प्रु•ना International School
Shree Swaminarayan Gurukul, Zundal

Class -V

Math - magic

Sample Copy

Year- 2022-23

Index

Ch-8

Mapping your way

❖ Key points to remember:

- Introduction
- Convert centimeter to millimeters
- Convert kilometer into centimeters
- Map 1, 2 and 4
- Activity

❖ **Introduction:**

- **Define:**

  Map: A map is a visual representation of an entire area or part typically represented on a flat surface.

1 Kilometer =	**1000 meters**
1 meter =	**100 centimeters**
1 centimeter =	**10 millimeters**
1 kilometers =	**100,000 centimeters**

- Convert centimeter to millimeters:-

  Example:

  15 cm = 15 × 10 = 120 mm

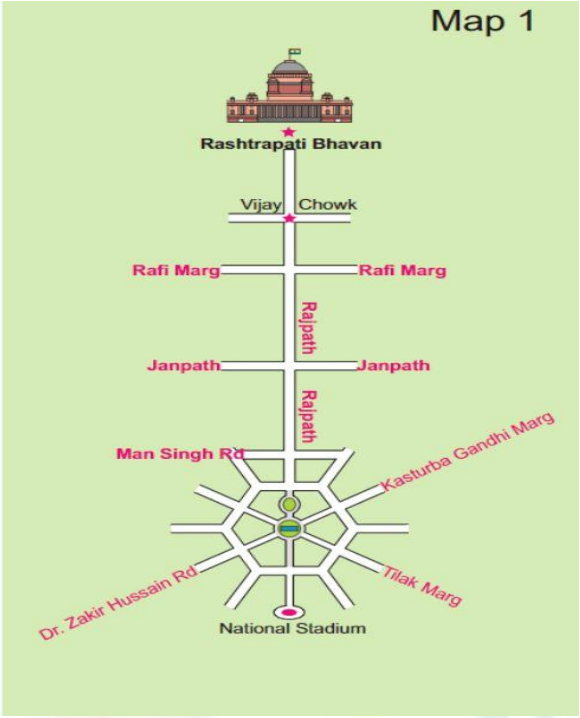
a) 55 cm = _____
b) 76 cm = _____
c) 65 cm = _____
d) 114 cm = _____

- Convert kilometer to centimeters:-

  Example:

  23 km = 23 × 100000 = 2300000 cm

a) 23 km = _____
b) 85 km = _____
c) 196 km = _____



- **Have you seen a map of a city? Look at Map**

1) Match it with the photo and find out where India Gate is. Draw it on the map.

Ans. 1.Yes, I have seen a map of a city. After matching the map with the photo, the position of India Gate is shown below.

2) Some roads are shown in this part of the map. Look for them in the photo.

Ans. 2 The roads shown in the map are clearly visible in the photo.

3) Name roads that you will cross on your way from Rashtrapati Bhawan to India Gate.

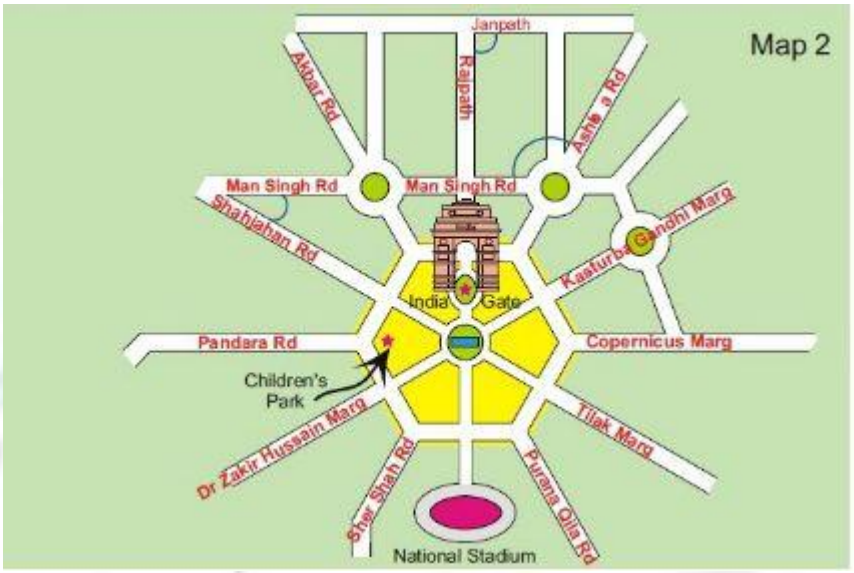
Ans. 3 On my way from Rashtrapati Bhavan to India Gate I have crosses following roads:

Rafi Marg, Janpath and Man Singh Road.

4) Look for the National Stadium in Map 1. Can you see it in the photo?

Ans. 4 The National Stadium is seen in Map 1, but cannot be seen in the photo.

❖ **Map 2:**



- **Find out from the map 2:**

1) **If you are walking on Rajpath then after India Gate on which side would Children's Park be?**

Ans. The children's park would be on the right side.

2) **Which of these roads make the biggest angle between them?**

(a) Man Singh Road and Shahjahan Road

(b) <u>Ashoka Road and Man Singh Road</u>

(c) Janpath and Rajpath

3) **Which of the above pairs of roads cut at right angles?**

Ans: Janpath and Rajpath cut at right angles.

