

Teacher's Handbook of Learning Outcome

VI- Mathematics

Samagra Shiksha, Education Department, UT Chandigarh

FORWARD

Samagra Shiksha, Education Department, UT Chandigarh has prepared Teachers' handbook based on learning Outcomes at Elementary level in Hindi, English, Mathematics, EVS, Science & Social Science.

This Handbook will enable the teachers to ascertain learning skills more accurately in these subjects. While making the document it has been ensured that the learning need of the children with different learning level-pre Basic, Basic, Proficient & Advanced, are being catered & the academic progress of the students can be monitored by Faculty Incharges, Cluster Resource Coordinators & further by Head of the school.

The material in the document can be used as an assessment tool for Elementary classes & to keep a track of achievement of the learning level.

Teachers' handbook will not only help teachers to focus on teaching learning process but also facilitate State functionaries in their role towards ensuring quality education in schools

To make it user-friendly, simple language has been used as far as possible across the document. To help the teacher understand and achieve the learning outcomes as per the curricular expectations.

This document includes list of learning outcomes (with labeling) and progress sheet for monitoring/ tracking of the progress of the students.

Question prepared in this document are only suggestive for teachers. The teacher can modify these tools as per the need.

ABOUT THE DOCUMENT

This question bank might prove an effective tool in the hands of the educators & evaluators. It aims at assisting teachers to assess and improve the performance of the learners.

Some features of the documents are as follows:

- * Proper care has been taken to cover all the learning outcomes.
- * The questions have been framed focusing upon the learner's mathematical thinking, reasoning and hence ability to solve daily life problems.
- * The teacher can make relevant changes in question bank according to the needs of different levels of learners.
- * It provides enrichment material & remedial material for different level of learners.

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VI – MATHEMATICS

MONTH WISE BIFURCATION OF CHAPTERS AND LEARNING OUTCOMES

April	May	June	July	August	September	October	November	December	January	February	March
Chapter	Chapter	SUMMER BREAK	Chapter	Chapter	EXAMINATION	Chapter	Chapter	Chapter	Chapter	REVISION	EXAMINATION
1	3		5	7		8	10	12	13		
2	4		6			9	11		14		
L.O	L.O		L.O	L.O		L.O	L.O	L.O	L.O		
1	3		11,13	5 &		6	17	8	12		
2	10		14, 15	REVISION		18	7	9			
			16								
			4								

Remarks : A little bit variation in achieving Learning Outcomes (Month wise) can be made according to convenience of the concerned teacher.

LEARNING OUTCOMES

1. solves problems involving large numbers by applying appropriate operations (addition, subtraction, multiplication and division).
2. recognises and appreciates (through patterns) the broad classification of numbers as even, odd, prime, co-prime, etc.
3. applies HCF or LCM in a particular situation.
4. solves problem involving addition and subtraction of integers.
5. uses fractions and decimals in different situations which involve money, length, temperature etc. For example, $7\frac{1}{2}$ metres of cloth, distance between two places is 112.5 km etc.
6. solves problems on daily life situations involving addition and subtraction of fractions / decimals.
7. uses variable with different operations to generalise a given situation. For example, Perimeter of a rectangle with sides x units and 3 units is $2(x+3)$ units.
8. compares quantities using ratios in different situations. For example the ratio of girls to boys in a particular class in 3:2.
9. uses unitary method in solving various word problems. For example, if the cost of a dozen notebooks is given she finds the cost of 7 notebooks by first finding the cost of 1 notebook.
10. describes geometrical ideas like line, line segment, open and closed figures, angle, triangle, quadrilateral, circle, etc., with the help of examples in surroundings.
11. demonstrates an understanding of angles by
 - identifying examples of angles in the surroundings.
 - classifying angles according to their measure.
 - estimating the measure of angles using 45° , 90° , and 180° as reference angles.

- 12.** demonstrates an understanding of line symmetry by
 - identifying symmetrical 2-Dimensional (2-D) shapes which are symmetrical along one or more lines
 - creating symmetrical 2-D shapes.
- 13.** classifies triangles into different groups/types on the basis of their angles and sides.
For example- scalene, isosceles or equilateral on the basis of sides, etc.
- 14.** classifies quadrilaterals into different groups/types on the basis of their sides/angles.
- 15.** identifies various (3-D) objects like sphere, cube, cuboid, cylinder, cone from the surroundings
- 16.** describes and provides examples of edges, vertices and faces of 3-D objects.
- 17.** finds out the perimeter and area of rectangular objects in the surroundings like floor of the class room, surfaces of a chalk box etc.
- 18.** arranges given/collected information such as expenditure on different items in a family in the last six months, in the form of table, pictograph and bar graph and interprets them.

CHAPTER - 1

(KNOWING OUR NUMBERS)



TOM &



JERRY

L.O. - 1

I hate math. Such big numbers.
They make my world go round
and round.



There are simple steps to solve
these large numbers.



Marvel please tell me. Please..
Please ... Please.



All right. Let's start...



MONTH : APRIL

CHAPTER -1 : KNOWING OUR NUMBERS

L.O (I) : solves problems involving large numbers by applying appropriate operations (addition, subtraction, multiplication & division)

1. Arrange the following numbers in columns and add them :

(a) 18,279 & 6,48,591

(b) 8,50,3692 & 47,18,692

C	T.L	L	T.TH.	TH.	H	T	O

2. What should be added to 56471 to get 98450?

3. A box contains 2071 iron tablets. How many tablets are there in 343 such boxes.

4. In one state the number of tables sold in the year 2016-17 was 7,43,000. In the year 2015-16, the number of tables sold was 8,00,100. In which year were more tables sold and how many more.

Verify the answer by addition.

5. Find the difference between largest three digit number and the largest three digit number with distinct digit.

6. Complete the crossword puzzle

26	+		=	51		+	72	=	
				+		+			
	+	32	=		66	+	47	=	
				=		=			
		23	+	98	=				

MONTH : **APRIL**

CHAPTER -2 : **WHOLE NUMBERS**

L.O (2) : **Recognises and appreciates (through patterns) the broad classification of numbers as even, odd, prime co-prime etc.**

1. Identify and colour the number as given

(i) Even number by Red colour

(ii) Odd number by Blue color

(iii) Prime number by Green colour.

1	11	21	31	41
2	12	22	32	42
3	13	23	33	43
4	14	24	34	44
5	15	25	35	45
6	16	26	36	46
7	17	27	37	47
8	18	28	38	48
9	19	29	39	49
10	20	30	40	50

2. Identify the composite number from 1-20 and color them green.

1	6	11	16
2	7	12	17
3	8	13	18
4	9	14	19
5	10	15	20

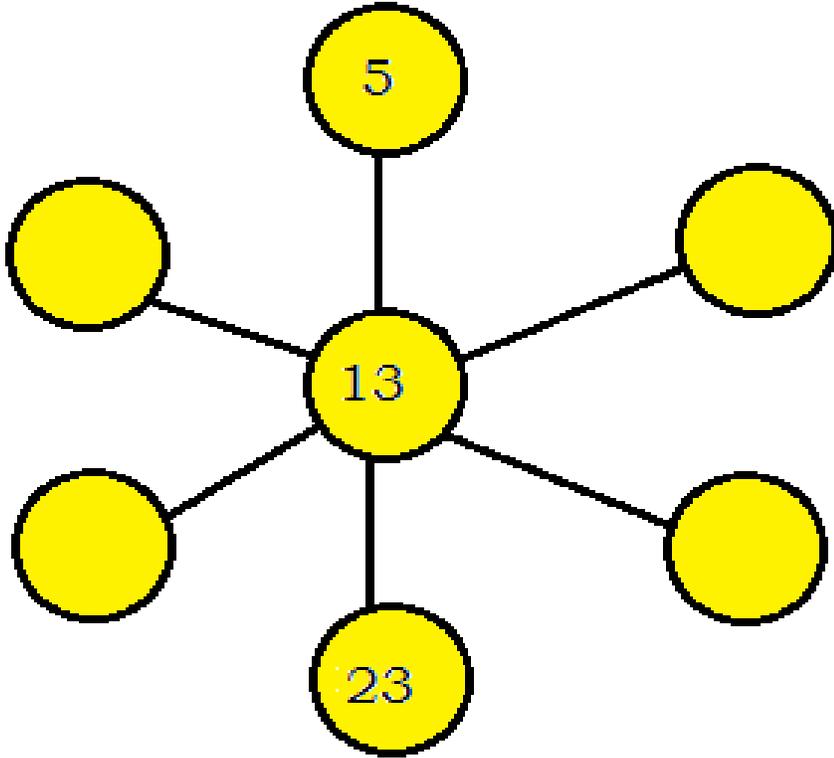
3. Fill in the blanks :

- (i) The smallest prime number is _____
- (ii) The smallest composite number is _____
- (iii) _____ is the neither prime nor composite number.
- (iv) _____ is the smallest whole number.
- (v) _____ is the smallest two digit number and _____ is the largest two digit number.
- (vi) _____ is the only even prime number.

