CONTENTS

A. Syllabus 2

B. Project 4

C. Assignments:

1. Whole Numbers 8
2. Basic Geometrical Ideas 9
3. Data Handling 10
4. Fractions
   - A) Warm up 13
   - B) Addition and Subtraction 15
   - C) Multiplication and Division 16
5. Decimals 17
6. Integers 20
7. Understanding Elementary Shapes 22
8. Algebra 24
9. Mensuration 25
10. Playing with Numbers
    - A) Recap 28
    - B) HCF & LCM 31
11. Practical Geometry 34
12. Ratio and Proportion 36

D. Math is Fun– Activity Sheets 39

E. Multiple Choice Questions-Term I 48

F. Multiple Choice Questions-Term II 51

G. Question Bank 1 54

H. Question Bank 2 66

I. Sample Paper (Term I) 72

J. Sample Paper (Term II) 76

K. Answers 81

Syllabus

April -May

1. Whole Numbers
   - Introduction to the concept of whole numbers
   - Closure, commutative, associative properties with respect to four basic operations
   - Identity (for addition and multiplication)
   - Distributive property
2. Basic Geometrical Ideas
   - Line, line segment, ray
   - Open and closed figures
   - Types of angles, triangles, quadrilaterals
   - Circles
3. Data Handling
   - Frequency Table
   - Bar graph

July

4. Fraction
   - Addition, subtraction, multiplication and division of fractions
   - Word problems
5. Decimals
   - Conversion of units
   - Addition, subtraction, multiplication and division of decimals
   - Word problems

August

6. Integers
   - Introduction of negative numbers
   - Representation of integers on a number line
   - Properties of integers
   - Addition and subtraction of integers

September Revision for first term examination

October

7. Understanding Elementary Shapes
   - Parallel, intersecting and perpendicular lines
   - Types of angles, triangles and polygons
   - 3 dimensional shapes

November

8. Algebra
   - Introduction to the concept of constants and variables
   - Types of Algebraic expressions
   - Solving simple equations

December

9. Mensuration
   - Perimeter of plane figures
   - Area of irregular shapes.
   - Area of rectangle and square

10. Playing with numbers
    - Divisibility tests and their applications
    - Finding HCF by long division method
    - Word problems based on HCF and LCM
    - Relation between HCF and LCM of two or more numbers

January - February

11. Practical Geometry
    - Angles and their bisectors
    - Perpendicular and Perpendicular bisector

12. Ratio and Proportion
    - Concept of ratio
    - Proportion as equality of two ratios
    - Unitary method

Revision for final examination

PROJECT

SYMMETRY

Object:

- Observation and identification of 2 – D symmetrical objects for reflection symmetry.
- Operation of reflection (taking mirror images) of simple 2 – D objects.
- Recognizing reflection symmetry (identifying axes).

Important Notes:

- You may refer to your textbook for details on the topic. It is a part of your curriculum but no direct question will be asked in written exam based on this.
- The Rubric for assessment is given at the end of the Project for your reference.
- There will be negative marking for the delay in the submission of the project.
- This project should be submitted as a file/folder including a Cover page and the activities mentioned below.

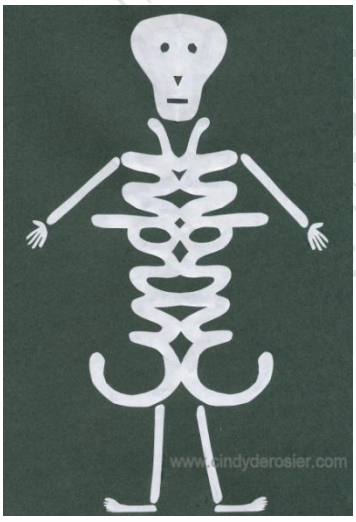
Activity 1 : INTRODUCTION

Give a brief introduction of Symmetry and supplement your content with pictures/ diagrams.

Activity 2: NAME SKELETON

Fold a white paper in half, write your name in cursive, and cut out around the name (this forms the body of the skeleton). Now add the head, arms and legs. And then mount the "name skeleton" on a black sheet.

For example:



Activity 3: SYMMETRY IN NATURE

Collect and paste three leaves of different plants/ trees. The leaves should be **SYMMETRICAL**. Also show their line of symmetry.

Activity 4: INK BLOT

Make symmetrical figures using ink blot activity. Take a piece of paper. Fold it in half. Open the fold. Spill a few drops of ink on one half side. Now press the halves together. Use your creation and give it a meaning. What do you see? Is the resulting figure symmetric? If yes, draw the line of symmetry.

For example:

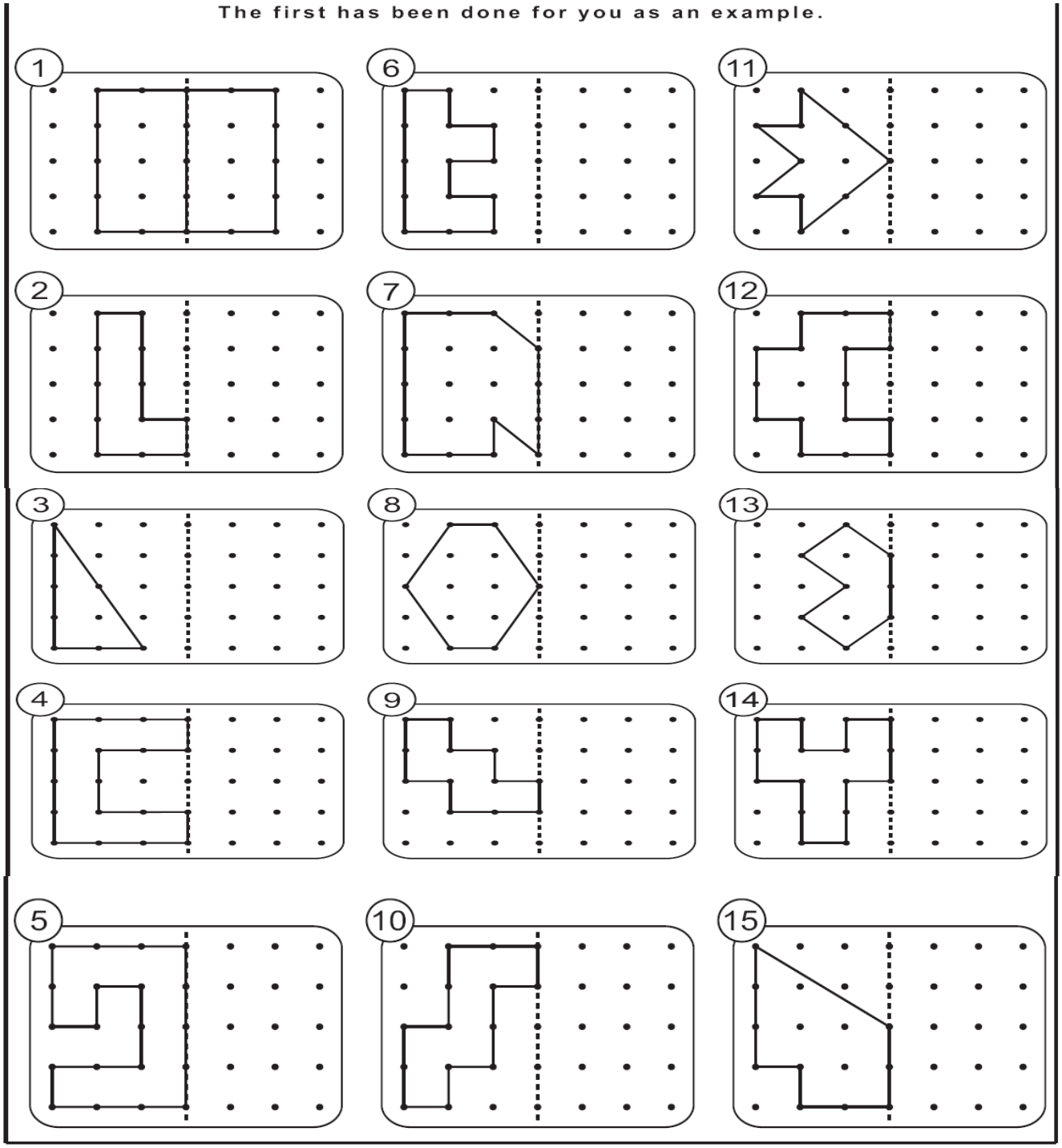
Activity 5: I) Make Symmetrical Snowflakes using origami