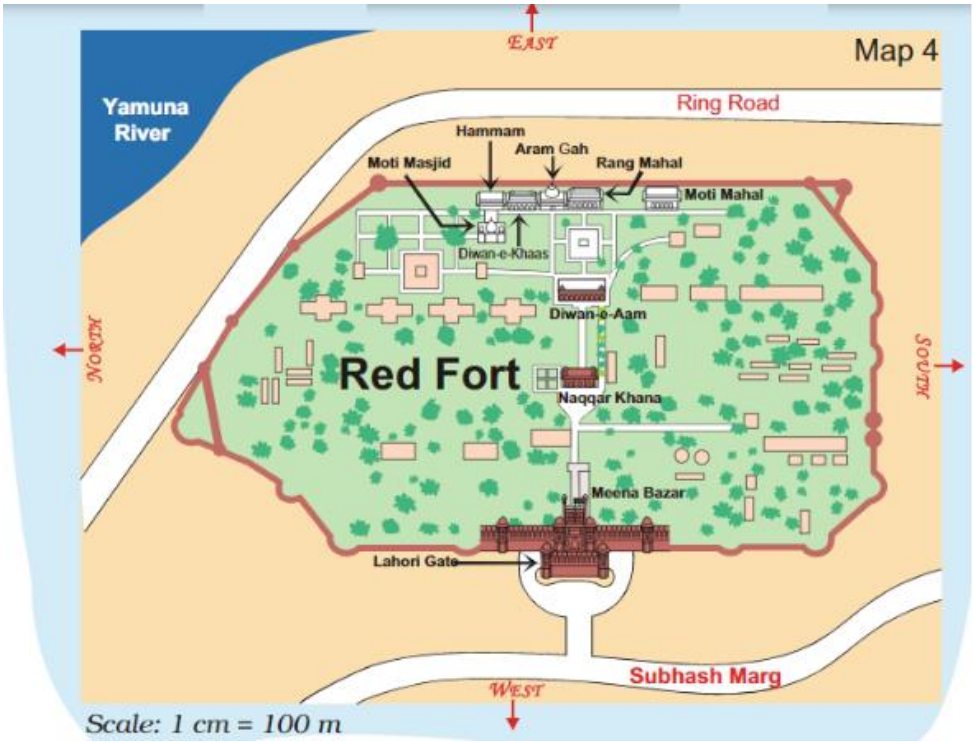
4) **What is angle formed between Man singh road and Shah jahan road?**

Ans: Acute angle

5) **Which geometrical shape is formed by Janpath, Akbar, man singh and Ashoka roads?**

Ans: Quadrilateral

❖ **Map 4:**



- **Find out from the map 4:**

1) Which of these is nearer to river Yamuna? — the Diwan-e-Aam or the Diwan-e-Khaas?

Ans: Diwan-e-Khaas is nearer to river Yamuna.

2) Between which two buildings is AramGah?

Ans: Aram Gah is between Diwan-e-Khaas and Rang Mahal.

3) Which buildings do you pass while going from Rang Mahal to the Hammam?

Ans: While going from Rang Mahal to Hammam we pass through Aram Gah and Diwan-e-Khaas.

4) Which building on this map is farthest from Meena Bazar?

Ans: Hammam is farthest from Meena Bazar.

5) About how far is Lahori Gate from Diwan-e-Khaas?

Ans: Lahori Gate is about 600 m from Diwan – e – khaas.

(Scale: 1 cm = 100 m)

6 m = 6 ×100 = 600 m

6) The out line of this map shows which place?

Ans: Red Fort.

Activity:

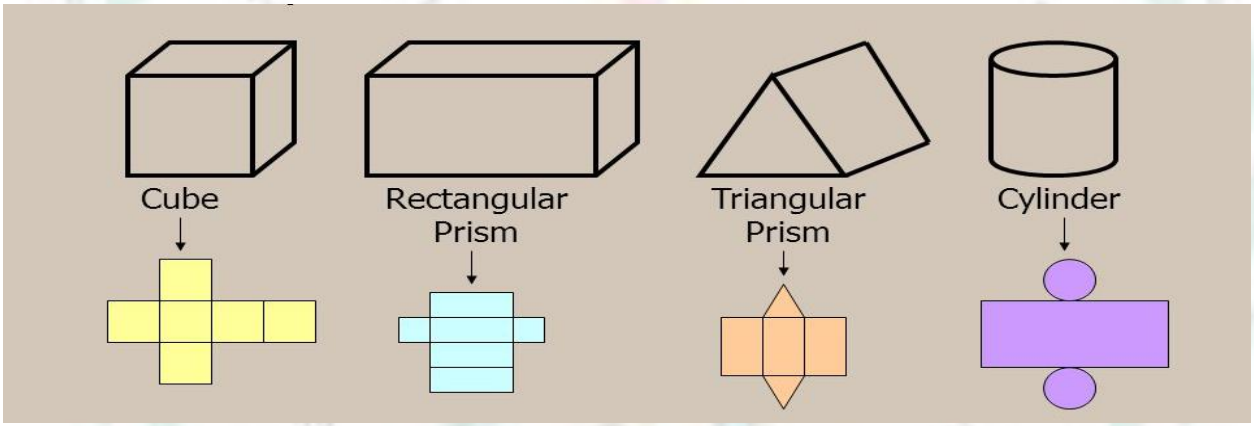
- **Show union territories on India's map.**

Ch- 9 Boxes and sketches

Activity based chapter

Notes – No need to write this chapter.

- **Key points to remember:**
  - Introduction
  - Activity
- **Introduction:**
  - **Objects and their unfolded Images:**