4. Identify the co-prime pairs out of the following :

(6,10) (7,8) (12,14) (21,23)

5. Fill up the 7 circles using 6 different prime numbers and only 1 composite number such that each diagonal add upto 41.

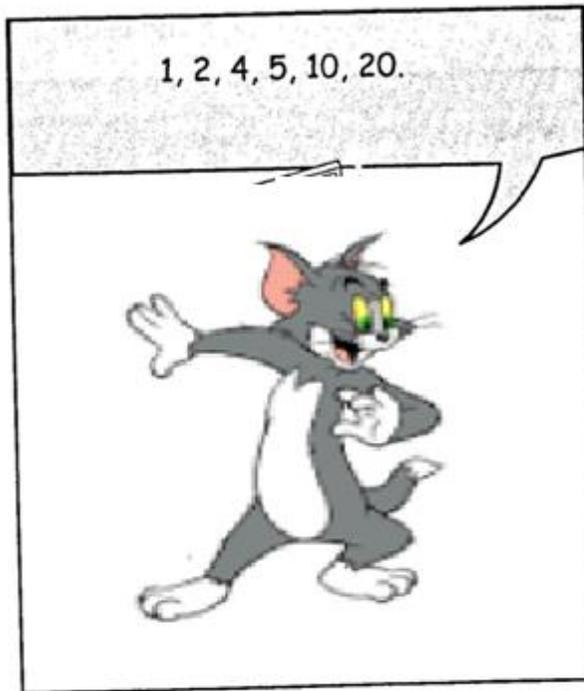




CHAPTER -3

(Playing with Numbers)

L.O. - 3



MONTH : **MAY**
CHAPTER -3 : **PLAYING WITH NUMBERS**
L.O (3) : **Applies HCF or LCM in a particular situation.**

1. What is the HCF of two consecutive?
 - a) numbers
 - b) even numbers
 - c) odd numbers
 - d) two co prime numbers

2. Find the HCF of 18, 54, 81

3. Find the LCM of 20, 25 & 30

4. Find the least number which when divided by 6, 15 & 18 leaves remainder 5 in each case.

5. Three boys step off together from the same spot. Their steps measures 63cm, 70 cm & 77 cm respectively. What is the minimum distance each should cover so that all can cover the distance in complete steps?

6. The length, breadth & height of a room are 70m, 105m & 175 m respectively. Find the largest tape which can measure the three dimensions of the room exactly.

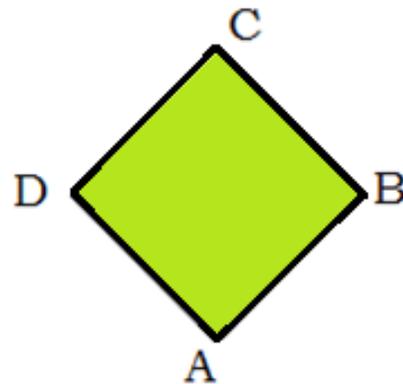
MONTH : **MAY**

CHAPTER -4 : **BASIC GEOMETRICAL IDEAS**

L.O (10) : **Describes geometrical ideas like line, line segment, open & closed figures, angle, triangle, quadrilateral, circle, etc with the help of examples in surroundings.**

1. Answer the following from the shape of garden as shown:

- a) Is it a close curve or open curve?
- b) ABCD is a polygon. (True/ False)
- c) Write the name of all angles.
- d) Write the name of all line segments.

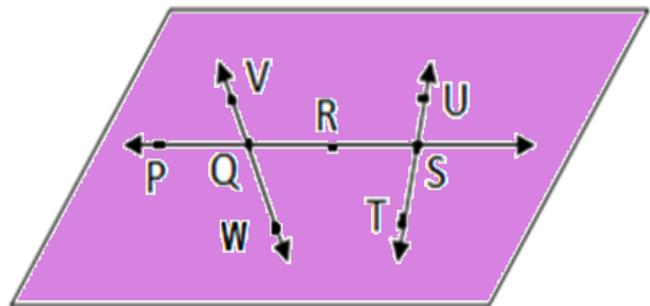


2. Fill in the blanks:

- a) A _____ of a circle is a line segment joining any two points on the circle.
- b) A _____ is a chord passing through the centre of the circle.
- c) The diameter of a circle divides it into two _____.

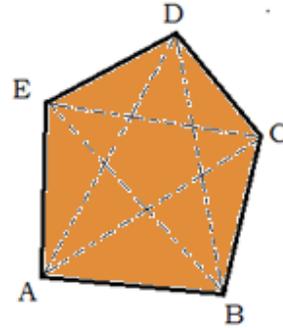
3) Use the figure to name :

- a) Line containing point S
- b) Line containing point Q
- c) Line on which point V lie.
- d) Two pairs of intersecting line & also name the points of intersection.



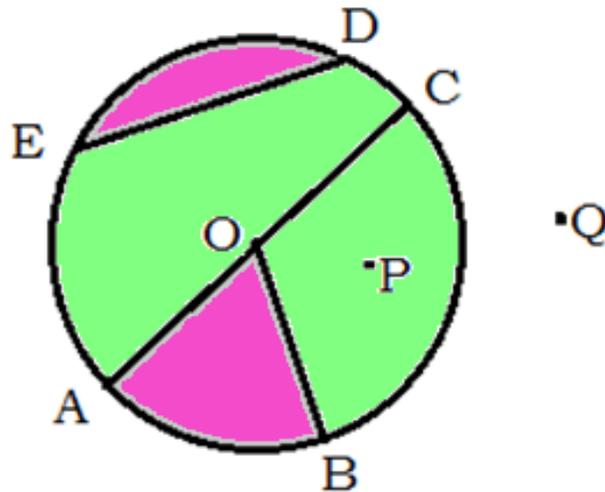
4. School play ground is in shape of polygon ABCDE (see fig.). Can you give the name of the polygon? Also name –

- a) All the vertices
- b) All the diagonals
- c) All the line segments forming the sides of polygon.



5. Tom and Jerry are running after each other on circular path. They stopped at points A,B,C,D,E. There are trees at points O, P and Q (as shown in figure). Identify the following .

- | | |
|-------------------------------|--------------|
| a) Centre of circle | e) a sector |
| b) A diameter | f) a chord |
| c) Two points in the interior | g) a segment |
| d) A point in the exterior | h) a radius. |

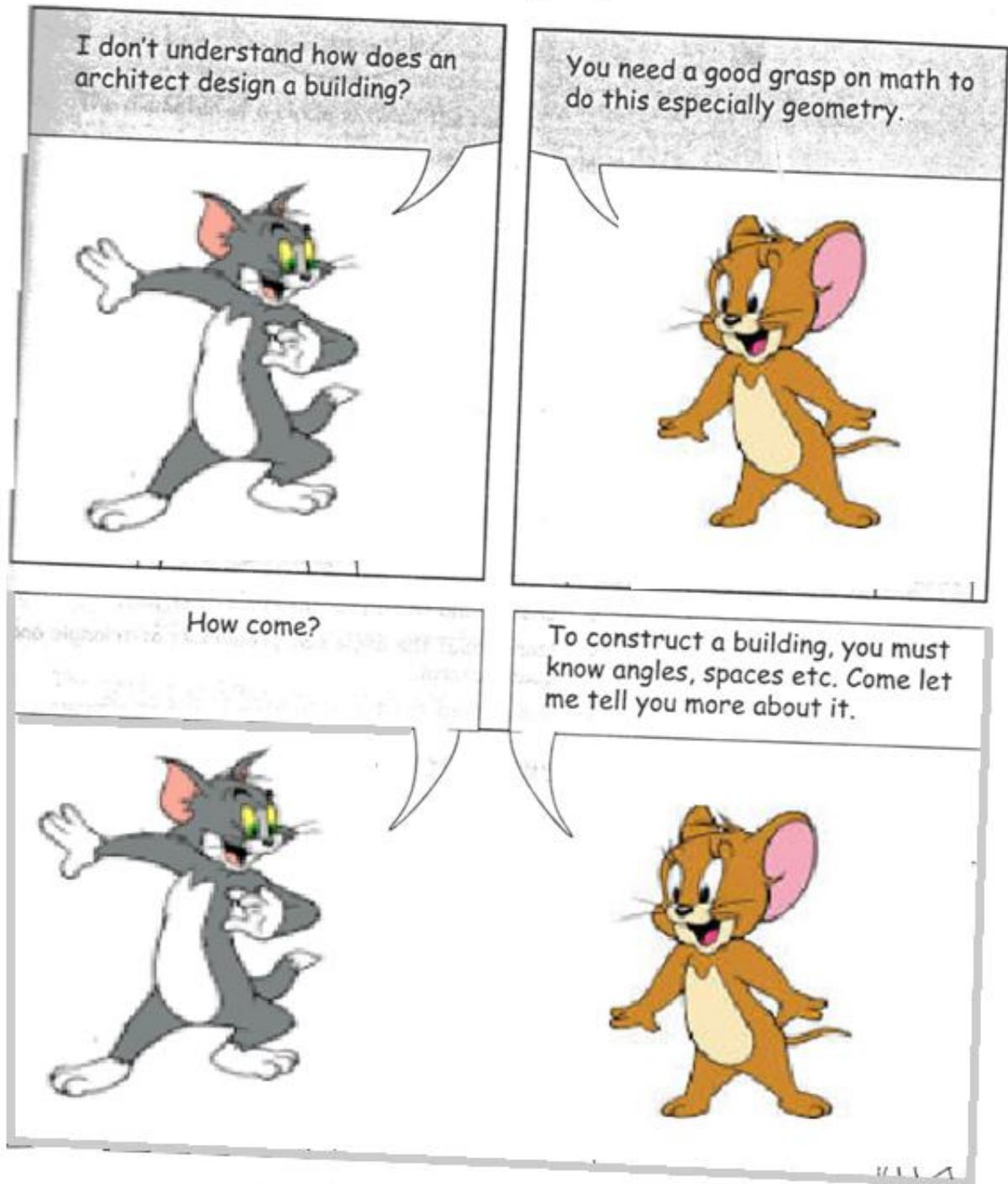




CHAPTER - 5

Understanding Elementary Shapes

L.O. (11)

