पु•ना International School
Shree Swaminarayan Gurukul, Zundal

Grade – V
Maths
E-BOOK
Year22-23

INDEX

Lesson No.	Title	Pages
1	The Fish Tale	1 to 15
2	Shapes and Angles	16 to 33
3	How many square	34 to 49
4	Parts and whole	50 to 70

Note -Always write new topic from new page. Write with blue ball pen.

Chapter – 1
The Fish tale

Key points to remember

- Introduction
- Write the number names in international system
- Write the place value of the underlined digits according to Indian style.
- Solve the following and estimate the sum to nearest hundred.
- Fill in the blanks.
- Study the given table and answer the questions asked below.
- Word problem
- Activity

Introduction

- Grouping of number is always done from right to left.

Indian Place Value System								
CRORES		LAKHS		THOUSANDS		ONES		
TC	C	TL	L	T-TH	TH	H	T	O
8	5	2	3	1	9	6	1	7

Example - **85,23,19, 617 – Eighty five crores twenty three lakhs nineteen thousands five hundreds seventeen.**

- The international system can have upto three digits in each group, namely, theones group, thousands group, the millions group, etc.

International Place Value Chart								
MILLIONS			THOUSANDS			ONES		
HM	TM	M	HTh	TTh	Th	H	T	O
8	5	2	3	1	9	6	1	7

Example: **852,319,617 = Eight hundreds fifty two millions three hundreds nineteen thousands six hundreds seventeen.**

❖ Write the number name in international system:

a) 52,738,206 – **Fifty two millions seven hundreds thirty eight thousands two hundreds six.**
b) 290,220,540 – **Two hundreds ninety millions two hundreds twenty thousands five hundreds forty.**
c) 660,001,973 – **Six hundreds sixty millions one thousand nine hundreds seventy three.**
d) 833,074,006 – **Eight hundreds thirty three millions seventy four thousands and six.**
e) 345,697**- Three hundreds forty five six hundreds ninety seven.**

❖ Write the place values of the underlined digits on the base of Indian system:

a) 8,52,61,962 = **5 ten lakhs.**
b) 4,92,06,598 = **2 lakhs.**
c) 17,04,92,580 = **7 crores.**
d) 7,41,82,098 = **8 ten thousands.**
e) 36,89,75,617 = **3 ten crores**.

❖ Solve the following and estimate the sum to nearest hundred:

a) 68945 + 20108 = **89053** Estimated sum= **89100**.
b) 78294 + 21374 = **99668** Estimated sum = **99700.**
c) 24427 + 22061 = **46488** Estimated sum = **46500.**
d) (93216 + 7814) and 36245 = **137275** Estimated sum = **137300.**
e) 142254 and 80618 = **222872** Estimated sum = **222900**.

❖ Fill in the blanks.

i. **One** lakh = 1 hundred thousand.
ii. 100 lakhs = **1 crore**.
iii. **10 lakhs** is the same as ten thousand hundred.
iv. **1000** should be added to 99000 to get one lakh.
v. **Five** zeroes are there in one lakh.
vi. Half of two lakh = **one** lakh.

❖ **Study the given table and answer the questions asked below.**

Boat type	Number of fish caught in one trip (in kg)	Distance covered in one trip (in km)
Log boat	20	4 km per hour
Long tail boat	600	12 km per hour
Motor boat	800	20 km per hour
Machine boat	6000	22 km per hour

1) About how much fish in all will each type of boat bring in seven trips?

Solution – **Quantity of fish a log boat brings in 1 trip = 20 kg**

∴ Quantity of fish a log boat brings in 7 trips = 20 × 7 = 140 kgQuantity of fish a long tail boat brings in 1 trip = 600 kg

∴ Quantity of fish a long tail boat brings in 7 trips = 600 × 7 = 4200 kg

Quantity of fish a motor boat brings in 1 trip = 800 kg

∴ Quantity of fish a motor boat brings in 7 trips = 800 × 7 = 5600 kgQuantity of fish a machine boat brings in 1 trip = 6000kg

∴ Quantity of fish a machine boat brings in 7 trips = 6000 × 7 = 42000 kg.

2) About how far can a motor boat go in six hours?

Solution - Distance covered by motor boat in 1 hour = 20 km

∴ Distance covered by motor boat in 6 hours = 20 × 6 = 120 km.

3) If a long tail boat has to travel 60 km how long will it take?