- **Activity:**
  - **Make a sweet box (Text book page no: 126 and 201)**

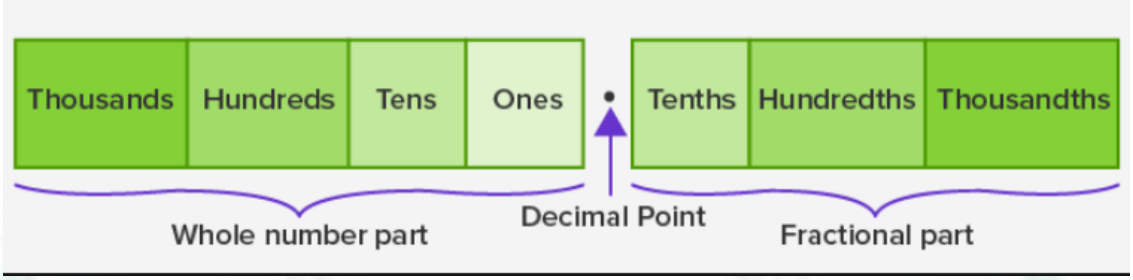
Ch-10

Tenths and Hundredths

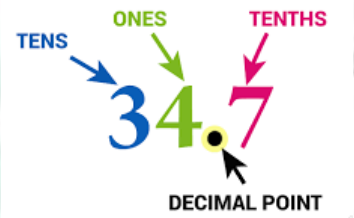
❖ **Key points to remember:**

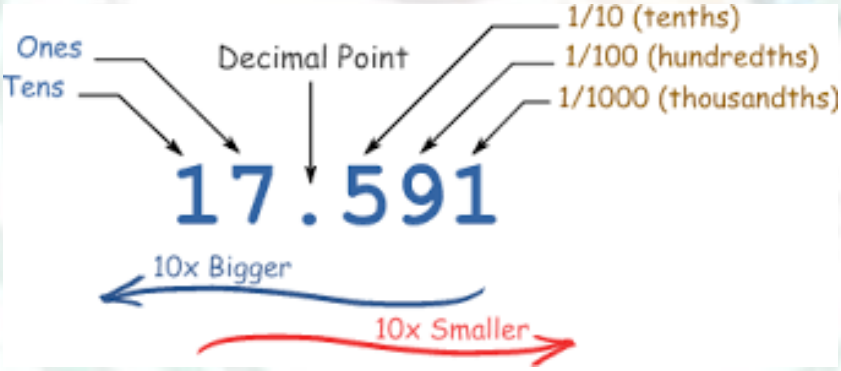
- Introduction
- Fill in the blanks
- Convert fraction into decimal
- Write as mixed numerals
- Compare using >, < or =
- Arrange in ascending and descending order
- Dividing decimals
- Word problems
- MCQ's
- Activity

❖ **Introduction:**



Example:





❖ **Fill in the blanks:**

1) 3 cm 4 mm is equal to **3.4** cm
2) 7.8 cm is equal to **7** cm and **8** mm
3) 15.4 cm is equal to **15** cm and **4** mm
4) 0.9 cm is equal to **0** cm and **9**mm
5) 21 cm 3 mm is equal to **21.3** cm
6) 8 mm is equal to **0.8** cm

❖ **Complete the boxes: (Hint: 1 Re = 100 paise)**

	Rupee/paise	Fraction	Decimal
a)	60 paise	**Rs** $\frac{3}{5}$	**Rs 0.60**
b)	35 paise	**Rs** $\frac{7}{20}$	**Rs 0.35**
c)	93 paise	**Rs** $\frac{93}{100}$	**Rs 0.93**
d)	5 paise	**Rs** $\frac{1}{20}$	**Rs 0.05**
e)	25 paise	**Rs** $\frac{1}{4}$	**Rs 0.25**

Solution:

Fraction a) $\frac{60}{100} = \frac{6}{10} = \frac{3}{5}$ **Decimal = a)** $\frac{60}{100}$ **= 0.60**

b) $\frac{35}{100} = \frac{7}{20}$ **b)** $\frac{35}{100}$ **= 0.35**

d) $\frac{5}{100} = \frac{1}{20}$ **c)** $\frac{93}{100}$ **= 0.93**

e) $\frac{25}{100} = \frac{1}{4}$ **d)** $\frac{5}{100}$ **= 0.05**

❖ **Convert fraction into decimal:**

1) $\frac{457}{100}$= 4.57
2) $\frac{5}{10}$ = 0.5
3) $\frac{1}{2}$ = 0.5
4) $\frac{3}{4}$ = 0.75
5) $\frac{60}{10}$ = 6
6) $\frac{870}{100}$ = 8.7
7) **200 + 0 + 2 +** $\frac{1}{10} + \frac{3}{100}$ = 202.13
8) **50 + 6 +** $\frac{0}{10} + \frac{0}{100}$ = 56.00 = 56

❖ **Write as mixed numerals:**

1) **2.84** = $2\frac{84}{100}$
2) **39.075** = $39\frac{75}{1000}$

3) **77.77** = $77\frac{77}{100}$

4) **9.120** = $9\frac{120}{1000}$

5) **281.004** = $281\frac{4}{1000}$

❖ **Comparison use sign (>,< or =)**

1) **0.734 ≥ 0.374**
2) **99.5 ≥ 99.05**
3) $\frac{3695}{10}$ **≥ 3.695**
4) **0.005 = 0.005**
5) $\frac{649}{100}$ **≤ 64.9**
6) **75.1 ≥ 7.51**
7) **0.09 ≥ 0.009**
8) **2.87 = 2.32 + 0.55**

❖ **Arrange in ascending order:**

1)	**2.35, 22.35,0.235,2.325**
Ans	0.235,2.325,2.35,22.35
2)	**7.64,77.064,7.46,77.604**
Ans	7.46,7.64,77.064,77.604
3)	**1.05,3.05,0.05,2.05**
Ans	0.05,1.05,2.05,3.05
4)	**2.09,9.02,2.90,9.20**
Ans	2.09,2.90,9.02,9.20

❖ **Arrange in descending order:**

1)	**4.87, 4.78, 8.74, 8.47**
Ans	8.74, 8.47, 4.87,4.78
2)	**2.08, 2.80, 8.02, 8.20**
Ans	8.20, 8.02, 2.80, 2.08
3)	**9.054, 9.045, 9.450, 9.540**
Ans	9.540, 9.450, 9.054, 9.045

4)	**6.32,6.23,6.302,6.023**
Ans	6.32,6.302,6.23,6.023

❖ **Decimal Division:**

1) 6.30 ÷ 7

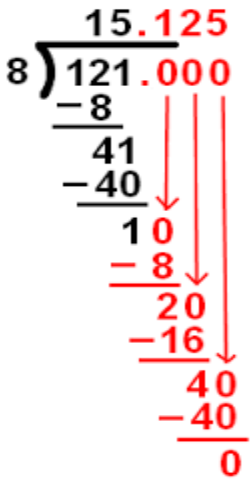
```
   0.90
7 | 6.30
  - 63
  ----
    00
```

2) 100.4 ÷ 25

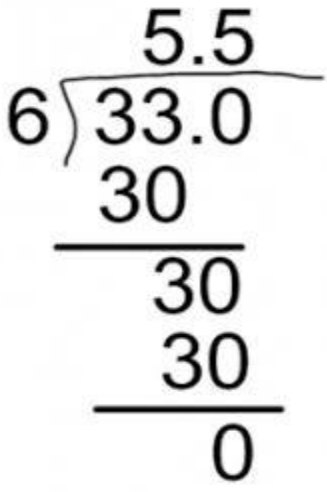
3) 5 ÷ 9

```
   0.5555
9 | 5.000
  - 45
  ----
    050
   - 45
   ----
     050
    - 45
    ----
      050
     - 45
     ----
       05
```

4) 121 ÷ 8



5) 33 ÷ 6



❖ **Word problems:**

1) Monika paid Rs 8.25 for chips and Rs 5.75 for chocolates. She got Rs 7 as return from the shop keeper. How much money did she pay?