Follow the steps in the given video links to create beautiful snowflake symmetrical designs:

https://www.youtube.com/watch?v=LxP-qQseCvM&t=213s
https://www.youtube.com/watch?v=oS3mQn5ddYA
https://www.youtube.com/watch?v=p6XmvKvgU_k
https://www.youtube.com/watch?v=VVdw0cQUWBo

Note: Make any 2 designs.

II) Find the mirror image of the following figures with respect to the given mirror line and color them. Also, show the line of symmetry with a different color.



(**NOTE**: Take photocopy of Activity 5 II) and stick it on A4 size sheet to complete the symmetrical part of the given image.

RUBRIC FOR THE SYMMETRY PROJECT

Marks ⇒ / Activities ⇓	2	1.5	1
Activity 1: Introduction	All information is correct and relevant with proper examples/ figures.	Most information is correct and relevant with proper examples/ figures.	Some information is correct and relevant with proper examples/ figures.
Activity 2: Name Skeleton	The picture is neat and as per the instructions given.	The picture is neat but some requirement is missing.	The picture lacks neatness and instructions are not followed properly.
Activity 3: Symmetry in Nature	All the leaves are symmetrical and line of symmetry is shown for all of them.	Leaves are symmetrical but line of symmetry is not shown for some.	Leaves are not symmetrical.
Activity 4: Ink Blot	The drawing is neat/creative/as per the guidelines.	The drawing is neat and creative but all requirements are not met.	The drawing is neat but lacks creativity.
Activity 5: Snow Flakes and Symmetrical image	Well-made and neatly cut snowflakes. All images are completed neatly.	Snowflakes activity not done neatly. Not able to complete all images correctly.	Snowflakes not done. Images not completed correctly.

Assignment No. 1
Whole Numbers

1. Find the sum by suitable rearrangement:
   a) $165 + 578 + 335$
   b) $373 + 227 + 667$
   c) $268 + 415 + 332$
   d) $557 + 288 + 143 + 12$

2. Find the product using the properties of multiplication:
   a) $625 \times 3 \times 16$
   b) $25 \times 89 \times 40$
   c) $4 \times 1365 \times 25$
   d) $4 \times 2 \times 25 \times 5$

3. Use distributive property and find:
   a) 535×98
   b) 105×68
   c) $279 \times 93 + 7 \times 279$
   d) $(35 \times 14) + (15 \times 14) - (50 \times 14)$
   e) $(578 \times 1055) - (578 \times 55)$
   f) $96 \times 73 - 94 \times 73$

4. There are 15 boys and 15 girls in a class. They are collecting money for a cause. Each boy collected Rs.253 and each girl collected Rs.247. How much money was collected by the class?

5. Neha buys 456 books and 544 notebooks. If the cost of a book and a notebook is Rs.25 each, find how much total money does she spend? (Use suitable property)

6. Name the property:
   a) $(13 + 6) + 8 = (8 + 13) + 6$
   b) $15 \times (100 - 2) = (15 \times 100) - (15 \times 2)$
   c) 5×6 is a whole number.
   d) $3 \times (8 \times 9) = 3 \times (9 \times 8)$

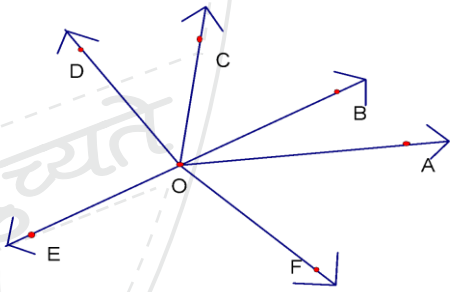
Learning Outcomes:
Student will be able to
- define whole numbers.
- state and apply closure, commutative and associative properties with respect to four basic operations.
- identify the identity (for addition and multiplication).
- solve questions on the basis of rearrangement.
- state and apply distributive property.
- Solve real life problems.

Brain-Teasers

1. From a basket of mangoes when counted in twos there was one extra, counted in threes there were two extra, counted in fours there were three extra, counted in fives there were four extra, counted in sixes there were five extra. But counted in sevens there were no extra. At least how many mangoes were there in the basket?
2. Which two-digit numbers when added to 27 get reversed?
3. There is a number which is very peculiar. This number is three times the sum of its digits. Can you find the number?

Assignment No.2
Basic Geometrical Ideas

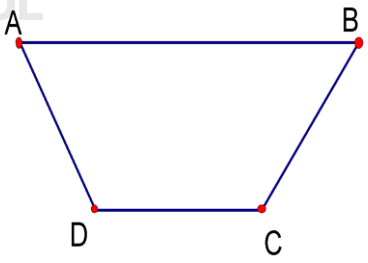
1. In the given figure:
   a) Name any two rays?
   b) Name the opposite rays formed.
   c) Name the point of intersection of ray OA and ray OF.