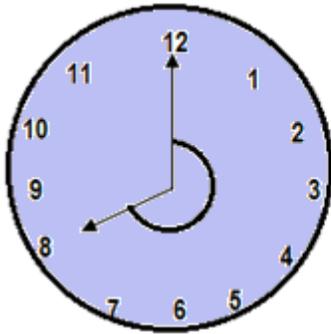


MONTH : JULY

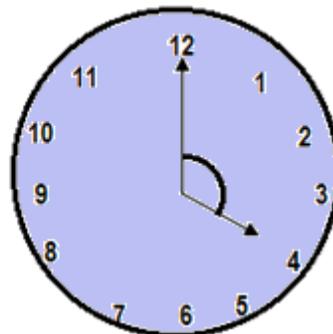
CHAPTER -5 : UNDERSTANDING ELEMENTARY SHAPES

L.O (11) : Demonstrates an understanding of angle by
- identifying example of angle in the surroundings.
-classifying angle according to their measure
-estimating the measure of angle using 45° , 90° & 180° as reference angles.

1.



Measure of angle =
Type of angle =



Measure of angle =
Type of angle =

2. Name the angle between two adjacent sides of your blackboard.

3. What is the measure of straight angle?

4. Write down the measure of

- a) some acute angles
- b) some obtuse angles

5. Reena and her friends decided to meet at park at 6pm (in evening). Draw a clock shoeing this time. Write the angle made by minutes hand and hour hand. What type of angle it is ?

6. Fill ups

- a) An angle whose measure is greater than right angle and less than straight angle is _____.
- b) A _____ angle is large than a straight angle.
- c) One full turn of a hand in clock is _____.

7. If a bicycle wheel has 36 spokes, then the angle between a pair of adjacent spoke is :

- a) 10°
- b) 15°
- c) 12°
- d) 20°

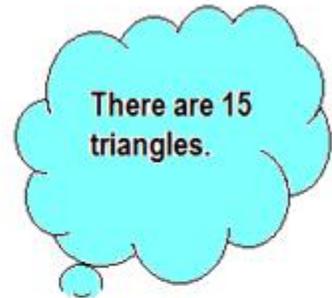
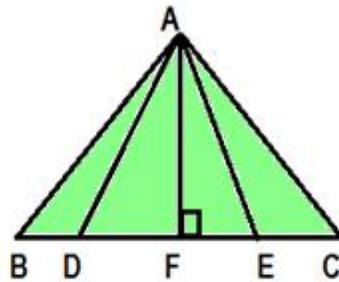


MONTH : JULY

CHAPTER -5 : UNDERSTANDING ELEMENTARY SHAPES

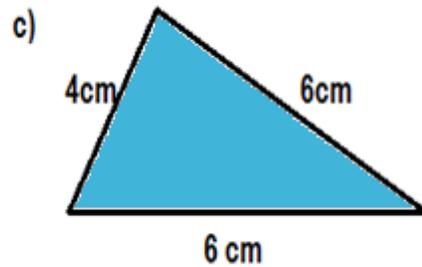
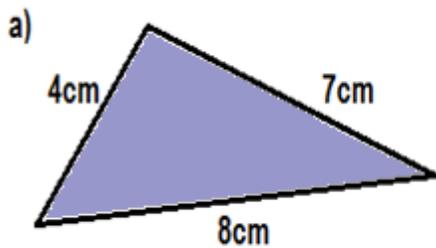
L.O (13) : classifies triangles into different groups/ types on the basis of their angles and sides for examples scalene, isosceles or equilateral on the basis of sides etc.

1.



Can you tell who is correct?

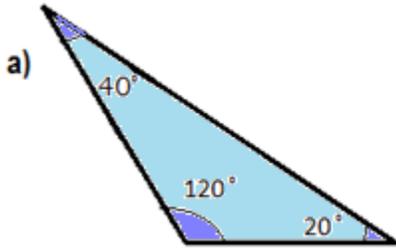
2. Do you know types of triangles? Classify the following :-



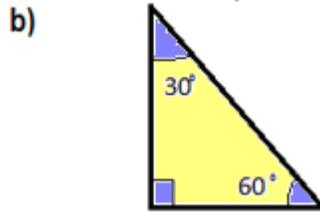
Type of triangle _____

Type of triangle _____ Type of triangle _____

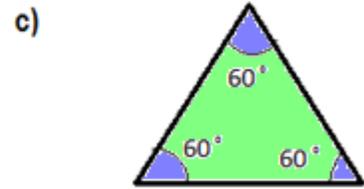
3. Name the type of triangle on the basis of their angles :



Type of triangle _____



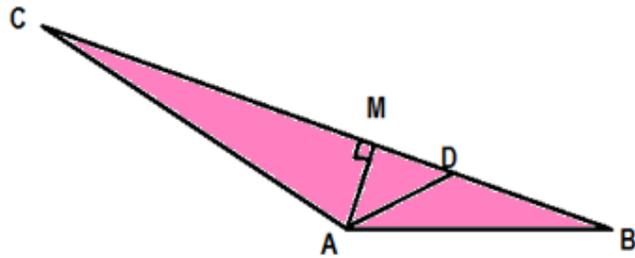
Type of triangle _____



Type of triangle _____

4. Find

- a) obtuse angle triangle
- b) acute angle triangle
- c) right angle triangle



5. A triangle can have _____ right angle

- a) one
- b) two
- c) three

MONTH : JULY

CHAPTER -5 : UNDERSTANDING ELEMENTARY SHAPES

L.O (14) : classifies quadrilaterals into different groups/ types on the basis of their sides/ angles.

1. (i) Top view of brick looks like

- a) triangle b) circle c) rectangle d) square

(ii) Write the top view of dice.

2. Match the column A to Column B

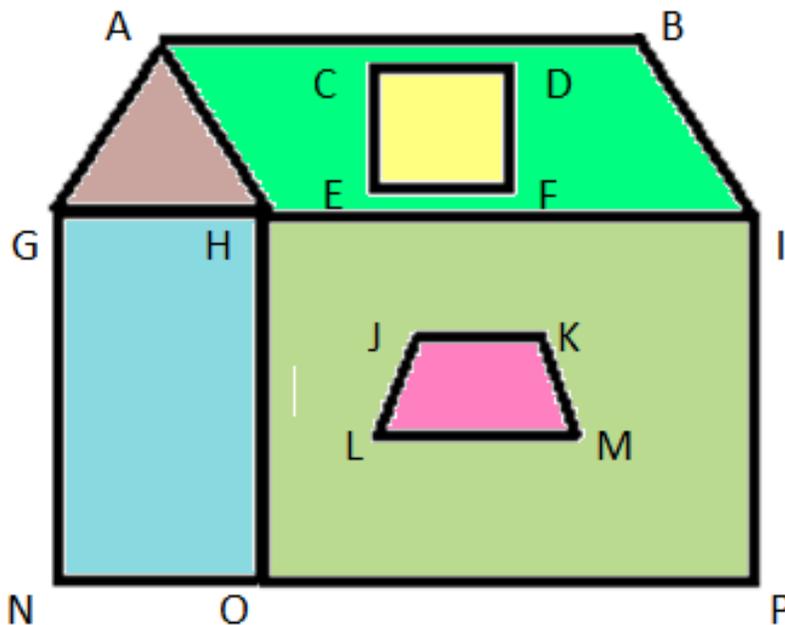
<u>Column A</u>	<u>Column B</u>
1. All the three sides of triangle of unequal length	1. Rectangle
2. Parallelogram with all angles 90°	2. Equilateral Triangle
3. All three sides of triangle are equal	3. Parallelogram
4. A quadrilateral having two pair of parallel lines	4. Scalene triangle

3. Complete the given table :

Quadrilateral	Opposite sides		All sides Equal	Opposite angles equal	Diagonals	
	Parallel	Equal			Equal	Perpendicular
Parallelogram	Yes	Yes	No	Yes	No	No
Rectangle			No			
Square				Yes		
Rhombus						
Trapezium		No				

4. What is special name of regular quadrilateral.

5. Identify the different type of quadrilaterals in the given picture of a house of Rajat & name them.



MONTH : JULY

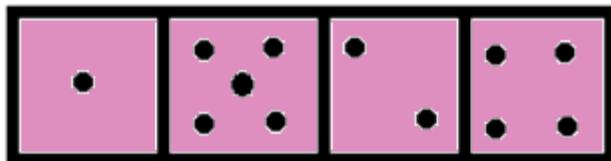
CHAPTER -5 : UNDERSTANDING ELEMENTARY SHAPES

L.O (15) : Identifies various 3-D objects like sphere, cube , cubiod, cylinder , cone from the surroundings.