Solution: Monika paid 8.25 chips
+ 5.75 chocolates
14.00 Total

14.00 Total
+ 7.00 Shopkeeper return.
21.00 she paid to shopkeeper

Monika paid Rs 21.00 to shopkeeper

2) Rohit had Rs 150. He bought sugar for Rs 19.50, rice for Rs 90 and biscuit for Rs 28.25. How much money was he left with?

Solution: Rohit had Rs 150

19.50 he bought sugar
\+ 90.00 he bought rice
\+ 28.25 he bought biscuit
137.75 Total

Total money Rohit left with him = 150 - 137.75 = Rs 12.25.

❖ **MCQ's:**

1) Which temperature is the warmest?
a) 0˚ F b) 0˚ C c) 32˚ F **d) 32˚ C**

2) 9 cm = _____ mm
a) 0.9 **b) 90** c) 900 d) 9000

3) Eighty-seven hundredths are:
a) 8700 b) 870 c) 8.7 **d) 0.87**

4) Four hundred fifty-seven thousandths are:
a) 0.407 b) 457 **c) 0.457** d) 45700

5) The shaded part in 
a) Eight-tenths **b) six- eighth** c) two – eighth d) eight-hundredths

6) The smallest and greatest factor of 105 _____
a) 5,105 b) 105, 21 **c) 1, 105** d) 1,5

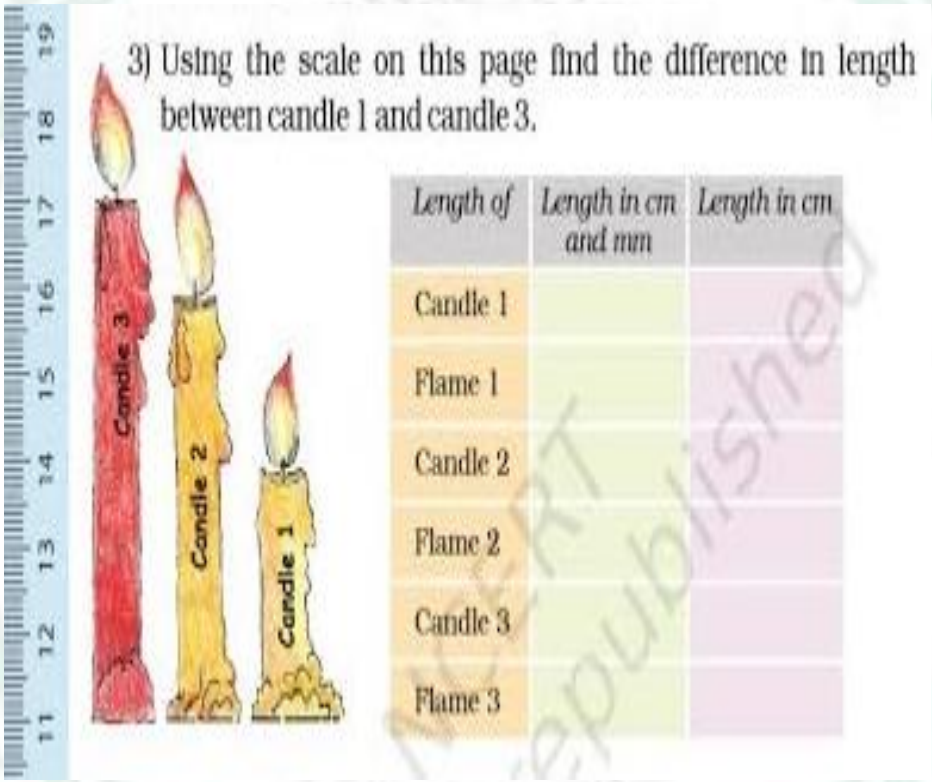
7) Seven-tenths of a cm is equal to **0.7** cm.
a) 7 b) 0.07 c) **0.7**

8) Three-hundredths of a m is **0.003** cm

a) 0.03 b) 0.03 c) **0.003**

❖ **Activity:**

- **Using the scale and find the difference in length of candles and flame (Text book page no:136)**



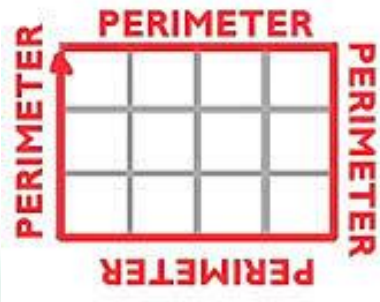
Length of	Length in cm and mm	Length in cm
Candle 1		
Flame 1		
Candle 2		
Flame 2		
Candle 3		
Flame 3		

Ch-11 Area and it's boundary

❖ **Key points to remember:**

- Introduction
- Find the perimeter (by figure)
- Find the area
- Fill in the blanks
- Find the missing length (with help of perimeter)
- Word problem
- Activity

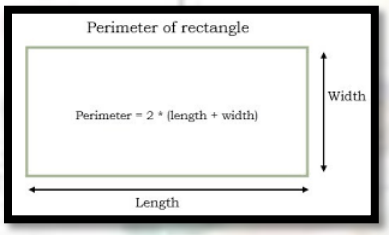
❖ **Introduction:**



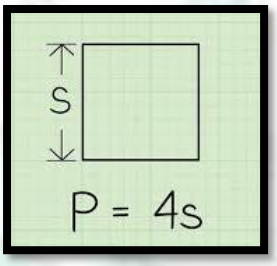
▪ **Define:**

➢ **Perimeter:** The total length of all the line segments of a closed figure is called its perimeter.