Solution - Distance covered by long tail boat in 1 hour = 12 km

To cover 60 km = (?)

hours. $\frac{60}{12}$ **= 5 hours.**

Thus long tail boat takes 5 hours to cover 60 km.

❖ **There are different types of fish in a fish shop. The rates of all fish are given below.**

Fish type	Rate
Eel	Rs 50/ kg
Red Snapper	Rs 80/ kg
Parrot Fish	Rs 50/ kg
Dry Fish	Rs 25/kg

i. Maya has Rs 200. She spends one – fourth of the money on buying Eel and another three fourth on buying dry fish.

a) How many kilograms of Eel did she buy?

Solution –

In Rs 200 One – fourth money is used for buying Eel fish.

$$= 200 \times \frac{1}{4} = 50$$

= Rs 50

With Rs 50 one kg of eel fish.

b) How many kilograms of Dry fish did she buy?

Solution –

In Rs 200 three – fourth money is used for buying Dry fish.

$$= 200 \times \frac{3}{4} = 150$$

In Rs 150, 6 kg of dry fish.

ii. When a fresh fish is dried, it becomes 1/3 of its weight. If Rahul spent Rs 6000 to buy Eel fish and then dry it, then how many kilograms of dried Eel fish will be left with him?

Solution –

For Rs 6000 Rahul can buy Eel fish = $\frac{6000}{50}$

= 120 Kg

After dried the Eel fish = $120 \times \frac{1}{3}$

= 40Kg.

Rahul got 40 kg of Eel fish after getting it dried.

❖ Word problems.

1) Rajesh took a loan of Rs 9850 from the bank. He paid back Rs 12240 to the bank in one year giving equal amount in each month. How much interest did he return? How much did he pay back every month?

Solution: Rajesh took a loan from bank = Rs 9850

No of amount he pay back in 1 year =12240 - 9850

=Rs 2390

He pay back every month = 12240 ÷ 12 = Rs1020

2) In a school, there are ten classes. Each class has four sections and each section has equal number of students. If altogether there are 1600 students in the school, then how many students are there in each section of a class?

Solution: No. of classes = 10

No of sections in each class = 4

No of students in school = 1600

Total no. of sections in each class = 10×4

= 40

No. of students in each section = 1600 ÷ 40

= 40 students.

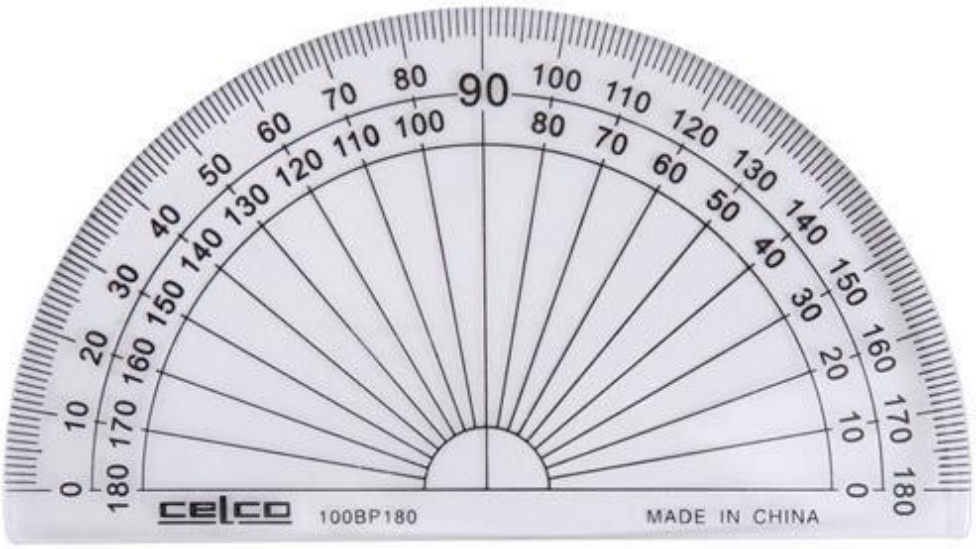
Activity

- **Use different shapes to draw a fish.**

Chapter – 2
Shapes and Angles

Key points to remember

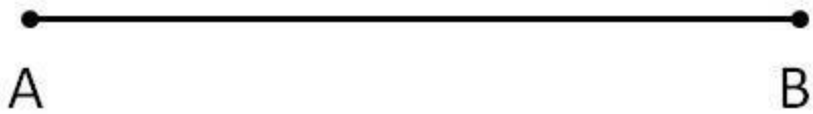
- **Introduction**
- **Fill in the blanks.**
- **Identify the angles.**
- **Draw angle using protractor**
- **Activity**



❖ Introduction:

- A **Point** has no shape or size.