1. What shape is

- a) brick
- b) Match stick
- c) Class room
- d) Cricket ball
- e) Ice Cream Cone
- f) a die
- g) road roller
- h) laddoo

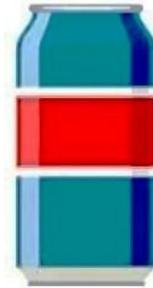
2. Rinku is playing ludo. He has four dice. His friend Salim came. Salim placed all four dice adjacent to each other as shown in figure. What is the shape of figure obtained?



3. Bunny is having carrot



and juice in a can.



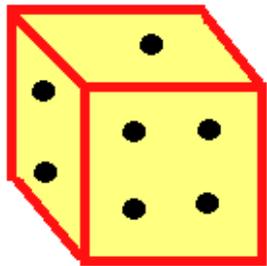
Can you guess the shape of carrot and can?

Is it 2-D or 3-D object ?

What do you think the difference between 2-D objects or 3-D objects ?

4. Doremon and Nobita are fighting over a die. Doremon is saying it is square but Nobita is saying it is cube.

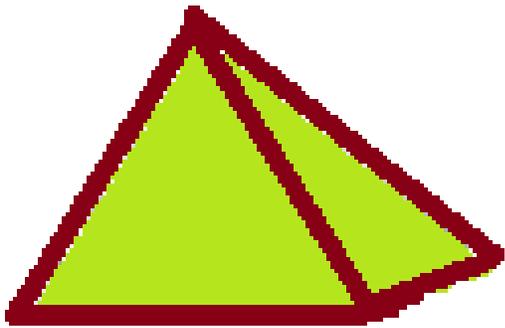
Who is correct?



MONTH : **JULY**
CHAPTER -5 : **UNDERSTANDING ELEMENTARY SHAPES**

L.O (16) : **Describes and provides examples of edges, vertices and faces of 3-D objects.**

1. Complete the following :

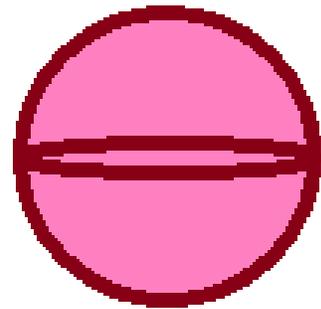


Square pyramid

Edges _____

Faces _____

Vertices _____

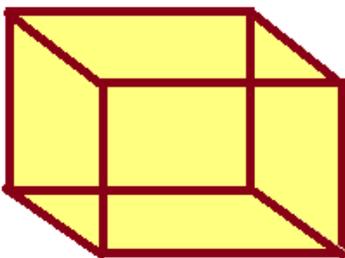


Sphere

Edges _____

Faces _____

Vertices _____

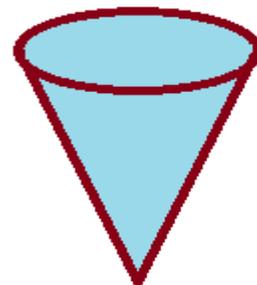


Cuboid

Edges _____

Faces _____

Vertices _____



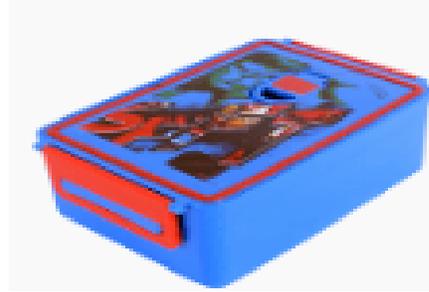
Cone

Edges _____

Faces _____

Vertices _____

2. Identify the shape of a Salim 's Tiffin box & write number of its edges, faces & vertices.



3. Ayesha is playing with a ball. Help her to find the edges, faces & vertices of her ball (if any).



4. Manan & Naman went to a shop & Manan order a glass of juices



Naman ordered for an ice-cream cone .



Identify the shapes , vertices, edges & faces.

MONTH : JULY

CHAPTER -6 : INTEGERS

L.O (4) : Solve problems involving addition & subtraction of integers.

1. For the month of September temperature in degree Celsius for five consecutive days were recorded as follows :

Day Temp.	Monday	Tuesday	Wednesday	Thursday	Friday
Max	33	32	34	38	36
Min	19	20	21	26	23

1) Which day is hottest & which day is coldest?

2) What is the difference between maximum temperature and minimum temperature on Wednesday .

2. Shiv deposited Rs. 10,000 on Monday in his account & after two days he withdraws Rs. 6500 from his account. What amount is left in his account?

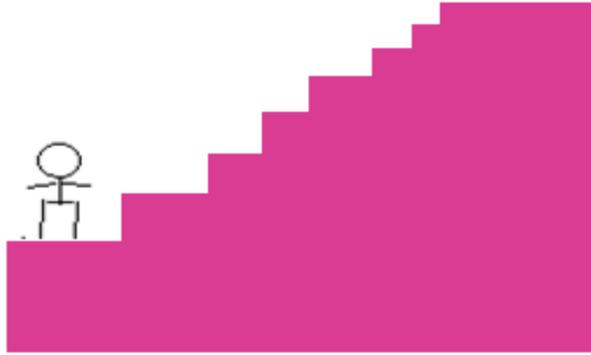
3. Use number line & add the following integers

- a) $(-1) + (-5)$ d) $(0) + 9 - 4 + (7)$
b) $(-3) + (10)$ e) $-12 + 13 - (17)$
c) $(-4) + (-5) + (-6)$ f) $31 - 14 - (6)$

4. Taj got 93 marks in Maths test however, he came late today so his teacher is going to deduct 12 marks. What will Taj's final score on his report card.

5. Chahat attempted 10 questions out of which 6 are correct. The teacher gave 5 marks for every correct answer but deducted 2 marks for every wrong answer. What is her final score?

6. Write in integers form & solve



- a) Going 6 steps upstairs.
- b) Going 3 steps upstairs & 5 steps further from there.
- c) Going 8 steps upstairs & 3 steps downwards from there.

7. Fill ups

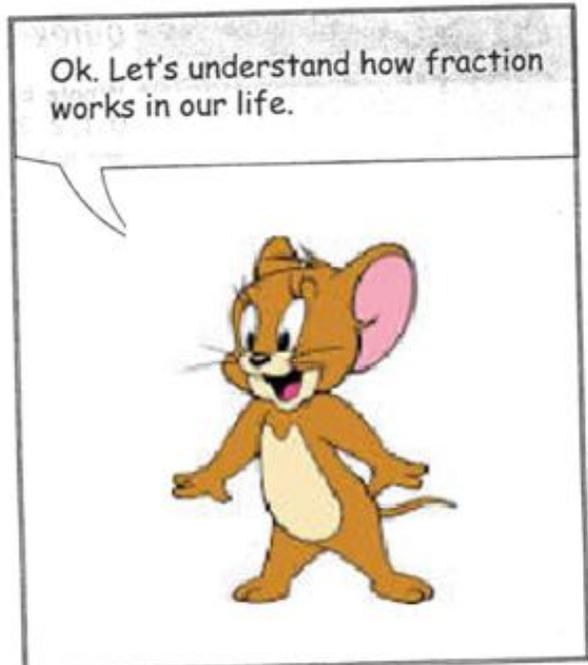
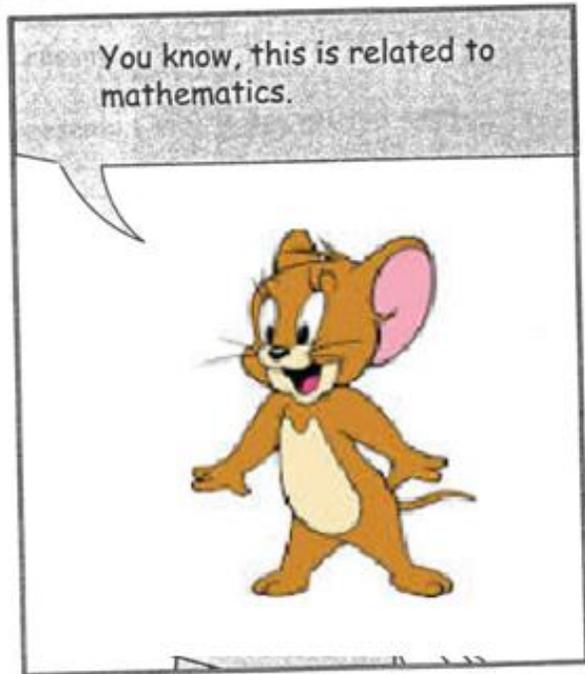
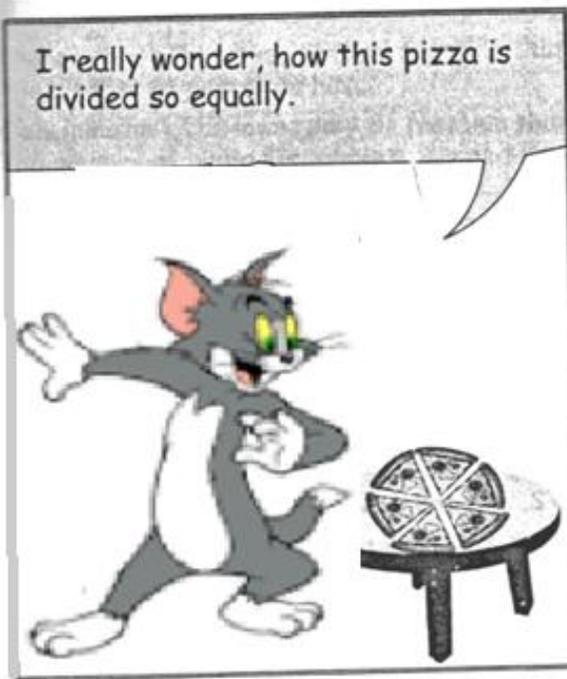
- 1) _____ is largest negative integers.
- 2) _____ is smallest positive integers.
- 3) $(+1) - (1) + (1) - (1) + (1) - (1) =$ _____