- Perimeter of rectangle= 2(length + breadth)
  = 2(l + b)

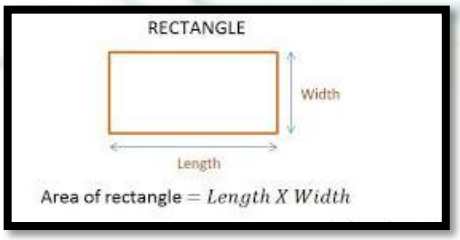


- Perimeter of square = 4×length= 4×l

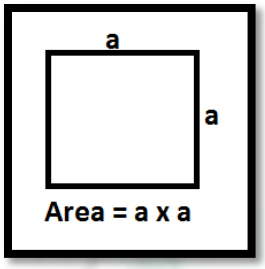


➢ **Area:** The region enclosed between boundaries of a figure.

- Area of rectangle = Length × Breadth

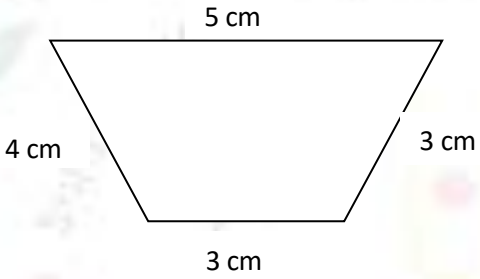


- Area of square = length × Length



❖ **Find the perimeter irregular figure:**

1)



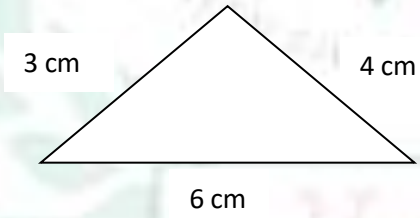
Solution

Perimeter = sum of all the sides

= 5 cm + 4 cm+ 3 cm + 3 cm

= 15 cm

2)



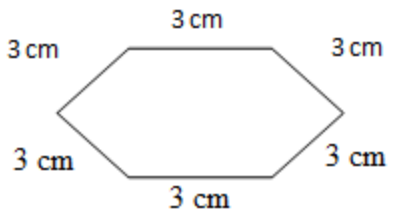
Solution

Perimeter = sum of all the sides

= 3 cm + 4 cm + 6 cm

= 13 cm

3)



Solution

Perimeter = sum of all the sides

=3 cm + 3 cm + 3 cm + 3 cm + 3 cm + 3 cm

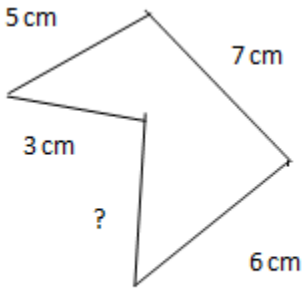
= 18 cm.

❖ **Fill in the blanks:**

1) The distance around a square field can be calculated using formula **4 × length**
2) **Area** is region enclosed between the boundaries of a figure.
3) The measurement of length and breadth is needed to calculate the area of a **rectangle.**
4) A rectangle plot is 25 m × 15 m in dimensions. The total wire needed to fence around it is **80 m.**

❖ **Find the missing length (with help of perimeter):**

1)



Perimeter = 25 cm

Solution

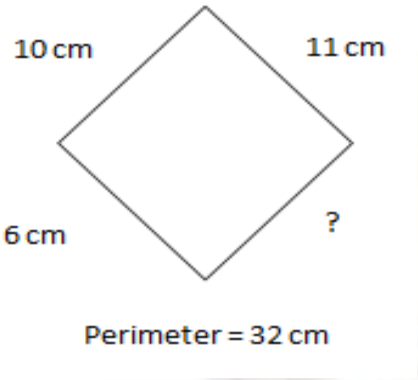
5 cm + 7 cm + 6 cm + 3 cm + x = 25 cm

21 cm + x = 25 cm

X = 25 -21

X = 4 cm

2)



Solution

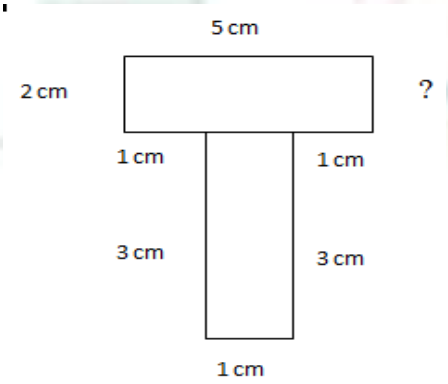
10 cm + 11 cm + 6 cm + x = 32 cm

27 cm + x = 32 cm

X = 32 cm – 27 cm

X= 5 cm

3)



perimeter = 18 cm

Solution

5cm + 2cm + 1cm +3cm + 1cm + 3cm + 1 cm + x = 18 cm

16cm + x = 18cm

X = 18 – 16

X = 2 cm.

❖ **Word problems:**

1) **The area of rectangle is 225 sq m. If the width of it rectangle is 9 m. what is the length of a rectangle?**

Solution: here, area of rectangle = 225 sqm
Width = 9 m
Length =?

(Area of rectangle = length × width)

Length = $\frac{area\ of\ rectangle}{width}$

$= \frac{225}{9}$

= 25 m

Length = 25 m

2) **The area of rectangle is 84 sq m. If the length of it rectangle is 12 m. what is the width of a rectangle?**

Solution: here, area of rectangle = 84 sq m
Length = 12 m
Width =?

Width = $\frac{area\ of\ rectangle}{length}$

$= \frac{84}{12}$

= 7 m

Width = 7 m

3) **The area of rectangle is 375 sq m. If the length of it rectangle is 15 m. what is the width of a rectangle?**

Solution: here, area of rectangle = 375

Length = 15 m

Width =?