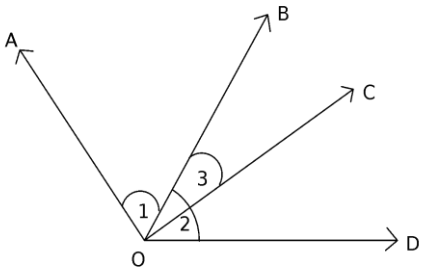
2. Draw a circle with diameter 7cm and then:
   a) Mark the centre.
   b) Draw a chord.
   c) Show the major arc with blue color and minor arc with red formed by the chord.
   d) Color the minor segment as yellow and major segment as green.
   e) Draw a secant.

3. Illustrate, if possible, each one of the following with a rough diagram:
   a) A simple closed curve that is not a polygon.
   b) An open curve made up entirely of line segments.
   c) A polygon with two sides.
   d) A polygon with minimum number of sides.

4. From the given figure:
   a) Give one pair of parallel sides.
   b) Name 2 diagonals.
   c) Give one pair of adjacent sides.
   d) Name all the vertices.
   e) Name the shape ABCD.



5. From the given figure, give full names of the following angles:
   a) ∠1
   b) ∠2
   c) ∠3



Web Resources: Practice measuring of angles with protractor using
- http://goo.gl/PEsdqT
- http://goo.gl/KQ6KFV

Learning Outcomes

Students will be able to

- identify and define various geometrical figures like point, line, line segment, ray, Intersecting lines and parallel lines.
- identify and define different parts of Triangles.
- differentiate between open and closed curves.
- identify and define polygons.
- identify and define different parts of quadrilaterals.
- identify and define different parts of circles.

Assignment No. 3
Data Handling

1. The following data gives the number of children in 40 families:

   1, 2, 6, 5, 1, 5, 1, 3, 2, 6, 2, 3, 4, 2, 0, 4, 4, 3, 2, 2, 0, 0, 1, 2, 2, 4, 3, 2, 1, 0, 5, 1, 2, 4, 3, 4, 1, 6, 2, 2

   Represent it in the form of a frequency distribution.

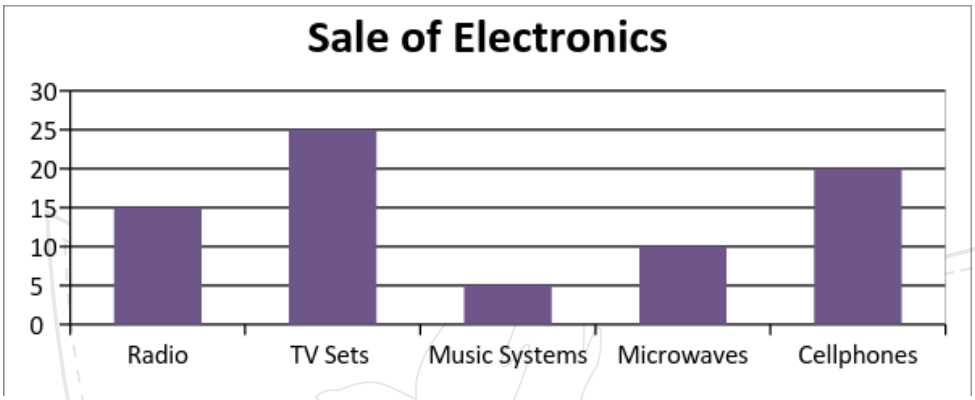
2. The following is the favourite cartoon character of 15 children.

Doremon, Jerry, Mickey Mouse, Jerry, Tom, Doremon, Doremon, Mickey Mouse, Mickey Mouse, Jerry, Jerry, Jerry, Doremon, Doremon, Doremon

a. Organise the above data in a table using tally marks.

b. Represent the data using bar graph.

3. Read the bar graph and answer the following questions:



a. What information is given in the bar graph?

b. Which is the highest selling electronic?

c. Write the total number of electronics sold.

4. Draw the bar graphs for the following data using appropriate scale:

a.

Section	6A	6B	6C	6D	6E
No. of students	22	26	19	33	25

b.

Class	VI	VII	VIII	IX	X
No. of absentees	5	8	0	3	9

c.

Transport	Car	Bike	Bus	Train	By Air
No. of people	750	270	520	410	900

5. The female literacy rate in 5 states is given below. Represent the data with the help of a bar graph:

State	Kerala	Madhya Pradesh	Bihar	Chandigarh	Himachal
Female literacy (in %)	87	50	33	76	68

Which state is leading in programs for encouraging education of the girls?

6. The following data represents the different modes of transport used by the children of a locality to reach their school.

Mode of transport	Car	Bus	Bicycle	Walk	Rickshaw
Number of children	2	7	17	11	10

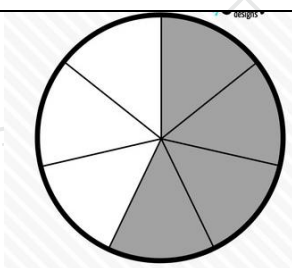
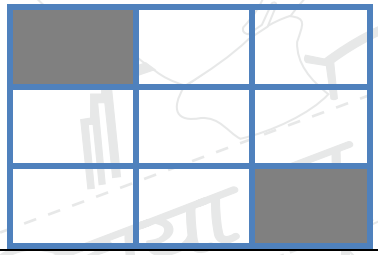
Represent the given data using Bar graph and answer the following questions:
a. Which mode of transport is used by maximum number of students?
b. How many children of the locality do not use bus or car for going to school?

Web Resources:
Let's learn how to draw Bar graphs with
- http://goo.gl/WQlL4X

Learning Outcomes
Students will be able to
- collect and organize data.
- represent data in tabular form using tally marks.
- define frequency.
- read and interpret bar graph.
- draw a bar graph by choosing an appropriate scale.

Assignment 4(A)
Fractions - Warm up Exercise

1. Write the fraction of the shaded portion:

Column A	Column B
	
	

2. Antra bought one dozen eggs and used seven of them in baking a cake. What fraction of the total number of eggs was used by her?