CHAPTER - 7

Fraction

L.O. - (5)

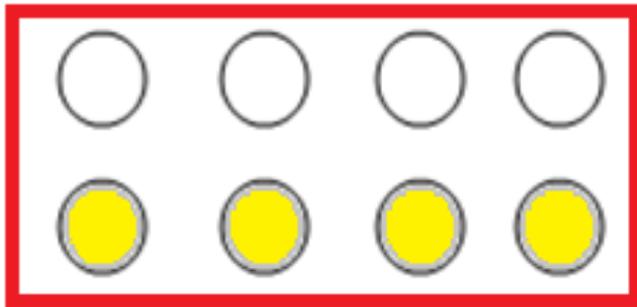


MONTH : AUGUST

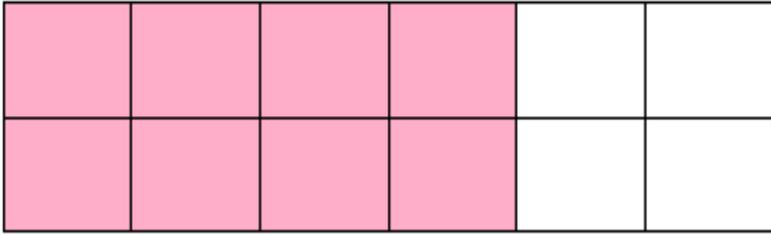
CHAPTER -7 : FRACTION

L.O (5) : Uses fractions in different situations which involves money, length, temperature etc.

- (i) What fraction of a day is 8 hours?
(ii) What fraction of an hour is 40 min.?
- What fraction of circle is shaded in the given figure ?



- Your brother eats $\frac{3}{5}$ of the Pizza. How much pizza is left for you?
- Saleem exercised for $\frac{3}{6}$ of an hour while Rohit exercised for $\frac{3}{4}$ of an hour. Who exercised for longer time ?
- Sagar takes $2\frac{1}{5}$ minutes to walk across the school ground. Rahul takes $1\frac{3}{4}$ minutes to do the same. What is the total time taken by both?
- At animal shelter $\frac{4}{6}$ of the animals are cats Of the cats $\frac{1}{2}$ are male. What fractions of animals at the shelter are male cat.



7.



How many halves make a whole one?

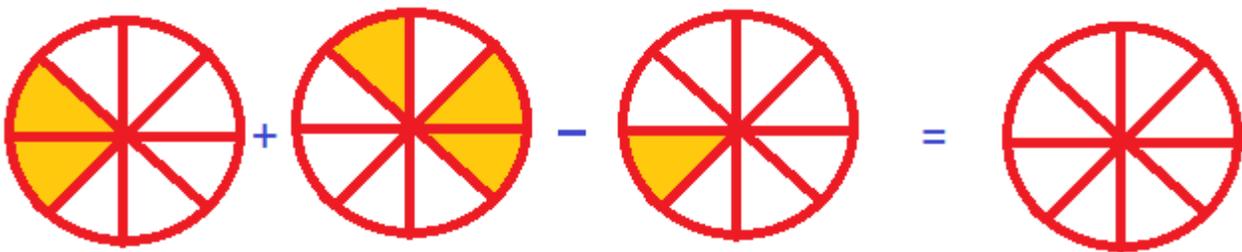


How many one fourth make a whole one?



How many one fifth make a whole one?

8. Simply the fraction & complete the diagram.





CHAPTER - 8

Decimals

L.O (6)

<p>This silly little dot is so irritating.</p>	<p>Which dot?</p>
	

<p>This point which you place between numbers</p>	<p>Oh! It is decimal silly and is very important. It holds lot of value.</p>	<p>Really? Please explain further.</p>
		

MONTH : OCTOBER

CHAPTER -8 : DECIMALS

L.O (6) : Solves problems on daily life situations involving addition & subtraction of fraction/ decimals.

1. Write each of the following as decimal.

(i) $4\frac{2}{10}$ (ii) $\frac{12}{5}$ (iii) $200 + 60 + 5 + \frac{1}{100}$

2. Samson travelled 5km 52 m by bus, 3 km 265 m by car and rest 1km 30m he walked. How much distance did he travel in all?

3. Raju bought a book for Rs. 35.65. He gave Rs. 100 to the shopkeeper. How much money did he get back?

4. Tina has 20m 5cm long cloth. She cuts 4m 50cm length of cloth from this for making a curtain. How much cloth is left for her?

5.	$\begin{array}{r} 112.34 \\ + 485.66 \\ \hline \end{array}$	$\begin{array}{r} 732.80 \\ + 857.79 \\ \hline \end{array}$
	$\begin{array}{r} 900.00 \\ - 745.89 \\ \hline \end{array}$	$\begin{array}{r} 876.94 \\ - 573.48 \\ \hline \end{array}$

6. Match the following :-

<u>Column A</u>	<u>Column B</u>
0.62	62/10
6.2	62/1
0.062	62/100
62	62/1000

7. Simplify : 1) $2 + \frac{3}{10} + \frac{4}{100}$

2) $2 + \frac{3}{100} + \frac{5}{10000}$

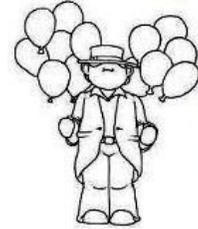
8.



2.53 km



25.3 km



CYCLE STORE

GIFT SHOP

BALLOON SHOP

2.530 km



CAKE SHOP

- a) Which place is closer to gift shop?
- b) Which place is farthest to gift shop?



TOM &

JERRY

CHAPTER - 9

DATA HANDLING

L.O. (18)

My teacher is a super women. She can calculate the marks of so many students and give a correct report card.

Tom is shown in a dynamic, expressive pose, leaning forward with his arms outstretched and a wide, enthusiastic smile on his face.

You do not require super power. All you need is organizing your data properly.

Jerry is standing upright with his hands on his hips, looking towards the left with a confident and slightly smug expression.

Please tell me more about it.

Tom is in the same expressive pose as in the first panel, looking towards the right with a curious and eager expression.

All right. Let us learn more about data handling.

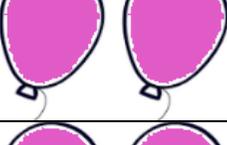
Jerry is in the same upright pose as in the second panel, looking towards the left with a friendly and helpful expression.

MONTH : OCTOBER

CHAPTER -9 : DATA HANDLING

L.O (18) : Arranges given/ collected information such as expenditure on different items in a family in the last six month, in the form if a table pictograph and bar graph and interprets them.

1. The sale of balloons on different days of a week is shown below :-

Days	Number of balloons	1  = 3 Total
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Saturday		
Sunday		

Observe the pictograph & answer the following questions :

- (a) How many balloons were sold on Friday?
- (b) On which day the maximum balloons were sold?
- (c) On which day the minimum balloons were sold?
- (d) On which day the same number of balloons were sold?