Width = $\frac{area\ of\ rectangle}{length}$

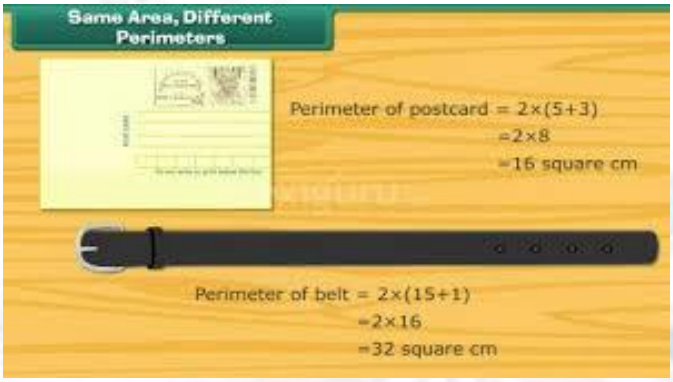
= $\frac{375}{15}$

= 25 m

Width = 25 m

❖ **Activity:**

- **Find the area of postcard and stamps.**



Ch- 12 smart charts

❖ **Key points to remember:**

- Introduction
- Show the tally mark
- Look the bar graph and fill in the blanks
- Pie chart
- Activity

❖ **Introduction:**

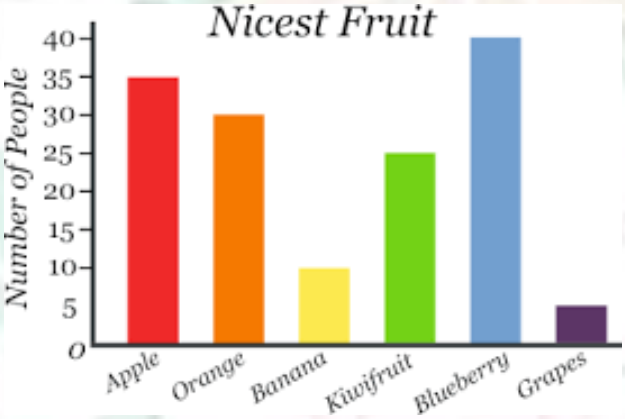
- **Data:** Data is collection of facts or information.

- **Tally marks are 𝍸.**

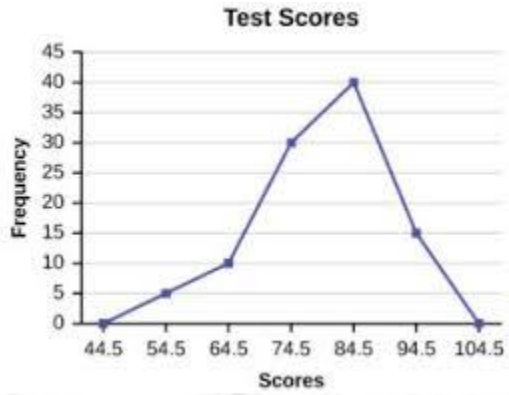
Example:

1	I	6	𝍸 I
2	II	7	𝍸 II
3	III	8	𝍸 III
4	IIII	9	𝍸 IIII
5	𝍸	10	𝍸 𝍸

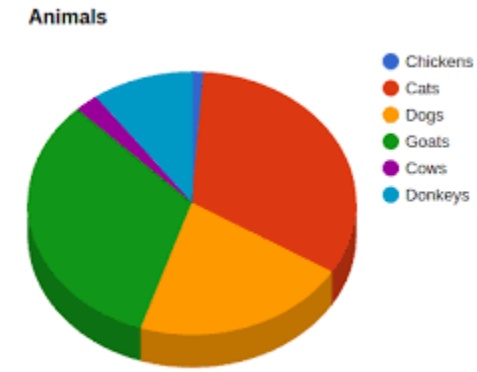
- **Bar graph:** A bar graph can be defined as a chart or a graphical representation of data, quantities or numbers using bars or strips.



- **Frequency polygon:** A **frequency polygon** is a graph constructed by using lines to join the midpoints of each interval.



- **Pie – charts:** A pie chart is a circle chart which is divided into slices to illustrate numerical proportion.



- **Show the tally marks:**

[A]

Animals	**Cats**	**Dogs**	**Rabbits**	**Cows**	**Parrots**	**Goats**	**Squirrels**
Numbers	**25**	**10**	**9**	**13**	**15**	**20**	**3**

Answer

Animals	**Tally Marks**	**Numbers**
Cats	𝍸 𝍸 𝍸 𝍸 𝍸	25
Dogs	𝍸 𝍸	10
Rabbits		9
Cows		13
Parrots		15
Goats		20
Squirrels		3

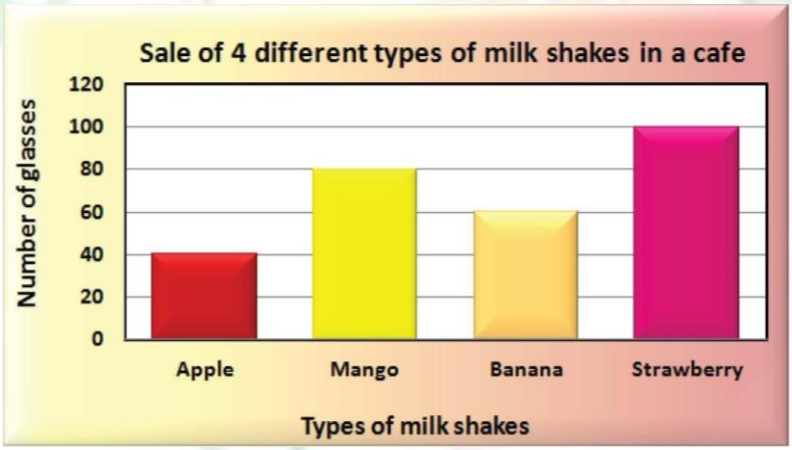
[B]

Juice	Apple	Orange	Pineapple	Guava	Litchi	Mixed fruit
Number	24	26	19	8	14	24

Answer

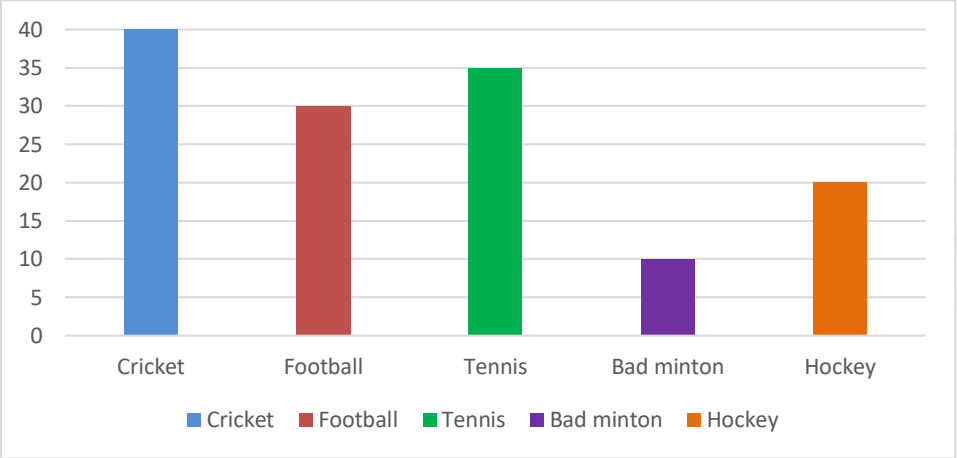
Juice	Tally Marks	Numbers
Apple		24
Orange		26
Pineapple		19
Guava		8
Litchi		14
Mixed fruit		24