3. What fraction of numbers from 1 to 15 are prime numbers?

4. Find the missing number to make the fractions equivalent.

a) $\frac{5}{12} = \frac{\square}{24}$ b) $\frac{6}{48} = \frac{1}{\square}$

5. Which pair of fractions are equivalent:

a) $\frac{9}{15}, \frac{3}{10}$ b) $\frac{3}{11}, \frac{15}{33}$

6. Reduce the following to its simplest form:

a) $\frac{12}{30}$ b) $\frac{6}{15}$ c) $\frac{2}{5}$

7. Write each improper fraction as a mixed fraction:

a) $\frac{29}{4}$ b) $\frac{63}{10}$ c) $\frac{89}{9}$

8. Write each mixed fraction as an improper fraction:

a) $5\frac{3}{4}$ b) $6\frac{4}{9}$ c) $12\frac{1}{8}$.

9. Mrs. Gupta distributed a bag of chocolates amongst four children. Payal got $\frac{3}{15}$ of the chocolates, Shubh got $\frac{3}{8}$ of the chocolates, Raj got $\frac{3}{20}$ of the chocolates and Lara got $\frac{3}{10}$ of the chocolates. Arrange the names of the children in the order from who got the least to who got the maximum number of chocolates.

10. Find:

a) $\frac{3}{11}$ of Rs. 44 b) $\frac{4}{13}$ of 65 cm c) $\frac{5}{6}$ of 54 weeks

11. Compare the following:

a) $\frac{11}{24}, \frac{13}{24}$

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

c) $\frac{5}{6}, \frac{13}{15}$

Assignment No. 4(B)
Fraction

Addition and Subtraction

1. Add and express your answer in the simplest form:

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

b) $\frac{3}{5} + \frac{13}{20}$

c) $\frac{1}{8} + \frac{5}{12} + \frac{5}{6}$

d) $3\frac{1}{2} + 5\frac{3}{8}$

e) $13\frac{2}{3} + 1\frac{1}{4} + 4\frac{5}{12}$

2.Subtract and express your answer in simplest form:

a) $\frac{26}{35} - \frac{12}{35}$

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

c) $\frac{5}{9} - \frac{3}{7}$

d) $23\frac{5}{8} - 16\frac{5}{6}$

e) $12\frac{15}{16} - 7\frac{3}{4}$

3. A wheel barrow can hold upto $26\frac{1}{4}$ kg. Four rocks that weigh $6\frac{1}{8}$ kg, $8\frac{1}{2}$ kg, $4\frac{3}{4}$ kg and $7\frac{3}{4}$ kg are to be loaded into the wheel barrow. Can the wheel barrow hold all four rocks?

4. The sum of two fractions is $6\frac{1}{6}$. If one of the fractions is $2\frac{1}{3}$, find the other fraction.

5. Naina bought a plant that was $4\frac{2}{3}$ cm tall. In the first week, it grew $1\frac{7}{8}$ cm and the next week it grew $3\frac{1}{2}$ cm. Now how tall is Naina's plant?

6. Rashmi bought $\frac{3}{4}$ metre of cloth and Madhu bought $\frac{3}{5}$ metre of cloth. Who bought more cloth and by how much?

7. Joginder was given $\frac{3}{8}$ of a basket of apples. Vinod got $\frac{1}{3}$ of the basket. The rest of the basket was given to Amit. What fraction of the basket was given to Amit?

8. Saransh purchased books worth Rs. $65\frac{3}{4}$ and gave Rs. 100 to the shopkeeper. Find the amount of money returned by the shopkeeper.

Assignment No.4(C)

Fractions-Multiplication and Division

1 Solve and give the answer in the lowest term.

(a) $10 \times 3\frac{2}{5}$ (b) $8 \times 4\frac{3}{10}$ (c) $2\frac{1}{2} \times 4\frac{3}{4}$ (d) $\frac{2}{9} \div 3$

(e) $100 \div \frac{3}{10}$

2 Seema reads $3\frac{1}{2}$ pages of a book in one hour. How many pages will she read in $2\frac{1}{4}$ hours?

3. A satin ribbon $7\frac{1}{2}$ m long was cut into 5 equal parts. Find the length of each part.

4. The cost of $5\frac{1}{2}$ kg of grapes is Rs 550. At what price per kg are they being sold?

5. From a rope that is 20m long, Rohit cut off 3 pieces of $2\frac{1}{3}$ m each and Nanda cut off 2 pieces of $4\frac{1}{2}$ m each. What length of the rope is left?

6. Reeta walks $\frac{5}{7}$ km in 1 hour. How far does she walk in $3\frac{1}{2}$ hours?

7. The product of two fractions is $68\frac{3}{5}$. If one of them is 49, find the other?

8. Lakshay reads a story book for $2\frac{3}{4}$ hours every day. He reads the entire book in 8 days. How many hours did he take to read the entire book?

Learning Outcomes :
Student will be able to
- define the term fractions.
- identify the shaded portion of the fraction.
- identify and define proper and improper fractions.
- convert mixed fractions into improper fractions and vice versa.
- understand and find equivalent fractions of a given fraction.
- compare fractions.
- write a given fraction in the simplest form.
- apply basic operations(addition, subtraction, multiplication, division)on fractions.
- solve real life problems.

Assignment No. 5
Decimals

1. Write as a decimal: -

a) $6\frac{3}{1000}$ b) $\frac{245}{1000}$

2. Convert the following fractions to decimals

a) $\frac{47}{8}$ b) $\frac{3}{5}$

3. Convert the following decimals to fractions

a) 0.872 b) 5.005

4. Write as a fraction (lowest term):-

a) 2.8 b) 1.25

5. Write in decreasing order:-

75.4, 75.39, 75.258, 75.5, 75.20, 75.75

6. Shamla bought 10.75 kg of potatoes and 11.23 kg of onions while Sameera bought 8.52 kg of fruits and 15.31 kg of Rice. Who had more weight to carry and by how much?

7. Farida went to market and spent Rs 105.50 on vegetables and Rs 89.75 on fruits. If she had taken Rs 200 with her, how much money did she bring back?