2. Raveena threw a dice 40 times and noted the number appearing each time as shown below :

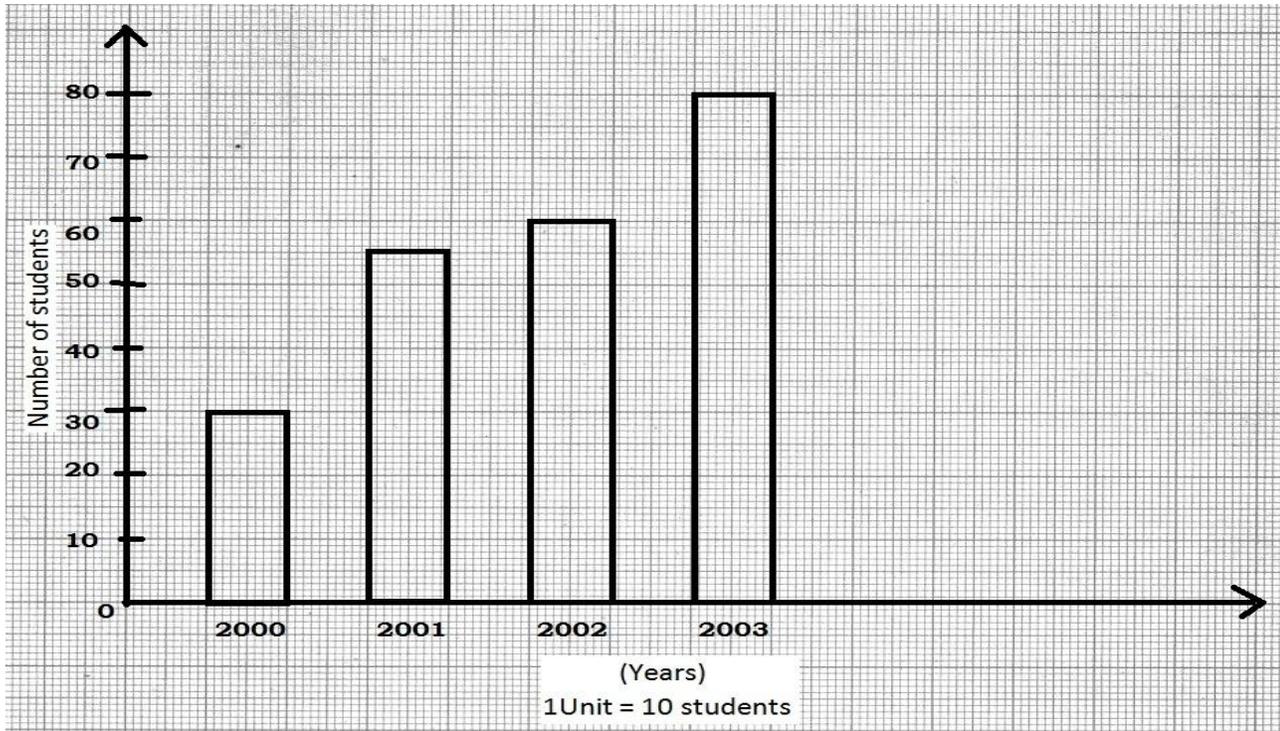
1 3 5 6 6 3 5 4 1 6
2 5 3 4 6 1 5 5 6 1
1 2 2 3 5 2 4 5 5 6
5 1 6 2 3 5 2 4 1 5

Make a table and enter the data using tally marks.

Find the numbers that appear :

- (i) The minimum number of times:
- (ii) The maximum number of times:
- (iii) That appear an equal number of times:

3. Read the adjoining bar graph showing the number of students in a particular class of a school :



Answer the following questions:

- (i) What is the scale of this graph?
- (ii) How many new students are added in year 2001?
- (iii) Is the number of students in the year 2003 twice that in the year 2000?

4. The number of mathematics books sold by a shopkeeper on six consecutive days is shown below :

Days	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
Number of books sold	65	40	30	50	20	70

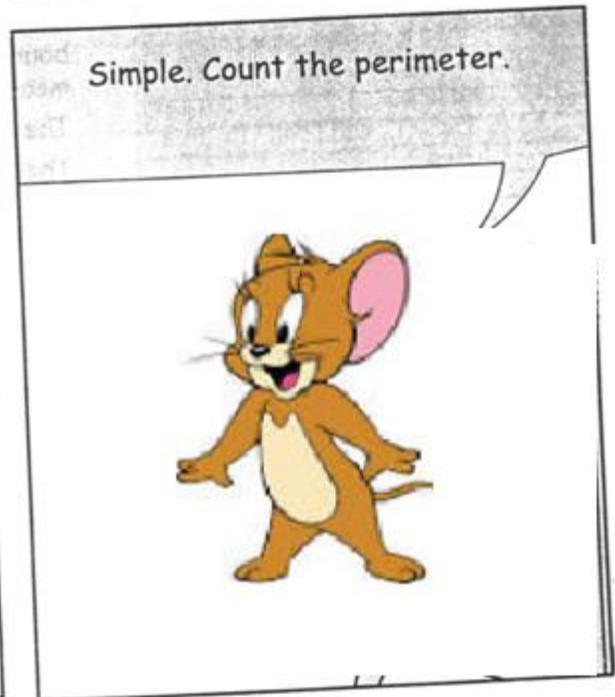
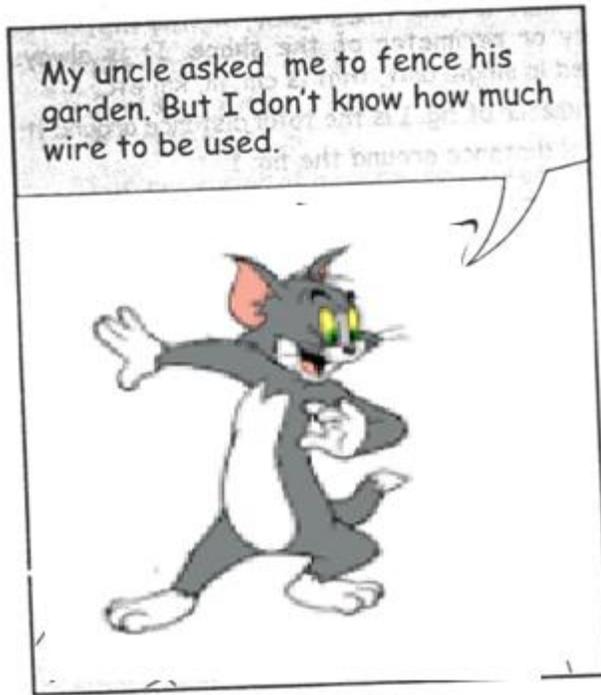
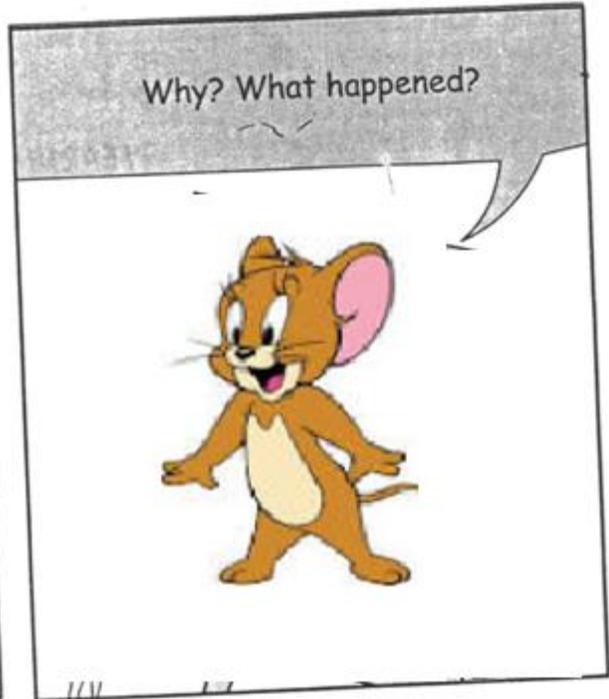
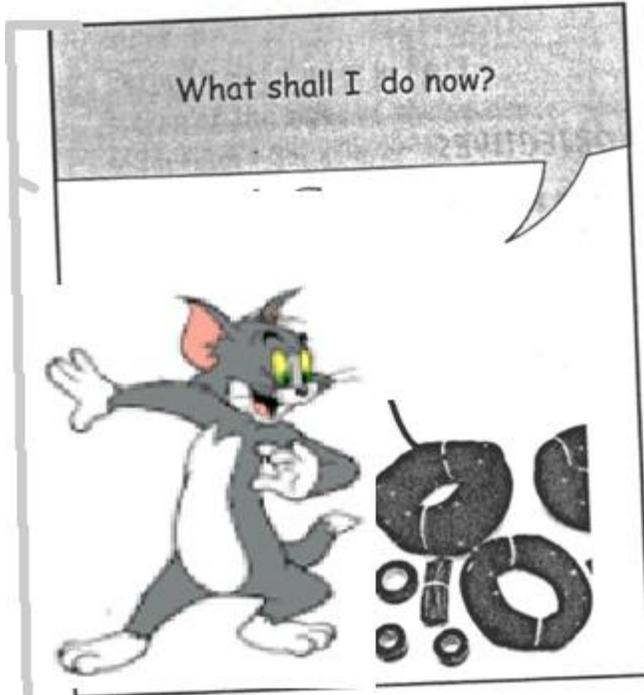
Draw a bar graph to represent the above information choosing the scale of your choice.