- **The graph below shows the sale of 4 different milk shakes in a café on a Sunday see the graph and answer the question:**



a) If a glass of banana shakes costs Rs 15, how much did the café owner earn from the sale of banana shakes? **15 ×60 = 900**
b) Which shake is preferred by most number of children? **Strawberry**
c) Least favorite juice is **Apple**
d) Find the total number of shakes sold on Sunday.**40 + 80 + 60 + 100 = 280**
e) What is difference between apple shake and mango shake sold? **80 – 40 = 40**

- **Look the bar graph below and answer the question:**



a) Which sport is played by the maximum number of students?

Ans: Cricket

b) How many students play football?

Ans: 30 students

c) How many students go for tennis?

Ans: 35 students

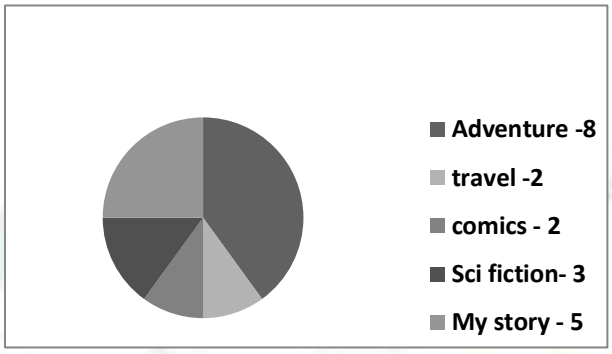
d) Which game is played the least by the students?

Ans: Bad Minton

e) How many like to play hockey?

Ans: 20 students

- **Look at the data shown in the pie chart given below. Answer the following questions**



a) The survey was carried out on **20** children.
b) Adventure books are read by **8** children.
c) More number of children read **My story** and **adventure** books than Science Fiction.
d) The same number of children read **comics** and **travel** books.

❖ **Activity:**

- **Make tally mark of what your friends like to do after school.**
  For example

What they like to do after school	*Number of children*
Watching TV	2
Playing football	3
Reading story books	2
Cycling	1
Playing indoor games	1
Doing homework	1

Ch-13 Ways to multiply and divide

❖ **Summary:**

- Multiplication
- Divide and check your results
- Going round and round
- Fill in the blanks
- Word problems
- Activity

❖ **Multiplication:**

1) 173 × 48

$$\begin{array}{r} 173 \\ \times\ 48 \\ \hline 1384 \\ +\ 6920 \\ \hline 8304 \end{array}$$

2) 385 × 56

$$\begin{array}{r} 385 \\ \times\ 56 \\ \hline 2310 \\ +\ 19250 \\ \hline 21560 \end{array}$$

3) 7456 × 28

$$\begin{array}{r} 7456 \\ \times\ 28 \\ \hline 59648 \\ +\ 149120 \\ \hline 208768 \end{array}$$

4) 5638 × 68

$$\begin{array}{r} 5638 \\ \times\ 68 \\ \hline 45104 \\ +\ 338280 \\ \hline 383384 \end{array}$$

5) 6367 × 96

$$\begin{array}{r} 6367 \\ \times\ 96 \\ \hline 38202 \\ +\ 573030 \\ \hline 611232 \end{array}$$

❖ **Divide and check your result:**

1) 4320 ÷ 7

$$\begin{array}{r|l} & 617 \\ \hline 7 & 4320 \\ -\ & 42 \\ \hline & 012 \\ -\ & 7 \\ \hline & 50 \\ -\ & 49 \\ \hline & 01 \end{array}$$

4) 768 ÷ 6

$$\begin{array}{r|l} & 128 \\ \hline 6 & 768 \\ -\ & 6 \\ \hline & 16 \\ -\ & 12 \\ \hline & 048 \\ -\ & 48 \\ \hline & 00 \end{array}$$

Check: Q × D + R = Dd

617 × 7 + 1 = Dd

4319 + 1 = Dd

4320 = Dd

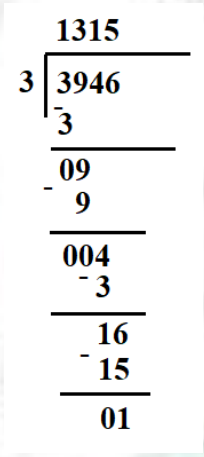
Check: Q × D + R = Dd

128 × 6 + 0 = Dd

786 + 0 = Dd

768 = Dd

2) 3946 ÷ 3



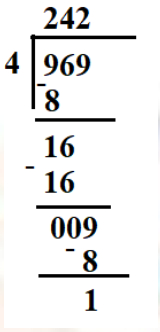
Check: Q × D + R = Dd

1315 × 3 + 1 = Dd

3945 + 1 = Dd

3946 = Dd

5) 969 ÷ 4



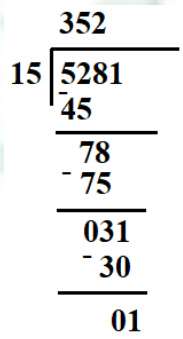
Check: Q × D + R = Dd

242 × 4 + 1 = Dd

968 + 1 = Dd

969 = Dd

3) 5281 ÷ 15



Check: Q × D + R = Dd

352 × 15 + 1 = Dd

5280+ 1 = Dd

5281 = Dd

❖ **Going round and round:**

142857 × 1	142857 × 2	142857 × 3	142857 × 4	142857 × 5
142857	285714	428571	571428	714285

❖ **Fill in the blanks:**

1) The number to be multiplied in the **multiplicand**.
2) The number with which use multiply is the **multiplier**.
3) The answer in multiplication is the **product.**
4) Repeated **addition** is known as multiplication.
5) 934 × **726** = **934**× 726
6) **9728**× 1 = 9728
7) 9869 ×**0** = 0
8) **135**× (297 × 517) = (517 ×**297**) × 135
9) 8304 × **1** = 8304
10) Quotient × divisor = **dividend**
11) Quotient ×**divisor** + remainder = dividend

❖ **Word problems:**

1) **945 chocolates are to be distributed among 63 students. Find the number of chocolates each student will get.**

   Solution: Total number of chocolates = 945
   No of students = 63
   The number of chocolates each student gets = 945 ÷ 63
   = 15
   15 chocolates each student will get.