- A **line segment** AB, has two end points, A and B. Its length can be measured.

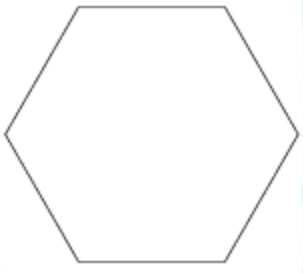


- A **ray** has only one end point.

- A **line** may be extended in both directions.

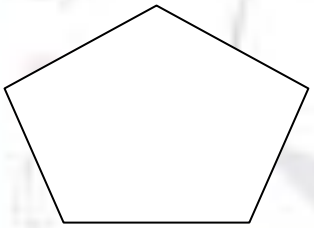
- **Different Types of Shapes**.

i. Hexagon

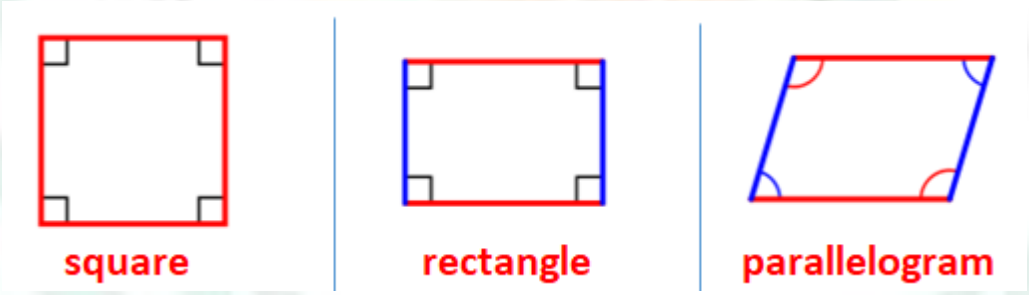


ii. Octagon

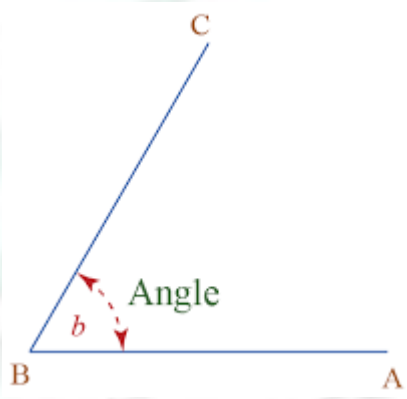
iii. Pentagon



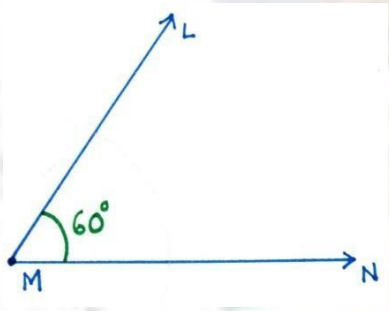
iv. Quadrilaterals – A figure which have four sides closed edges are called quadrilateral. For eg.



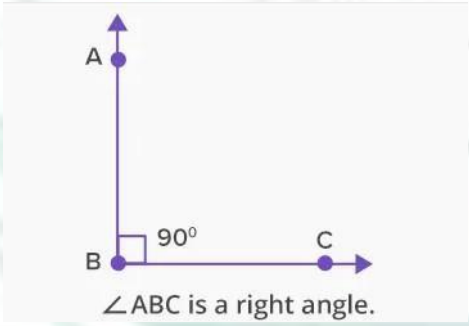
- **Define Angle** – An angle is a figure formed by two rays meeting at a common end point.



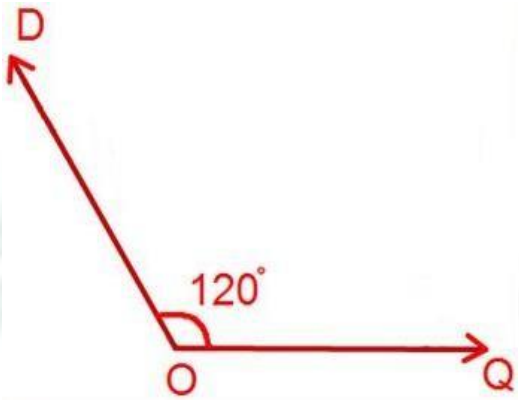
- **Types of Angles** - There are six types of angle.
    1. Acute angle - An angle whose measure is less than 90˚ is known as acute angle. For example: 60˚