8. Madan walked 12.65 km on Monday, 13km50m on Tuesday and 11.025 km on Wednesday. How much distance did he walk in all?

9.Simplify:

a) 4.89 × 10 b) 0.045 × 1000 c) 100 × 95.3 d) 9192.02 ÷ 100 e) 0.5 ÷ 10
f) 2.11 ÷ 1000 g) 0.02 × 100 h) 0.03 ÷ 10 i) 0.648 × 100 j) 0.086 ÷ 100

10.Multiply:

a) 99 × 1.63 b) 0.07 × 83.5 c) 117.6 × 21 d) 79.74 × 3.6 e) 4.29 × 7.3 f) 34.4 × 0.02

11. Evaluate the following

a) 188.8 ÷ 8 b) 2.568 ÷ 12 c) 370.8 ÷ 0.9 d) 1.274 ÷ 0.13 e) 4.4 ÷ 0.11 f) 77.4 ÷ 0.03

12. Eleven books are stacked on top of each other. If each book is 2.35cm thick, find the height of the stack.

13. Purab covers 17.25km in 1.5 hours on his bicycle. Find how many kilometers will Purab cover in one hour.

14. Convert:

a) 5 km to mm
b) 457 cm to mm
c) 8945 ml to l
d) 46.5 g to kg
e) 78 m 7 cm to cm
f) 125 km 50 m to km
g) 1704 mm to cm
h) 120.2 L to ml
i) 1.536 kg to g

Web Resources: Revise conversion of Fractions to Decimals with

- http://goo.gl/DOXM3w
- http://goo.gl/J5SWNp

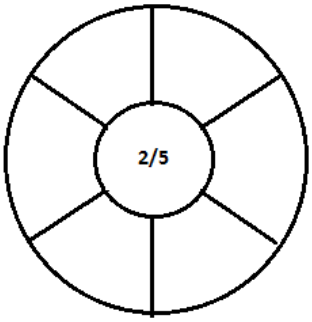
Learning Outcomes :

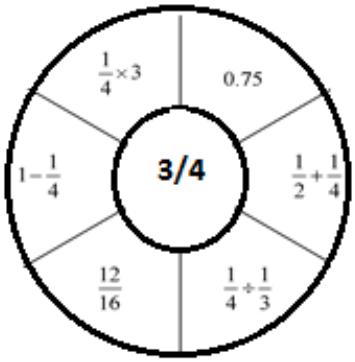
Student will be able to

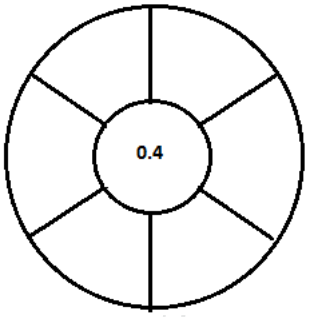
- understand the place value of decimal numbers.
- express fractions as decimals and vice versa.
- compare decimal numbers.
- apply all four operations on decimal numbers to solve different questions.
- understand and apply the knowledge of how to perform conversions of one metric unit to another.
- solve real life problems.

Fun Corner

Each expression between the consecutive spokes of the cycle wheel represents the number at the centre of wheel. Similarly, complete the other wheels.

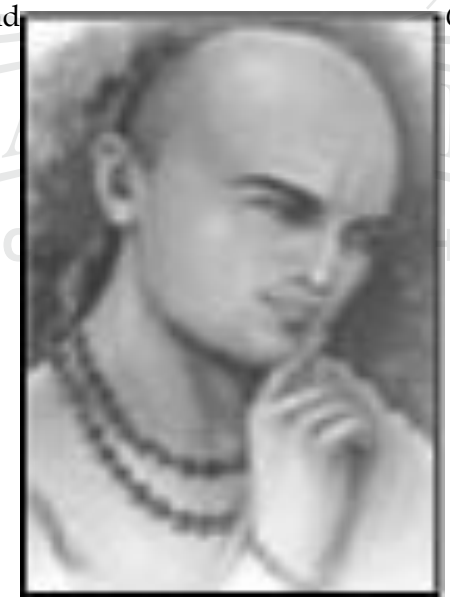






BHASKARACHARYA - Indian Mathematician

- **Bhaskara** (1114 A.D. -1185 A.D.) or Bhaskaracharaya is the most well-known ancient Indian mathematician.
- He was born in a village of Mysore district.
- He was the first to declare that any number divided by zero is infinity and that the sum of any number and infinity is also infinity.
- He has written a lot about zero, surds, permutation and combination.
- He wrote, "The hundredth part of the circumference of a circle seems to be straight. Our earth is a big sphere and that's why it appears to be flat."
- He is famous for his book *SiddhantaSiromani* (1150 A.D.). It is divided into four sections -*Leelavati* (a book on arithmetic), *Bijaganita* (algebra), *Goladhayaya* (chapter on sphere - celestial globe), and *Grahaganita* (mathematics of the planets).



Assignment No.6
Integers

1. Simplify:
   a) $-25+30$ b) $-28-32$
   c) $45-55$ d) $-5-94$
   e) $-85+98$

2. Simplify:
   a) $(-13)+(-8)$ b) $(-111)-(+55)$ c) $46+(-84)$ d) $-23-(-44)$
   e) $35-(-70)$

3. Simplify the following: -
   a) $27-49+36$ b) $|-16|-|-6|$ c) $-|-7|-|-5|$ d) $|-10|-|-12|+|-3|$

4. From the sum of 830 and -250, subtract the additive inverse of 970.

5. Sia made a profit of Rs546 from the candles she sold in Diwali mela in 2005. Subsequently, the next two years were not as lucky for her as she had to suffer loss of Rs 285 and Rs 315 in 2006 and 2007 respectively. What was the status of her account at the end of 2007?

6. Simplify the following:
   a) $-26+[-3+14-(-8)]$ c) $-(-450)+[(-70)+(45)]$
   b) $(-24)+67-187$ d) $[56-45+(-11)]-[-45-(-15)]$

7. a) What is the additive inverse of $-(-4)$?
   b) Add the successor of (-88) and the predecessor of 8.

8. The following were the scores of Sanskriti school team in the five rounds of inter school quiz: $+10,-5,+5,+15,-1$ What was the final score?

9. A car travelled 55 km east and from there 138 km towards west. And, from there again the car traveled 42 km towards east. What is the final position of the car?

10. A man deposited Rs 5000 in his bank account. He withdrew Rs 3824 from the account on the next day. Later he deposited Rs 1534. What is his final balance in the account?

Web Resources: Let's get introduced to Negative Numbers by
- http://goo.gl/ZF7tNI

Learning Outcomes:
Student will be able to

- define integers.
- represent integers on a number line.
- arrange the integers in an order.
- find absolute value of an integer.
- apply the two operations (addition and subtraction) on integers.
- solve word problems based on the concept.

Going Up and Down with Integers

Tanya is riding on an elevator in a building that has many floors and one basement floor underground. Answer these questions regarding Tanya's adventure riding the elevator up and down the building.

1) From the first floor, Tanya goes up 8 floors and then down 3 floors. What floor is she now on?

2) Tanya is on the 18th floor. She goes down 10 floors and then up 13 floors. What floor is she now on?

