of ₹ 200  | - ₹ 5      |

**5** Write the  $\frac{1}{4}$ ,  $\frac{1}{2}$  and  $\frac{3}{4}$  parts of the following:

- (i) ₹ 200
- (ii) ₹ 10,000
- (iii) ₹ 8,000
- (iv) ₹ 24,000
- (v) ₹ 50,000



## 6.1 Modelling

A way of introducing the mathematical concept.

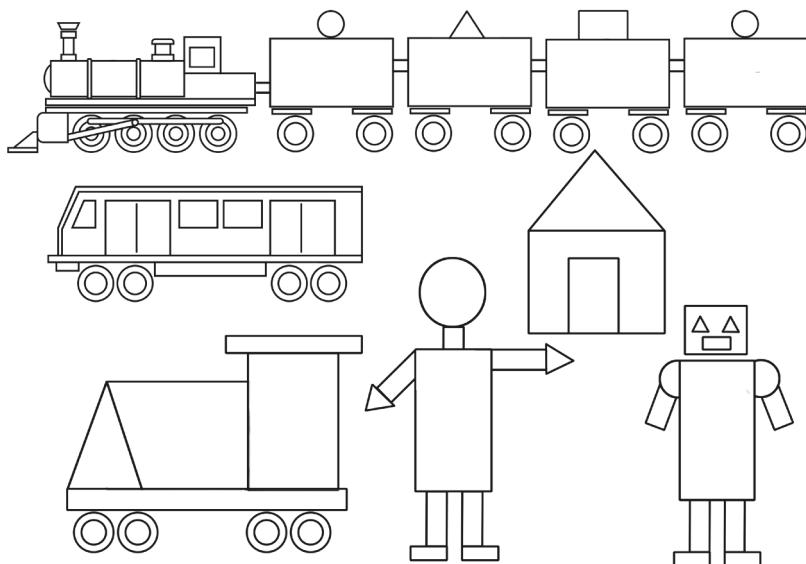


Modelling is an activity like drawings as sketches, Physical models, computer programmes or mathematical formulas.

Let us see the following models using the different shapes such as circles, rectangles and triangles.

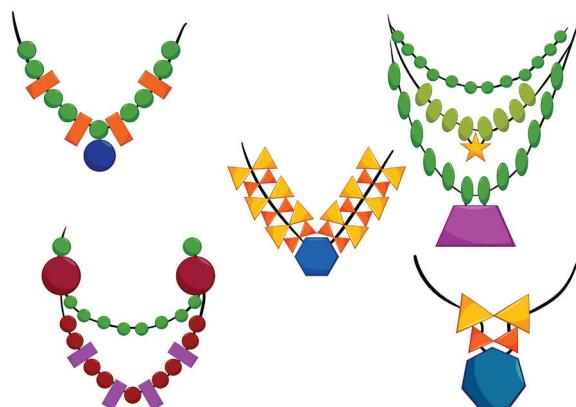
(Link: Universal shapes for design)

Geometrical shaped objects.



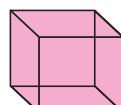


Let us see artistic chains with different coloured beads.



**Try this**

How many squares  
are there?



**Activity**

Figures			
Number of Triangles	12		
Number of Squares	6		

**Activity**

The following shapes are drawn instead of numbers 0, 1, 2, 3, 4, 5. Shall we find the number of each shapes.

$$\begin{array}{l} \text{Yellow circle} + \text{Green star} = \text{Green star} \\ \text{Red square} + \text{Yellow circle} = \text{Red square} \\ \text{Red square} \times \text{Red square} = \text{Orange diamond} \\ \text{Red square} + \text{Green triangle} = \text{Pink oval} \end{array}$$

	= 1
	= _____
	= _____
	= 5
	= _____
	= _____

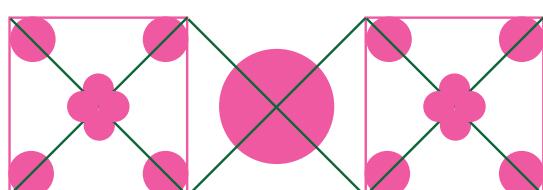
**Let us know**

In our street,  
There are two  
times Cats of Dogs  
 $D = \text{Dog}$     $C - \text{Cat}$   
**Answer:**  $D = 2C$ .