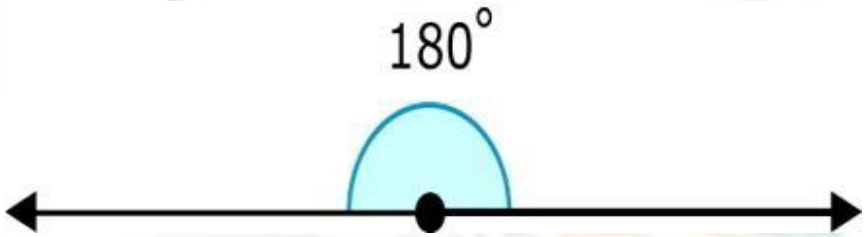
    2. Right angle - An angle whose measure is exactly 90˚ is known as right angle.



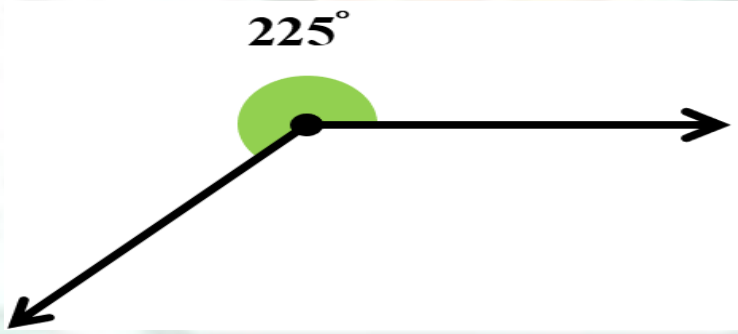
    3. Obtuse angle – An angle whose measure is more than 90˚and less than 180˚ is known as obtuse angle. For example: 120˚



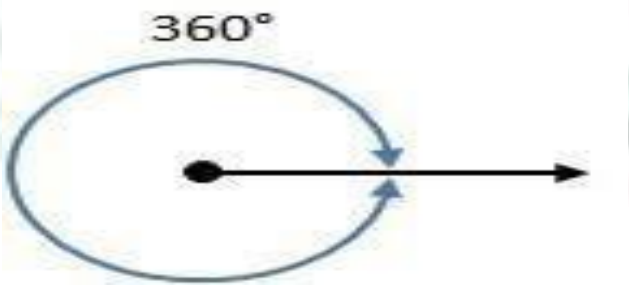
4. Straight angle – An angle whose measure is exactly 180˚ is known as straight angle.



5. Reflex angle – An angle whose measure is more than 180˚and less than 360˚ is known as reflex angle. For eg - 225˚



6. Complete angle – An angle whose measure is exactly 360˚ is known as complete angle.



❖ Fill in the blanks.

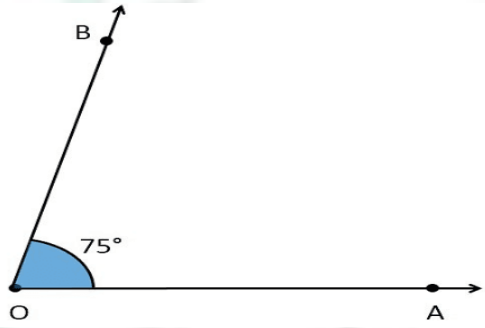
1) The unit for measuring angle is **degree**.
2) A right angle measures **90˚.**
3) A complete angle measures **360˚.**
4) An obtuse angle measures more than **90˚** and less than **180˚.**
5) An angle measuring **180˚** is called a straight angle.
6) An angle measuring more than 180˚ but less than **360˚** is called reflex angle.
7) We use **protractor** to measure angles.

❖ Identify the angles as right angle, acute angle, obtuse angle or straight angle.

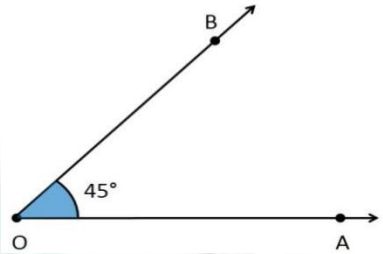
a) 45˚ = Acute Angle.
b) 165˚ = Obtuse Angle.
c) 180˚ = Straight Angle.
d) 75˚ = Acute Angle.
e) 90˚ = Right Angle.
f) 240˚ = Reflex Angle.
g) 360˚ = Complete Angle.