CHAPTER 10

Mensuration

L.O (17)

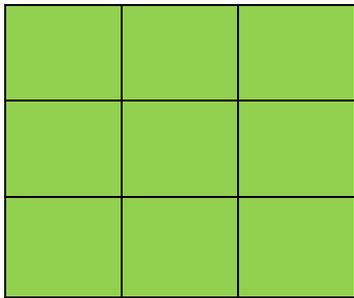


MONTH : NOVEMBER

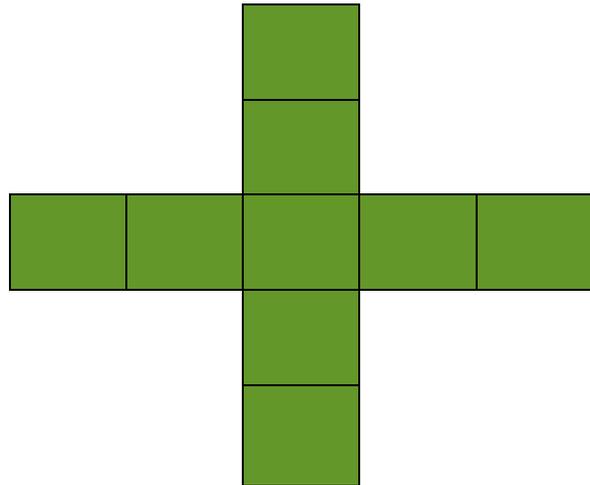
CHAPTER -10 : MENSURATION

L.O (17) : Find out the perimeter & the area of rectangular objects in the surroundings like floor of the classroom, surface of chalk box etc .

1.



Bunny's garden

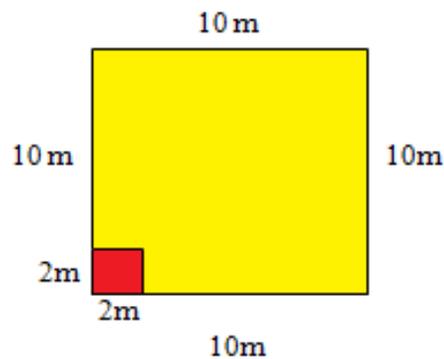


Hunny's garden

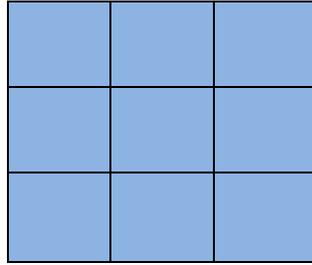
If each square is of 2m. Answer the following:

- 1) How much wire is needed to fence the garden?
- 2) Who needs more wire to fence the garden.

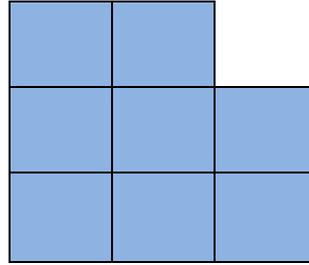
2. **How many tiles are required to cover the square area whose side is 10m and side if square tile is 2m.**



3.



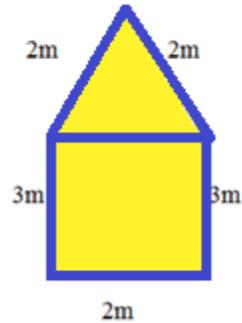
(A)
Bhim's board game



(B)
Chutk's board game

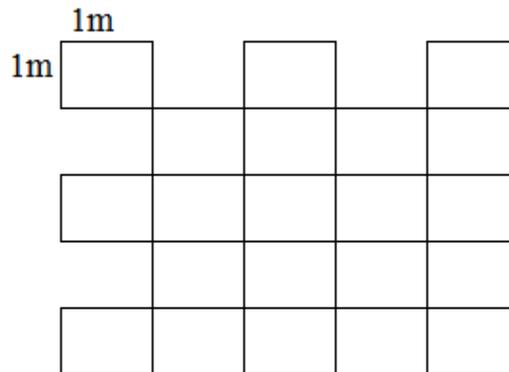
- a) Whose board game has more perimeter.
- b) Whose board game has more area.

4. Find the perimeter of given figure :



5. Find the area of given figure

- a) 16 square meter
- b) 17 square meter
- c) 18 square meter
- d) 19 square meter



6. Top of teacher table is in shape of rectangle with length 8m and breadth 6m. She wants to paint it. What she needs to calculate perimeter or area. Also calculate that?

MONTH : NOVEMBER

CHAPTER -11 : ALGEBRA

L.O (7) : Uses variable with different operations to generate the given situations.

1. Singham has flower bed as shown in figure:
 - a. Find the perimeter expression for flower bed.
 - b. Find the expression for area of his flower bed.

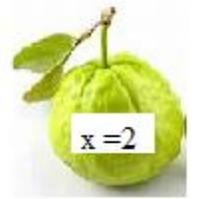
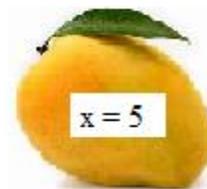
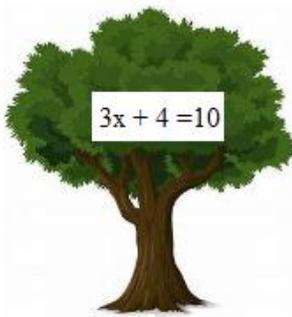


3

x

2. If x is even number
 - a. Write next odd number.
 - b. Write next even number.
3. Write expression for the following :
 - a. 4 more than a
 - b. 9 subtracted from t
 - c. x taken away from 5
 - d. double of b
 - e. one fourth of b
 - f. 6 added to 3 times of y.
4. Hina's present age is x years. Write her age after 5 years.

5.



Guess the fruit tree ?

6.



Day	Number of ice creams 
1 st day	x
2 nd day	$x + 2$
3 rd day	$x + 1$
4 th day	$x + 5$
5 th day	$2x$

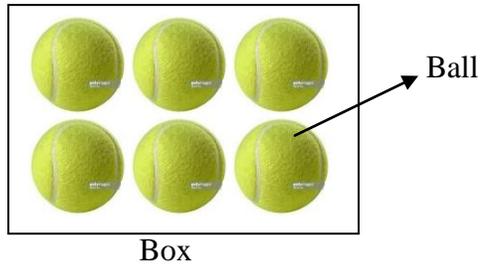
Write an expression for total number of ice-cram in the party.

MONTH : DECEMBER

CHAPTER -12 : RATIO & PROPORTION

L.O (9) : Uses unitary method in solving various word problems.

1. Price of 1 box = Rs. 30
Price of 1 ball = ?



2. Cost if I ice cream cone = Rs. 25
Cost of 5 ice cream cones = ?



3. The cost of 10 pens is Rs. 120. Deepika wants to buy 7 pens. How much money she needed ?
4. Sahiba bought a dozen of Bananas for Rs. 24. Find the cost of : (i) one Banana (ii) eight Bananas.
5. Ram and his mom are baking cupcakes. The recipe needs one egg for every dozen cupcakes. Ram finds five eggs in his fridge and makes a chart to see how many cupcakes he can make?

Eggs	1	2	?	4	10
Cupcakes	12	24	36	?	?

MONTH : DECEMBER

CHAPTER -12 : RATIO & PROPORTION

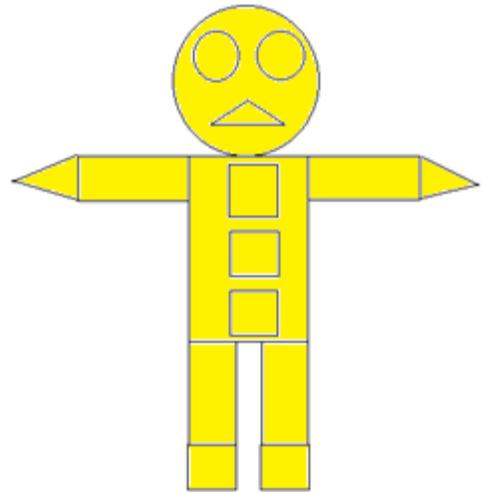
L.O (8) : Compares quantities using ratios in different situations.

1. Fill in the following blanks :-

$$\frac{10}{14} = \frac{\quad}{7} = \frac{20}{\quad} = \frac{\quad}{21}$$

2. See the picture of Chotta Bheem & find ratio of :

- (a) number of triangles to the number of circles
- (b) number of square to all figures
- (c) number of circles to number of rectangles.