2) **Soham drinks 8 glasses of water every day. How many glasses he drinks in one year?**

   Solution: Total glasses of water Soham he drinks = 8
   No of days in one day = 365
   No of glasses in one year = 365 × 8
   = 2920
   Soham drinks 2920 glasses of water in one year.

3) **Anita bought a battery. She read on it life 2000 hours. She uses it throughout the day and night. How many days will the battery run?**

Solution: life of battery = 2000 hours.

Total hours in the day and night = 24

The battery will run = 2000 ÷ 24

$$\begin{array}{r|l} & 83 \\ \hline 24 & 2000 \\ & 192 \\ \hline & 8 \end{array}$$

The battery will run 83 days and 8 hours.

4) **Garima has ₹500 with her. She wants to buy milk whose cost is ₹50 per litre. How many litters of milk can she buy?**

Solution: Total money Garima has = ₹500

Cost of milk per litre = ₹50

Litters of milk she can buy = 500 ÷ 50

= 10 litters

Garima can buy 10 litters of milk.

❖ **Activity:**

- **Look for the pattern and take this forward.**

(0×9)	+	1	=	1
(1×9)	+	2	=	11
(12×9)	+	3	=	111
(123×9)	+	4	=	_____
(1234×9)	+	5	=	_____
(12345×9)	+	6	=	_____

Ch-14 How big? How heavy?

❖ **Key points to remember:**

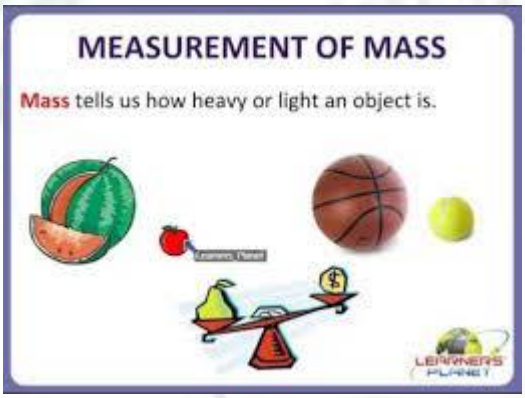
- Introduction
- Fill in the blanks
- Complete the table
- Word Problems
- Activity

❖ **Introduction:**

Define:

Mass: Mass is a measure of the amount of matter in an object.

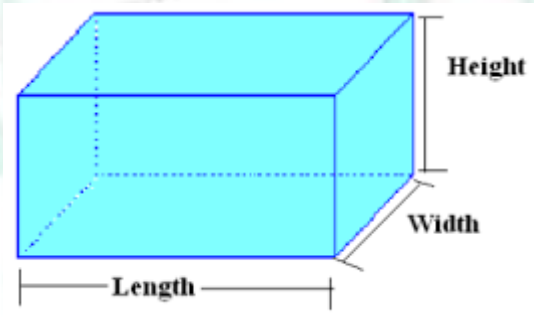
- Mass is measure in kilogram (kg)
- 1 gram = 1000 milligram



Define:

Volume: The Space occupied by the solid it's called Volume.

- Volume of Cube = Side × Side × Side = $(Side)^3$
- Volume of Cuboid = Length × Width × Height
- Volume is measure in terms of cubic unit.



❖ **Fill in the blanks:**

1) The space occupied by a solid is its**Volume.**
2) Two solids of the same shape and same size have **same** volume.
3) Volume is **three** dimensional.
4) Volume is measured in terms of **Cubic** Unit.
5) Volume of liquids is measured in **liters**
6) 1 liter = **1000**cubic cm.

7) 1 cubic meter = **1000**liters
8) **Mass** is a measure of the amount of matter in an object.

❖ **Complete the table given below:**

Sr No	Cuboid			Volume = l×b×h
	L	B	H	
1	6 cm	4.5 cm	3 cm	**= 81 cm^3**
2	12 cm	0.5 cm	0.5 cm	**= 3 cm^3**
3	11.5 cm	1.5 cm	3 cm	**= 51.75 cm^3**
4	8.5 cm	6 cm	1 cm	**= 51 cm^3**

❖ **Word Problems:**

1) A Match box measure 5 cm × 3 cm × 2 cm find its volume.

Solution:

Volume = length × width × height

= 5 cm × 3 cm × 2 cm

= 30 cm^3

2) The dimensions of a pencil box are 10 cm × 5 cm × 2 cm. Find its volume.
Solution:
Volume of pencil box = 10 cm × 5 cm × 2 cm
= 100 cm^3

3) How many soap cakes of dimensions 10 cm × 8 cm × 6 cm can be packed in a box having dimensions 10 cm × 60 cm × 40 cm?

Solution:
Volume of box = 10 cm × 60 cm × 40 cm
= 24000 cm^3
Volume of Soap = 10 cm × 8 cm × 6 cm
= 480 cm^3

No of soaps = $\frac{volume\ of\ box}{volume\ of\ soap}$

$= \frac{24000}{480}$

= 50 Soaps can be packed in box of given dimensions.

4) How many bricks of length 20 cm, breadth 4 cm and height 6 cm will be needed to build a wall of length 10 cm, thickness 6 cm and height 2 m?
(1m = 100cm)

Solution:

Volume of wall = 10 cm × 6 cm × 200cm (2m = 200 cm)

= 12000 cm^3

Volume of brick = 20 cm × 4 cm × 6 cm

= 480 cm^3

No of bricks = $\frac{Volume\ of\ wall}{volume\ of\ bricks}$

$= \frac{12000}{480}$

= 25bricks needed to build a wall of given dimensions.

❖ **Activity:**

- **With your friends, collect many empty matchboxes of the same size. Measure the sides and write here and find it's volume.**