❖ **Draw angle using protractor. (**https://www.youtube.com/watch?v=Gzd_lsNwTOI**)**

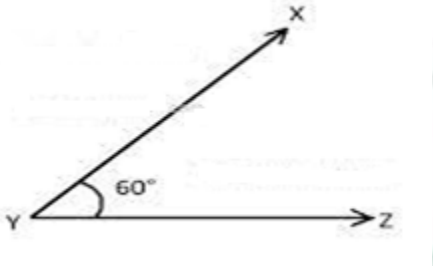
a) 75°



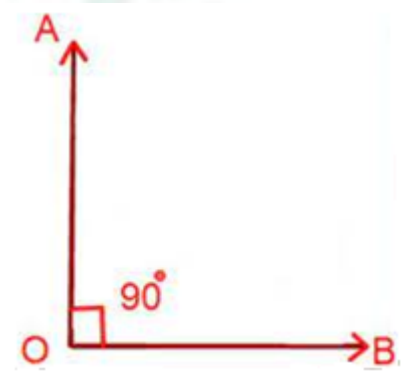
b) 45°



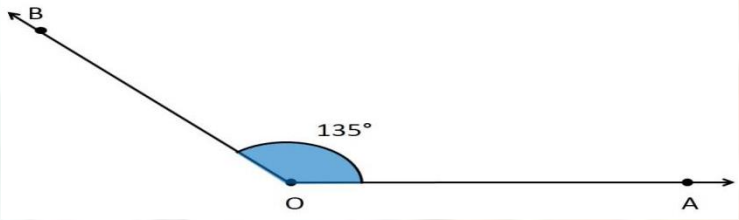
c) 60°



d) 90°

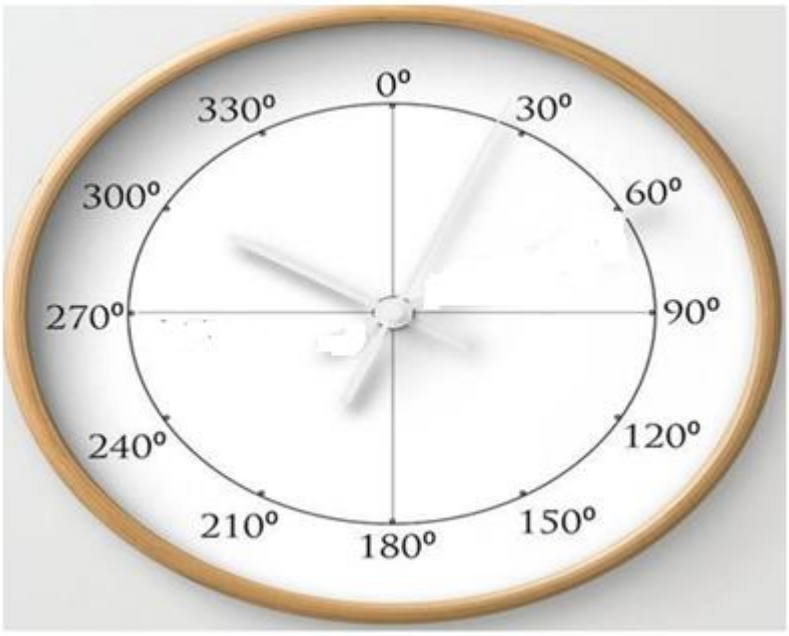


e) 135°



Activity

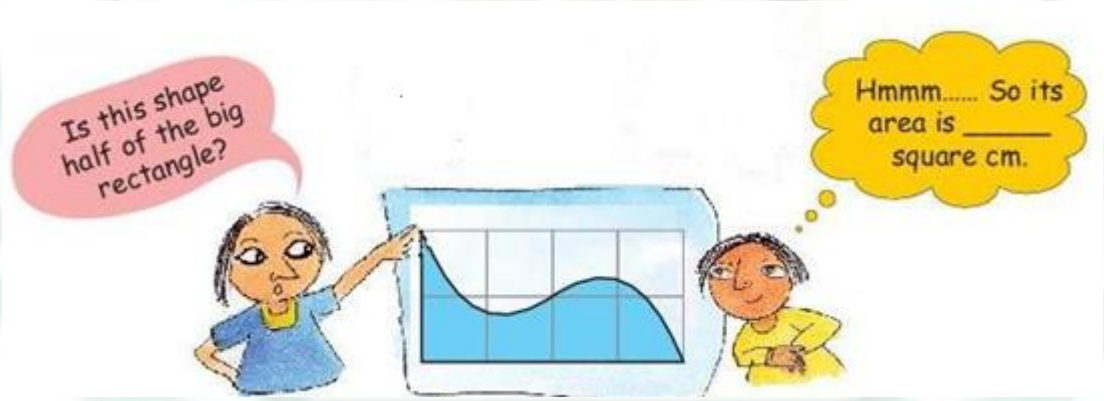
Make a degree clock. (Page no. 31)



Chapter 3
How Many Squares?