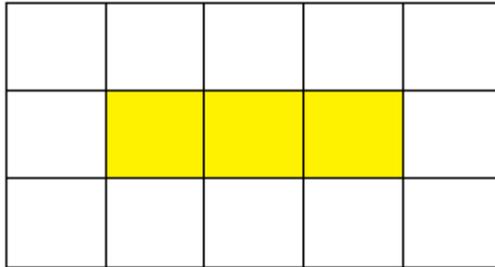


3. In a class there are 'B' boys & 'G' girls.

Find the ratio of boys to the total number of students.

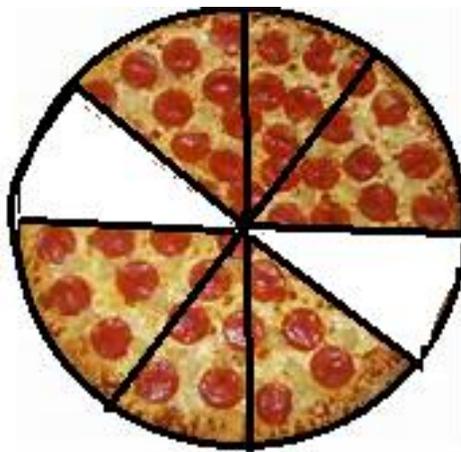
- (a) $\frac{B}{B+G}$ (b) $\frac{G}{B+G}$ (c) $\frac{B}{G}$ (d) $\frac{G}{B}$

4. In the given figure find the ratio of area of shaded portion to that of whole figure :



5. Reena ate shaded parts of Pizza. Find ratio of pizza she ate and the pizza left. Write it also in simplest form.

Is it also equal to $\frac{10}{30}$?



6. Rajat got Rs. 100 for his monthly pocket money. He spends Rs. 30 on chocolate & Rs. 15 on notebook. Find the following ratio:

- i) Saving to the total money.
- ii) Saving to the expenditure.

7. Find the ratio :

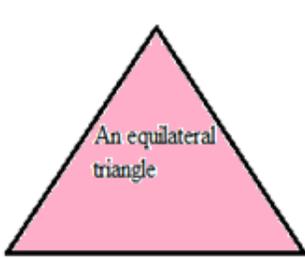
- i) 5m : 50cm
- ii) 30p : 2 Rs
- iii) 6 bananas : 2 dozen bananas
- iv) 1 hour : 20 minutes

MONTH : JANUARY

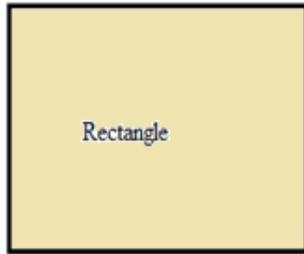
CHAPTER -13 : SYMMETRY

L.O (12) : Demonstrate an undertaking of line symmetry by
-identifies symmetrical 2-D shapes which are
symmetrical along one or more lines.
- creating symmetrical 2-D shapes.

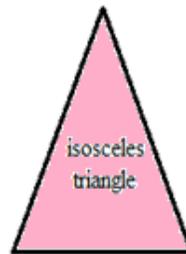
1. Find out number of lines of symmetry in the given figures:



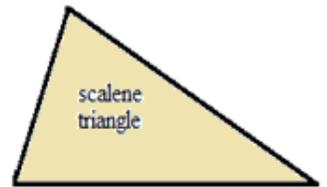
Lines of symmetry



Lines of symmetry

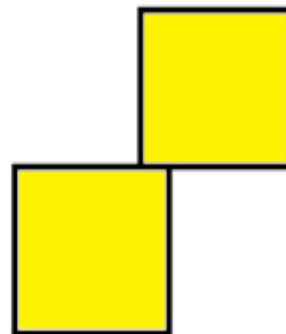
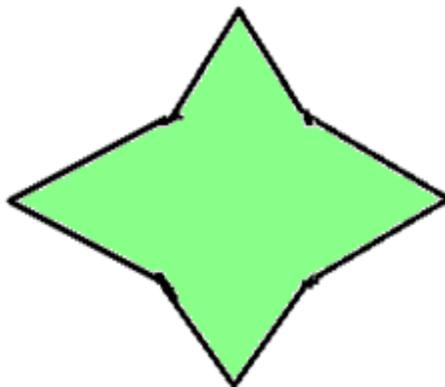
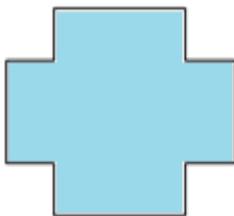
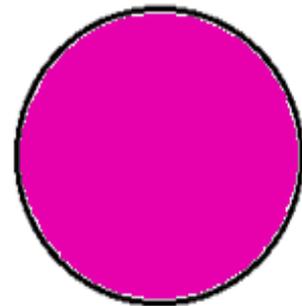
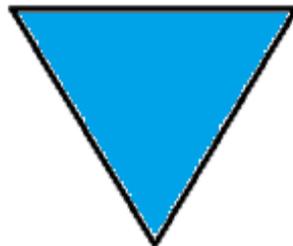


Lines of symmetry

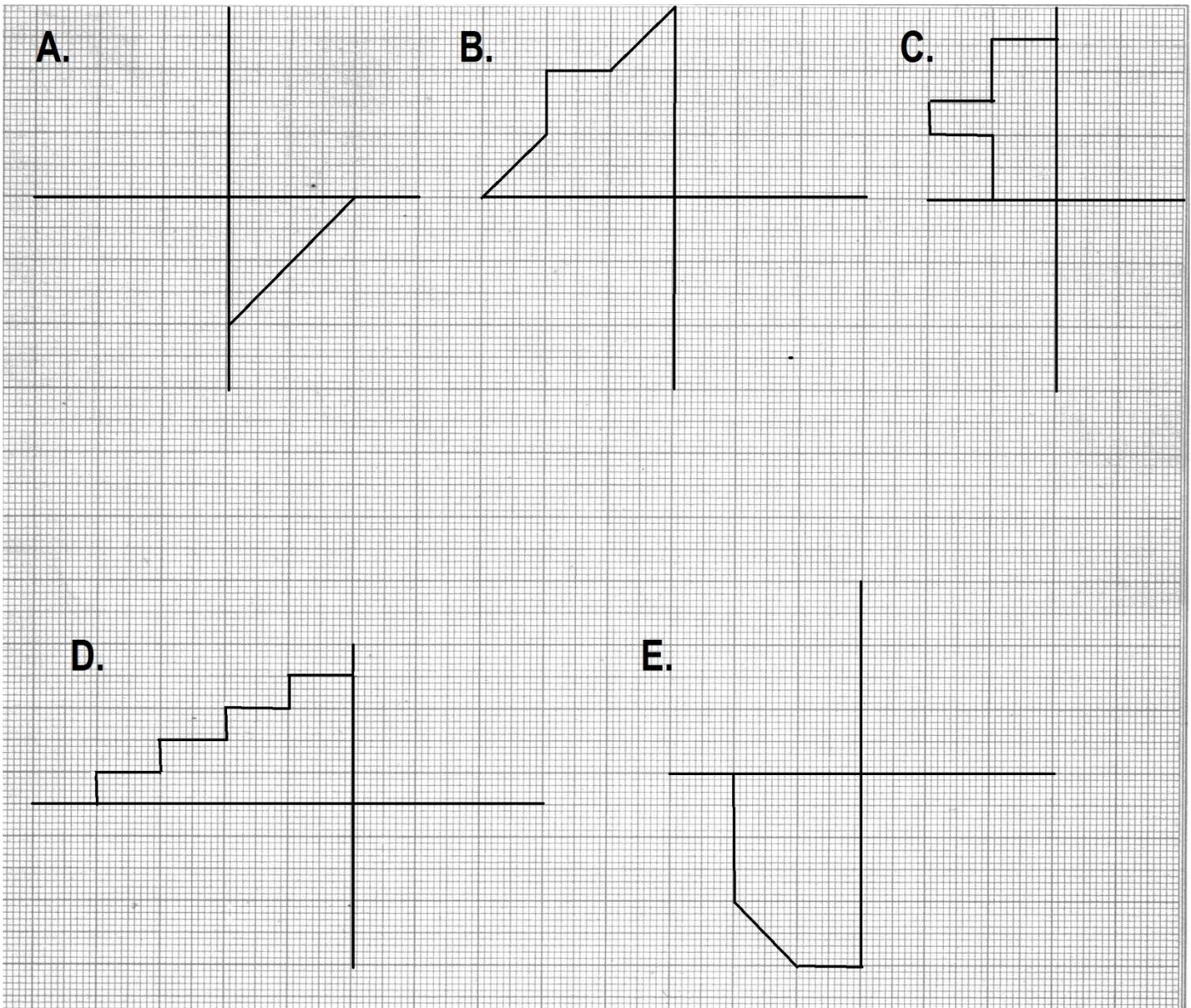


Lines of symmetry

2. Draw the line of symmetry :-



3. Complete the figure by following the line of symmetry:-



4. Which letter of English Alphabets has reflectional symmetry about both horizontal and vertical mirrors?