## Activity

Complete the following



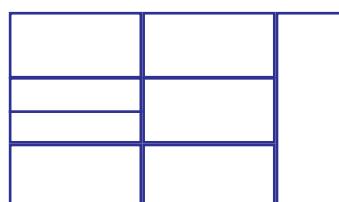
Number of circles \_\_\_\_\_

Number of Triangles \_\_\_\_\_

Number of Squares \_\_\_\_\_

## Try this

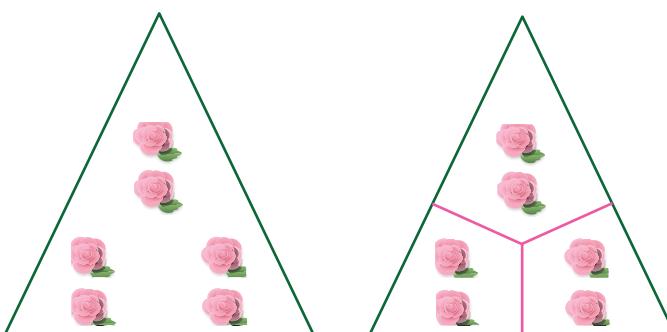
How many rectangles are there in this diagram?



## Example

### Birthday triangle Cake

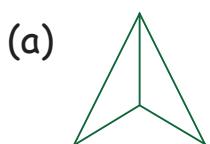
The given figure is a triangle shaped birthday cake, this was bought by the parents to celebrate the birthday of a three year child. There are six flowers in the cake, you have to divide this cake into three equal parts so as to have two flowers in each part. There should not be more than three cuts.



## Exercise 6.1

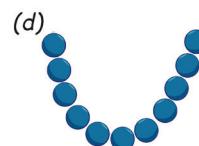
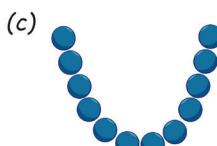
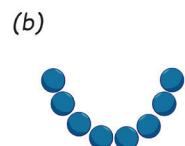
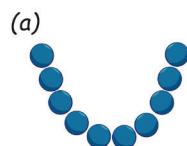
### 1 Choose the correct answer:

(i) Which shape have 6 triangles?





(ii) Find which garland has made up of 12 beads?



2 Answer the following:



4, 4, 3, 5, 4, 4, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

(ii) 1, 1, 2, 3, 5, 8, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

3 If  $\triangle = 3$     $\square = 4$     $\pentagon = 5$ , then

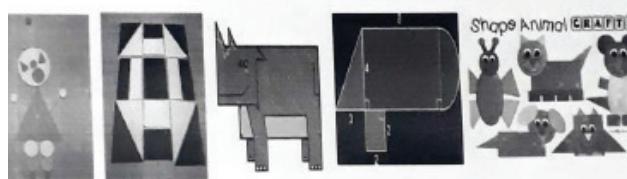
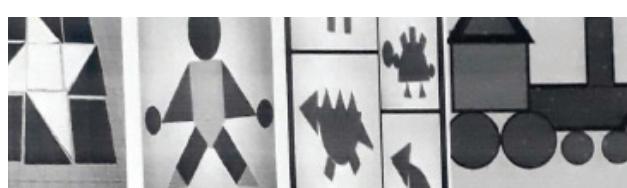
$$(i) \triangle + \square + \pentagon + \triangle - \square =$$