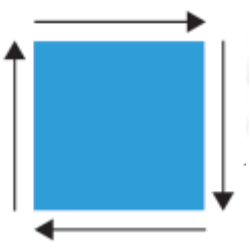
Key point to remember

- **Introduction**
- **Find the perimeter**
  - i. **Rectangle**
  - ii. **Square**
- **Find the area**
  - i. **Rectangle**
  - ii. **Square**
- **Word problem sums.**
- **Activity**



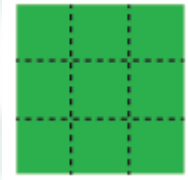
❖ **Introduction:**

- **Perimeter –** The distance around the edge of a shape.



- Perimeter of rectangle = 2 (length + breadth)
  = 2 (l + b)
- Perimeter of square = 4 × length
  OR
  4 × Sides

- **Area – The region enclosed between boundaries of a figure.**



- Area of rectangle = Length × Breadth
- Area of square = length × Length
  OR
  Side × Side

❖ Find the perimeter.

1. Length = 14 cm , breadth = 12 cm

   Solve: perimeter of rectangle = 2(l + b)

   = 2(14 + 12)
   = 2(26)
   = 52 cm

2. Length = 15 cm , Breadth = 13 cm
   Solve: perimeter of rectangle = 2(l + b)

   = 2(15 + 13)
   = 2(28)
   = 56 cm

3. Length = 13cm

   Solve: perimeter of square = 4 × sides
   = 4 × 13 cm
   = 52 cm.

4. Sides = 25 cm
   Solve: perimeter of square = 4 × sides
   = 4 × 25cm
   = 100 cm.

5. Length = 30 cm, Breadth = 20 cm. (HW)

   Solve -

6. Sides = 18 cm (Hw)

   Solve -

❖ Find the area:

a) Length =5 cm, breadth=3 cm

Solve: area of rectangle = l × b

= 5 cm × 3 cm

= 15 cm^2

b) L = 10 cm, B = 8 cm.

Solve: area of rectangle = l × b

= 10 cm × 8 cm

= 80 cm^2

c) Sides = 14 cm.

Solve: area of square = l × l

= 14 cm × 14 cm

= 196 cm^2

d) Length= 16cm.

Solve: area of square = l × l

= 16 cm × 16 cm

= 256 cm^2

e) Length = 20 cm, Breadth = 15 cm. **(HW)**

Solve:

f) Length = 21 cm. (**Hw)**

Solve:

❖ Word problem

1) A classroom black board is 75 m long and 12 m wide. Find the perimeter of black board?

Solve: length =75m, breadth =12 m

Perimeter of a board = 2 (l + b)

= 2 (75 m + 12 m)

= 2(87 m)

= 174 m.

2) A carpet is 75 cm long and 38 cm wide. Find its area

Solve: length = 75 cm, breadth = 38 cm

Area of carpet = l × b

= 75 cm × 38 cm

= 2850 cm^2.

3) The side of a square hall is 40 m. Find its area and also the cost of tiling it at rate of Rs 6 per square metre.

Solve: Side of the square hall = 40 m

Area of square = Side × Side

= 40 m × 40 m

= 1600 m^2

Cost of tiling the hall = 1600 m^2 × Rs 6

= Rs 9600

Thus, the cost of tilling is Rs 9600.

4) If breadth of a rectangular plot is 10 m and its length is three times its breadth. Find the perimeter of rectangular plot.

Solve: Breadth of rectangular plot = 10m

Length of the plot = 3×10 m

= 30 m

perimeter of the plot = 2 (length + breadth)

= 2 (30 m + 10 m)

= 2 (40 m)

= 80 m.