3) Tanya is on the 7th floor. She then goes up to the 19th floor. How many floors did she go up?

4) Tanya is on the 2nd floor. She goes down 3 floors. What floor is she now on?

5) From the top floor, Tanya goes down to the 8th floor, traveling 17 floors. What is the top floor?

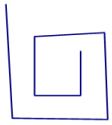
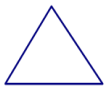
6) Tanya does not know what floor she is on. She presses the button to go to the 10th floor and the elevator travels 4 floors. What floor was she on originally?

ENRICHMENT TIME

- p and q are two integers such that p is the predecessor of q. Find the value of $p - q$.

Assignment No.7
Understanding Elementary Shapes

1. Identify the odd one out:

a)  b)  c)  d) 

2. Which of the following figures is not a polygon:

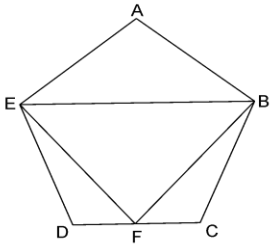
a)  b)  c)  d) 

3. How many right angles do you make if you start facing:
   a) South and turn clockwise to the west?
   b) West and turn to west?

4. Name the types of following triangles:
   a) ΔABC with AB = 8.7 cm, AC = 4 cm and BC = 6 cm.
   b) ΔPQR such that PQ = QR = PR = 5 cm.
   c) ΔXYZ with m∠Y = 90° and XY = YZ.
   d) ΔLMN with m∠L = 30°, m∠M = 70° and m∠N = 80°.

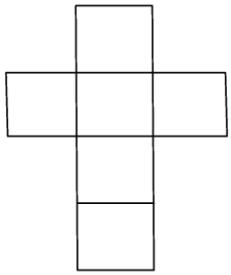
5. Shekhar is moving towards north-west direction. In which direction will he be if he turns through:
   a) 2 right angles?
   b) a complete angle?

6. In the given figure, BE is parallel to CD; AB =AE = 3cm and BF =EF = 5cm. What kind of quadrilateral is:
   a) BCDE
   b) AEFB



7. Fill ups:-
   a) A triangular prism has _____ number of edges.
   b) A quadrilateral having one pair of opposite sides parallel is called _____.
   c) Eight sided polygon is called _____.
   d) A rhombus with all its angles as right angles is called _____.
   e) A cuboid has _____ vertices while cylinder has _____.
   f) 190° is a _____ angle.

8. Identify the solids whose **Nets** are given below:

a. 

b. 

Web Resources: Explore the third dimension by
http://goo.gl/9V2lYw

Learning Outcomes:
Students will be able to

- measure and draw angles using protractor
- understand parts of a revolution, directions and angles made by hands of a clock
- Define different types of angles
- classify triangles on the basis of sides and angles
- define types of quadrilaterals and their properties
- define simple polygons, regular and irregular polygons
- define 3D Shapes: cone, cylinder, pyramid cube, cuboid, prism and explore the number of faces, edges and vertices of these solids using nets of solid shapes.

ENRICHMENT TIME

- Explore the properties of diagonals of various quadrilateral and answer the following questions:
  1. If the diagonals of a quadrilateral are bisect each other at 90°,then this quadrilateral is
     i. A rectangle
     ii. A rhombus
     iii. A kite
     iv. None of these
  2. A square has its diagonals_____ (equal /unequal)
  3. State true or false:
     The diagonals of a rectangle are perpendicular to each other.

Assignment No.8
Algebra

1. Write an algebraic expression for the following:
   a. 7 added to x.
   b. 5 subtracted from y.
   c. x subtracted from 2.
   d. The product of y and z.
   e. The quotient of x by 3.

2. Write an algebraic expression for the following:
   a. Twice of z subtracted from y.
   b. 4 subtracted from $-x$.
   c. 15 less than the quotient of x by 3.
   d. The product x and y divided by 5.
   e. 5 times x increased by 7 times y.

3. There are n students in a team and `r is sanction to each for refreshment, what is the total amount sanctioned?
4. Shalu is 3yrs less than 5 times Raju's age. Find Shalu's age if Raju isy years old.
5. Asha covers x cm in one step. How much does she cover in y steps?
6. An apple weighs 75gm and an orange weighs 35gm. If there are m apples and n oranges, Write an expression to calculate their total weight.

7. Solve the following equations:
   I. One step equations

   a. $x + 3 = 19$
   b. $x + 14 = -2$
   c. $y + 24 = 34$
   d. $y + 9 = -4$
   e. $z - 3 = -2$
   f. $z - 18 = 12$
   g. $m - 43 = 92$
   h. $m - 46 = -86$
   i. $2h = 18$
   j. $4l = 16$
   k. $3n = 27$
   l. $14k = 140$
   m. $\frac{q}{2} = 15$
   n. $\frac{k}{9} = 12$
   o. $\frac{s}{3} = 15$
   p. $\frac{t}{7} = 11$

   II. Two step Equations

   a. $3x + 13 = 19$
   b. $5x + 22 = 27$
   c. $7y + 14 = 28$
   d. $9y + 21 = 48$
   e. $9m - 3 = 15$
   f. $5n - 21 = 9$
   g. $2z - 22 = -2$
   h. $7z - 8 = -1$

i. $\frac{p}{2} + 2 = 12$

j. $\frac{w}{3} + 14 = 20$

k. $\frac{n}{7} + 5 = 9$

l. $\frac{q}{8} + 2 = 6$

m. $\frac{a}{3} - 19 = 14$

n. $\frac{g}{6} - 20 = 34$

o. $\frac{b}{7} - 19 = -4$

p. $\frac{3x}{4} = 12$

Learning Outcomes:
student will be able to
• define constants and variables.
• appreciate the use and importance of variables in mathematics (study matchstick patterns)
• express statements as algebraic expressions and vice versa.
• solve simple linear equations in one step and 2 steps.

ENRICHMENT TIME

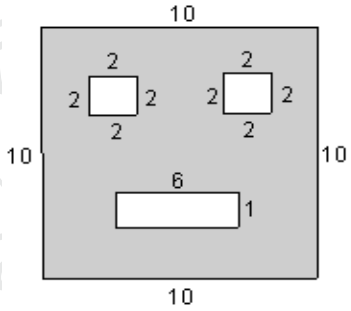
- From the sum of $a - b$ and $b - c$ subtract $c - a$.
- Asha went to the market and bought 5 pencils and 2 story books for Rs 200. Salim bought 6 pencils and 3 story books for Rs 400. Write out the equations for what Asha and Salim bought individually. Also give an equation for the total number of books and the pencils bought and the money spent.
- Think of a number between 1 to 10. Square it. Then add 28. Now subtract 10 from it. Subtract the square of the number. Halve the number that you have got. You are left with 9! Now try and figure out how the answer 9 is arrived. Is it the same answer every time? Can you form a suitable equation for it?