$$(ii) \square \square - \triangle \triangle =$$

### Activity

#### Paper Cutting

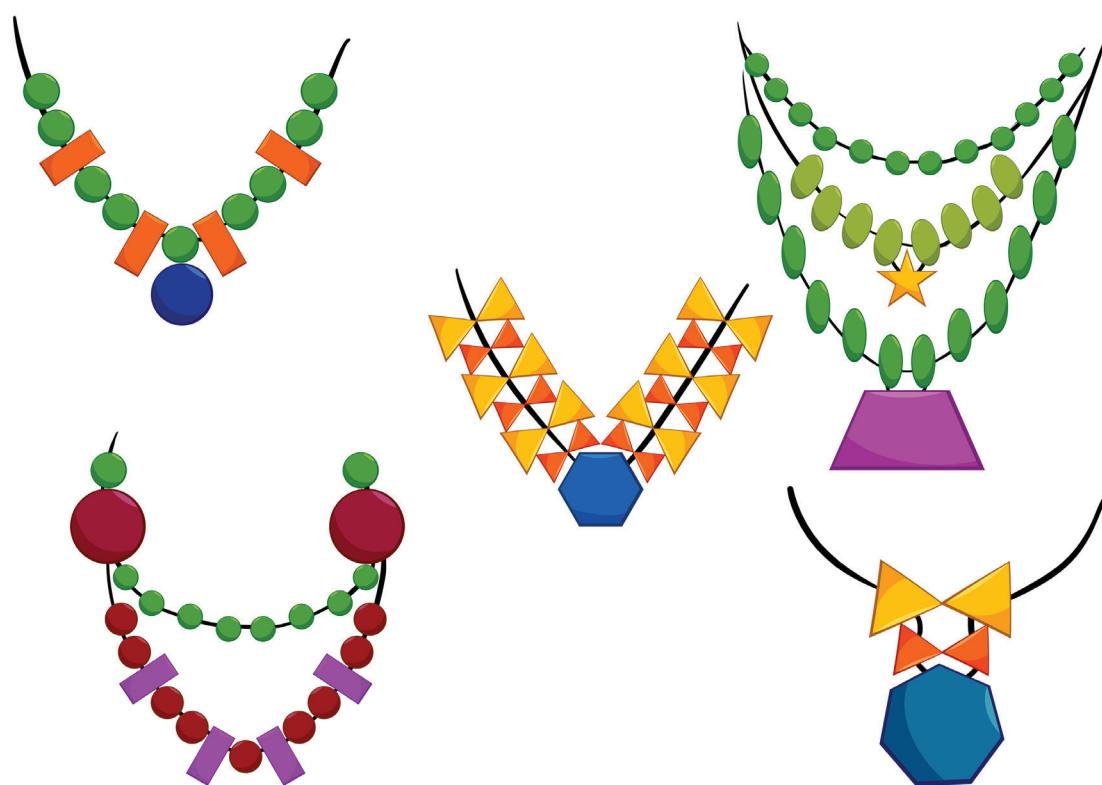
Ask the children to make different types of pictures by using cutouts of  $\square$ ,  $\triangle$ ,  $\circ$  and  $\pentagon$  of different sizes.





## Activity

Children can create the artistic chain with different coloured beads, this will help the learners to solve maths related questions very easily.



## Answers

### Geometry

#### Exercise 1.1

1. i)  $45^\circ$     ii)  $60^\circ$     iii)  $18^\circ$     iv)  $2^\circ$     v)  $52^\circ$   
2. i)  $100^\circ$     ii)  $85^\circ$     iii)  $70^\circ$     iv)  $45^\circ$     v)  $30^\circ$

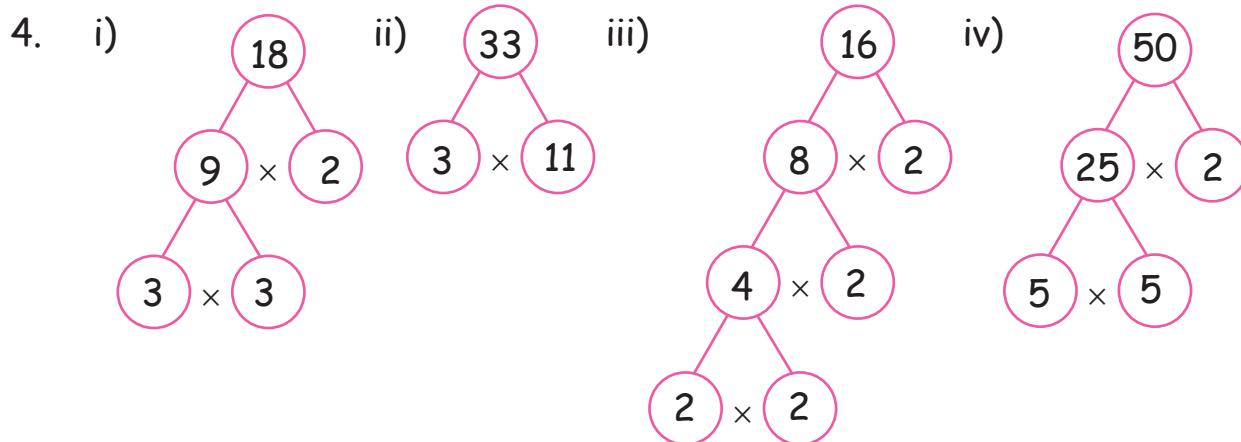
### Numbers

#### Exercise 2.1

- i) 1,2,4    ii) 1,2,3,6    iii) 1,2,5,10

#### Exercise 2.2

1. i) b. 535    ii) b. 26    iii) a. 32    iv) c. 1,2,3,6    v) d. 72  
2. i) 1,7    ii) 2    iii) 12    iv) 15    v) 1,5,7  
3. i) 1,5,25    ii) 1,2,3,4,6,9,12,18,36    iii) 1,2,7,14    iv) 1,2,4,8,16  
v) 1,2,3,4,6,12