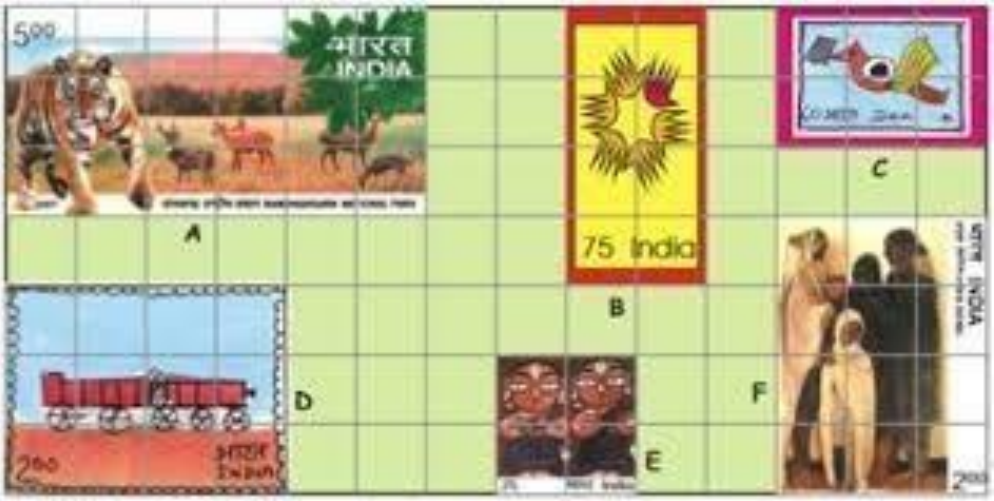
5) Find the perimeter of a square field. If the length of the square field is 49 m.

Solve: perimeter of square = 4 × L
= 4 × 49 m
= 19 m.

Activity

❖ **Paste any 4 stamp on square grid of 1 cm.**

(for example text book page no: 35)

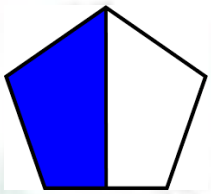


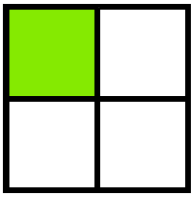
Chapter – 4

Parts and Wholes

Keys points to remember

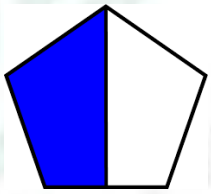
- Introduction
- Convert mixed fraction into improper fraction
- LCM
- Check whether the given fraction are equivalent or not
- Addition of fraction
- Subtraction of fraction
- Activity

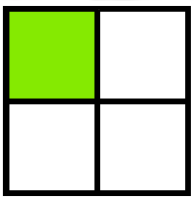




❖ **Introduction:**

Fraction - A fraction is a part of a whole. For ex - $\frac{1}{2}, \frac{1}{4}$.





There are different types of fraction

1) Like fraction – Fractions having the same denominators are called like fractions.
   For ex - $\frac{1}{5}$ and $\frac{2}{5}$
2) Unlike fraction – Fractions having different denominators are called unlike fractions.
   For ex - $\frac{1}{9}$ and $\frac{3}{4}$
3) Proper fraction – A fraction whose numerator is less than the denominator is called a proper fraction. For ex - $\frac{4}{6}$
4) Improper Fraction – A fraction whose numerator is either equal to or greater than the denominator, is called an improper fraction. For ex - $\frac{13}{6}$
5) Mixed fraction – A combination of a whole number and a proper fraction is called mixed fraction.
   For ex - $1\frac{4}{6}$

❖ **Convert mixed fraction into improper fraction:-**

a) $1\frac{4}{6} = \frac{\mathbf{1 \times 6 + 4}}{\mathbf{6}}$

b) $1\frac{2}{3} = \frac{\mathbf{1 \times 3 + 2}}{\mathbf{3}}$

c) $3\frac{1}{5} = \frac{\mathbf{3 \times 5 + 1}}{\mathbf{5}}$

d) $2\frac{5}{7} = \frac{2 \times 7 + 5}{7}$

❖ **Find the lowest common factor (LCM)**

a) 5 and 7

Solve –

Multiples of 5

5, 10, 15, 20, 25, 30, 35, 40, 45

Multiples of 7

7, 14, 21, 28, 35, 42, 49

OR

5	5, 7
7	1, 7
	1, 1

Lcm of 5 and 7 is 35.

b) 8 and 2

Solve-

Multiples of 8

8, 16, 24

Multiples of 2

2, 4, 6, 8, 10

LCM = 8.

c) 5 and 8

Solve-
Multiples of 5
5, 10, 15, 20, 25, 30, 35, 40
Multiples of 8
8, 16, 24, 32, 40
LCM = 40.

d) 4 and 6

Solve-
Multiples of 4
4, 8, 12
Multiples of 6
6, 12, 18
LCM = 12.

e) 3 and 4

Solve-
Multiples of 3
3, 6, 9, 12
Multiples of 4
4, 8, 12
LCM = 12.

f) 5 and 6

Solve-
Multiples of 5
5, 10, 15, 20, 25, 30
Multiples of 6
6, 12, 18, 24, 30
Lcm = 30.