ARYABHATTA - Indian Mathematician

- Aryabhatta was born in 476A.D in Kusumpur, India.
- He completed his studies at the University of Nalanda.
- He was the first person to say that Earth is spherical and it revolves around the sun.
- He gave the value of Π as 3.1416, claiming, for the first time, that it was an approximation. (He gave it in the form that the approximate circumference of a circle of diameter 20000 is 62832.)
- He also wrote a text book for astronomical calculations, Aryabhatasiddhanta. Even today, this data is used in preparing Hindu calendars (Panchangs).
- In recognition to his contributions to astronomy and mathematics, India's first satellite was named Aryabhatta.

Assignment No.9
Mensuration

1. A playground is 100m long and 70m broad. How much distance does a girl run when she runs five times around the ground?
2. The perimeter of a square is 120m. Find its area.
3. The area of a rectangle of breadth 48m is 8304 sqm. Find its perimeter.
4. Find the area of the shaded portion. All measurements are given in centimeters.



5. A room is 10m long and 6m wide. How many tiles of 20cm by 10cm are required to cover its floor?
6. A wire in the shape of an equilateral triangle of side 16 cm is rebent into a square. Find the side of the square.
7. Side of a square tile is 25cm. How many tiles will be needed for a rectangular lawn 12m long and 10m wide. Find the total cost at the rate of Rs 8 per tile.
8. The perimeter of a rectangle is 84 cm. If the width is 12 cm, what is the length?

9. Find the Perimeter of fig(1) and area of fig(2) on the graph shown alongside.

One square represents one sq cm.

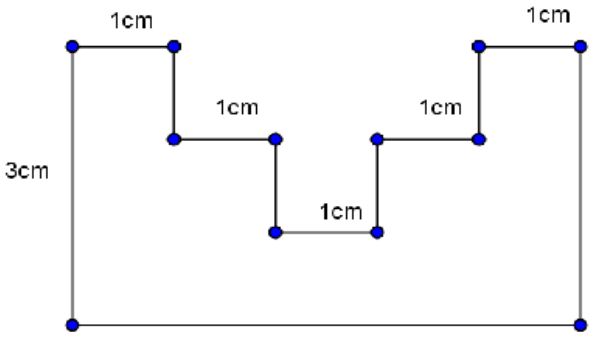


Fig (1)

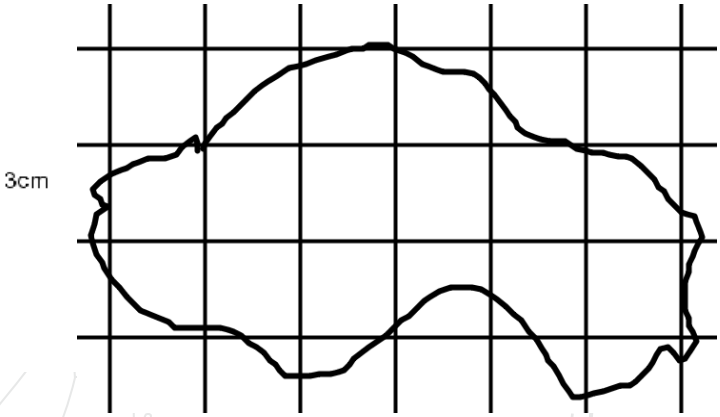


Fig (2)

Web Resources: Let's revise Perimeter using
http://goo.gl/Cq20k8

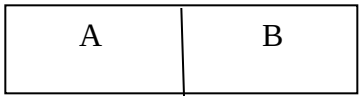
Learning Outcomes:
student will be able to

- define perimeter and area.
- calculate the perimeter of plane figures.
- to find perimeter of rectangle, square and any other regular polygon
- calculate the area of irregular shapes using graph paper.
- calculate the area of the rectangle and square.
- solve word problems based on perimeter and area.

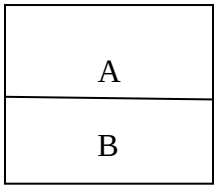
ENRICHMENT TIME

- The cost of fencing a rectangular field at Rs.30/m is Rs2400. If the length of the field is 24 m, then find its breadth.
- The length of the diagonal of a square is 20m.Find its area.
- Maya has a square swimming pool in her garden, with four beautiful trees at the corners. She would like to exactly double the area of the pool, but she doesn't want the trees to be cut down. How can she do it? (try dividing the square into 4 equal triangles)

- The rectangle in fig1. is cut along the middle. The two pieces are rejoined to form another rectangle as shown in fig2.



(1)



(2)

What will definitely be same for fig1 and fig2, Area or Perimeter or Both?

Assignment No. 10(A)
Playing with Numbers - RECAP

1. Write all the factors of the following numbers.
   a) 24
   b) 18
   c) 36
   d) 21
   e) 60

2. Write all the multiples of 9 upto 100.

3. Answer the following:

   a) _____ is the factor of every number.
   b) Every number is a factor of _____.
   c) Number of factors of a given number are _____. (finite/infinite)
   d) Number of multiples of a given number are _____. (finite/infinite)
   e) Every factor of a number is _____ to the given number. (less than/equal/greater than)
   f) Every multiple of a number is _____ to the given number. (less than/equal/greater than)
   g) _____ and _____ are the factors of every number.
   h) A number for which sum of all its factors is equal to twice the number is called a perfect number.6 and 28 are perfect numbers. Is 10 a perfect number?
   i) Write all prime numbers less than 15.
   j) ____ is neither prime nor composite.

k) The smallest prime number is ____ and the smallest composite number is _____.

l) The only even prime number is _____

m) The sum of any two odd numbers is ____ and the sum of any two even numbers is _____. (odd/even)

n) The greatest prime number between 1 and 10 is_____.

4. State true or false:
   a) All even numbers are composite numbers.
   b) The sum of three odd numbers is always even.
   c) The product of three odd numbers is odd.
   d) Sum of two prime numbers is always even.