5. i) 7, 14, 21, 28, 35    ii) 9, 18, 27, 36, 45    iii) 16, 32, 48, 64, 80  
iv) 11, 22, 33, 44, 55    v) 21, 42, 63, 84, 104
6. i) 48, 96, 144    ii) 108, 216, 324    iii) 864, 1728, 2592
7. i) 84    ii) 48    iii) 56    iv) 60
8. 30<sup>th</sup> day    9. 24 minutes

# Patterns

## Exercise 3.2



# Measurement

## Exercise 4.1

1. i) 7400g ii) 5050mg iii) 9g 500mg iv) 15350g v) 6kg 250g  
2. i) 7kg 700g ii) 825g 430mg iii) 207kg 745g iv) 105kg 650g  
3. i) 15kg 150g ii) 17kg 350g iii) 710kg 150g iv) 399kg 500g  
4. i) 30kg 100g ii) 142kg iii) 102kg 200g iv) 361g 750mg  
5. i) 33kg 330g ii) 21g 90mg iii) 50kg 20g iv) 121g 096mg  
6. 10kg 850g 7. 43kg 50g 8. 175g 875 mg 9. 15kg 150g

## Exercise 4.2

1. i) Millilitre ii) Kilolitre, 1000 iii) 7030l iv) 5400ml v) 1l 300ml

2. (i) 4500 ml - 4 l 500 ml  
(ii) 3250 ml - 3 l 250 ml  
(iii) 6500 ml - 6 l 500 ml  
(iv) 8200 ml - 8 l 200 ml  
(v) 7050 ml - 7 l 50 ml

3. i) 450l 500ml      ii) 3400l 3ml      iii) 287l 080ml

4. i) 12485l      ii) 5kl      iii) 4l 655ml

5. i) 25l 600ml      ii) 17l 800ml      iii) 26l 500ml      iv) 40l 200ml

6. i) 3l 40ml      ii) 10l 300ml      iii) 3l 70ml      iv) 5l 70ml

7. 6l 250ml      8. 34l 800ml      9. 66l 500ml      10. 5l 100ml

# Interconcept

## Exercise 5.1

1. i) 96Km      ii) 105Km      iii) 150Km      iv) 200Km      v) 120Km  
2. i) 40 miles      ii) 260 miles      iii) 240Km      iv) 480Km      v) 126Km  
3. 168Km                          4. 120Km

### Exercise 5.2

1. i) 8 hours    ii) 9 hours    iii) 7 hours    iv) 6 hours    v) 5 hours  
2. 4 hours    3. 5 hours    4. 4 hours    5. 4 hours

### Exercise 5.3

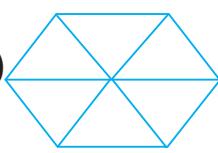
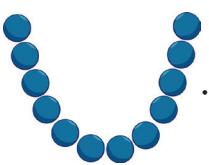
1. i) ₹ 900    ii) ₹ 1760    iii) ₹ 1260    iv) ₹ 2520    v) ₹ 1740  
2. ₹ 5950    3. ₹ 5220

### Exercise 5.4

1. i)  $3 \frac{1}{2}$  Km    ii)  $250 \frac{1}{4}$  Km    iii)  $17 \frac{3}{4}$  Km    iv)  $35 \frac{1}{4}$  Km    v)  $45 \frac{3}{4}$  Km  
2. i)  $\frac{1}{10}$  hours    ii)  $\frac{5}{12}$  hours    iii)  $\frac{3}{5}$  hours    iv)  $\frac{4}{5}$  hours    v)  $\frac{5}{6}$  hours  
3. i) 50 min.    ii) 48 min.    iii) 40 min.    iv) 30 min.    v) 36 min.  
4. (i)  $\frac{1}{2}$  part of ₹ 1 - 50 paise  
(ii)  $\frac{1}{4}$  part of ₹ 4 - ₹ 1  
(iii)  $\frac{1}{2}$  part of ₹ 10 - ₹ 5  
(iv)  $\frac{3}{4}$  part of ₹ 100 - ₹ 75  
(v)  $\frac{1}{2}$  part of ₹ 200 - ₹ 100  
5. i) ₹ 50, ₹ 100, ₹ 150 ii) ₹ 2,500, ₹ 5,000, ₹ 7,500 iii) ₹ 2,000, ₹ 4,000, ₹ 6,000 iv) ₹ 6,000, ₹ 12,000, ₹ 18,000 v) ₹ 12,500, ₹ 25,000, ₹ 37,500.

## Information Processing

### Exercise 6.1

1. i) (b)  ii) (c)   
2. i) 3,5,4,4,3,5    ii) 13,21,34,55  
3. i) 11    ii) 11