❖ **Check whether the given fraction is equivalent or not.**

a) $\frac{7}{14}$ and $\frac{5}{10}$

Solve –

7 × 10 = 5 × 14 (cross multiplication)

70 = 70

Yes, it is an equivalent fraction.

b) $\frac{5}{55}$ and $\frac{11}{121}$

Solve –

5 × 121 = 11 × 55 (cross multiplication)

605 = 605

Yes, it is an equivalent fraction.

c) $\frac{8}{13}$ and $\frac{6}{11}$

Solve –

8 × 11 = 6 × 13 (cross multiplication)

88 = 78

No, it is not an equivalent fraction.

d) $\frac{10}{14}$ and $\frac{25}{35}$

Solve –

10 × 35 = 25 × 14 (cross multiplication)

350 = 350

Yes, it is an equivalent fraction.

e) $\frac{5}{9}$ and $\frac{13}{9}$

Solve –

5 × 9 = 13 × 9 (cross multiplication)

45 = 117

No, it is not an equivalent fraction.

❖ **Addition of fraction**

a) $\frac{4}{5} + \frac{2}{5}$

$= \frac{4+2}{5}$

$= \frac{6}{5}$

b) $\frac{4}{5} + \frac{3}{7}$

LCM = 35.

$= \frac{4\times7}{5\times7} + \frac{3\times5}{7\times5}$

$= \frac{28}{35} + \frac{15}{35}$

$= \frac{28+15}{35}$

$= \frac{43}{35}$

c) $\frac{5}{8} + \frac{1}{2}$

LCM = 8

$= \frac{5\times1}{8\times1} + \frac{1\times4}{2\times4}$

$= \frac{5}{8} + \frac{4}{8}$

$= \frac{5+4}{8}$

$= \frac{9}{8}$

d) $\frac{3}{5} + \frac{1}{8}$

LCM = 40

$= \frac{3\times8}{5\times8} + \frac{1\times5}{8\times5}$

$= \frac{24}{40} + \frac{5}{40}$

$= \frac{24+5}{40}$

$= \frac{29}{40}$

e) $\frac{9}{6} + \frac{1}{3}$

LCM = 6

$= \frac{9\times1}{6\times1} + \frac{1\times2}{3\times2}$

$= \frac{9}{6} + \frac{2}{6}$

$= \frac{9+2}{6}$

$= \frac{11}{6}$

❖ **Subtraction of fraction**

a) $\frac{4}{6} - \frac{3}{6}$

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

$= \frac{1}{6}$

b) $\frac{8}{3} - \frac{5}{7}$

LCM = 21

$= \frac{8\times7}{3\times7} - \frac{5\times3}{7\times3}$

$= \frac{56}{21} - \frac{15}{21}$

$= \frac{56-15}{21}$

$= \frac{41}{21}$

c) $\frac{9}{2} - 1$

$\frac{9}{2} - \frac{1}{1}$

LCM = 2

$= \frac{9\times1}{2\times1} - \frac{1\times2}{1\times2}$

$= \frac{9}{2} - \frac{2}{2}$

$= \frac{9-2}{2}$

$= \frac{7}{2}$

d) $1\frac{6}{7} - \frac{9}{6}$

$\frac{13}{7} - \frac{9}{6}$

LCM = 42

$= \frac{13\times6}{7\times6} - \frac{9\times7}{6\times7}$

$= \frac{78}{42} - \frac{63}{42}$

$= \frac{78-63}{42}$

$= \frac{15}{42}$

e) $\frac{15}{4} - \frac{12}{5}$

LCM = 20

$= \frac{15\times5}{4\times5} - \frac{12\times4}{5\times4}$

$= \frac{75}{20} - \frac{48}{20}$

$= \frac{75-48}{20}$

$= \frac{27}{20}$

Activity
Make a magic top