5. Two prime numbers whose difference is 2 are called twin primes. Write any three examples of twin primes

6. Express the following as the sum of two odd primes:
   a) 36
   b) 18

7. Express the following as the sum of three odd primes:
   c) 21
   d) 31

8. Find the common factors of:

   a) 20 and 28

   b) 35 and 50

   c) 5,15 and 25

9. Find three common multiples of:

   a) 6 and 8

   b) 12 and 18

10. If the only common factor of two numbers is 1.The numbers are called _____.
Which of the following numbers are co-prime?
    a) 18 and 36
    b) 216 and 215
    c) 81 and 16
    d) 24 and 14

11. Test the divisibility of the following numbers by 11.
    a. 7169803 b. 901351 c. 818950
12. Test the divisibility of the following numbers by 12.
    a. 7632 b. 8432 c. 14382.
13. Test the divisibility of the following numbers by 15.
    a. 63150 b. 45108 c. 34560

14. Following are the properties of divisibility rules:

(i) If a number is divisible by another number, then it is divisible by each of its factors.

(ii) If a number is divisible by two co-prime numbers, then it is also divisible by their product also.

(iii) If two given numbers are divisible by a number, then their sum is also divisible by that number.

(iv) If two given numbers are divisible by a number, then their difference is also divisible by that number.

Based on the above, which of the following are true statements?

    a) If a number is divisible by 3, it is also divisible by 9.
    b) If a number is divisible by 9, it is also divisible by 3.
    c) If a number is divisible by 18, it is also divisible by both 3 and 6.
    d) If a number is divisible by 9 and 10 both, then it must be divisible by 90.
    e) If 25 and 15 both are divisible by 5, their sum is also divisible by 5.
    f) If a number exactly divides the sum of two numbers, it must exactly divide the two numbers separately.

15. Determine if 25110 is divisible by 45.

Assignment No. 10(B)
Playing with Numbers – HCF & LCM

1. Find the prime factorization of the following numbers:
   a) 90
   b) 16
   c) 28
   d) 980
2. Write the greatest 4-digit number and express it in terms of its prime factors.
3. Write the smallest 5-digit number and express it in terms of its prime factors.
4. Find the HCF of following numbers by prime factorisation method:
   a) 18,48
   b) 30,42
   c) 18,60
   d) 27,63
   e) 36,84
5. Find the HCF of following numbers by long division method:
   a) 34,102
   b) 70,105,175
   c) 91,112,49
   d) 18,54,81
   e) 12,45,75

6. Find LCM of the following numbers:
   a) 12 and 18
   b) 24 and 90
   c) 40,48 and 45
   d) 20,25 and 30
   e) 40,60 and 90

7. Fill in the blanks:
   a) HCF of two coprime numbers is _____.
   b) HCF of two consecutive numbers is _____.
   c) HCF of two consecutive odd numbers is _____.
   d) HCF of two consecutives even numbers are _____.
   e) HCF of two numbers where one number is factor of the other is _____.
   f) LCM of two coprime numbers is _____
   g) LCM of two consecutive numbers is _____.
   h) LCM of two numbers where one number is factor of the other is _____.

8. Renu purchases two bags of fertilizer of weights 75 kg and 69 kg. Find the maximum value of weight which can measure the weight of the fertilizer exact number of times.
9. Three boys step off together from the same spot. Their steps measure 63 cm, 70 cm and 77 cm respectively. What is the minimum distance each should cover so that all can cover the distance in complete steps?
10. Three tankers contain 403 litres, 434 litres and 465 litres of diesel respectively. Find the maximum capacity of a container that can measure the diesel of the three containers in exact number of times.
11. The length, breadth and height of a room are 825 cm, 675 cm and 450 cm respectively. Find the longest tape which can measure the three dimensions of the room exactly.
12. Determine the size of the longest tape which can be used to measure exactly the lengths 7m, 3m 85cm and 12m 95cm.
13. Find the least number which can be divided by 25, 40 and 60.
14. Three bells ring at a time interval of 25, 40 and 50 seconds. If they rung together now, after how long will they next ring together?
15. Find the largest number which divides 868, 651, 1302 and 1085 exactly.
16. The HCF of 210 and 390 is 30. Find their LCM.
17. The LCM of two numbers is 840 and their HCF is 4. If one number is 28, find the other.
18. The HCF of two numbers is 12 and their product is 4320. What is their LCM? If one of the numbers are 60, what is the other number?

Learning Outcomes:
Students will be able to:

- define important terms like prime, composite, coprime etc.
- find factors and multiples of given numbers
- define divisibility rules for 7, 11, 12 and 15
- find prime factors of given numbers using prime factorisation method
- to find LCM using Prime Factorisation method
- to find HCF using Prime Factorisation and long division method
- solve application-based questions on Highest common factor and least common multiple.

Do you know?

PERFECT NUMBERS

The first five perfect numbers are 6, 28, 496, 8128 and 33550336.

- Find the factors of first four perfect numbers and check the definition.
- The existence of an odd perfect number is not known.
- Numbers, which are not perfect, are either deficient or abundant depending on whether the sum of its proper divisors is less than the number or more than the number in question.

ENRICHMENT TIME

- Take any multiple of 9. Now separate the digits of the multiple and add them. Repeat the process with the result until you obtain a one-digit number. What is it? Is it the same number every time?
- Think of any whole number. Multiply the number by itself. To the product of the number add the number you started with. Now add 17. What is the number? Is your answer a prime number?

HAILSTONE NUMBERS

Many mathematicians like playing with numbers, and sometimes they discover weird patterns that are hard to explain. Here's a mysterious one you can try:

Pick any whole number. If it's odd, multiply the number by 3, then add 1. If it's even, divide it by 2. Now, apply the same rules to the answer that you just obtained. Do this over and over again, applying the rules to each new answer.

For example, suppose you start with 5. The number 5 is odd, so you multiply it by 3 to get 15, and add 1 to get 16. Because 16 is even, you divide it by 2 to get 8. Then you get 4, then 2, then 1, and so on. The final three numbers keep repeating.

Try it with another number. If you start with 11, you would get 34, 17, 52, 26, 13, 40, 20, 10, 5, 16, 8, 4, 2, 1, and so on. You eventually end up at the same set of repeating numbers: 4, 2, 1. Amazing!

The numbers generated by these rules are sometimes called "hailstone numbers" because their values go up and down wildly—as if, like growing hailstones, they were being tossed around in stormy air—before crashing to the ground as the repeating string 4, 2, 1.

Assignment No.11
Practical Geometry

1. Construct the following angles using protractor:
   a. 78°
   b. 136°
   c. 94°
2. Construct the following angles using compass and ruler:
   a. 45°
   b. 75°
   c. 105°
3. Construct the following angles and their angle bisectors using compass and ruler:
   a. 60°
   b. 30°
4. Construct a perpendicular to a line from a point outside it using a compass and a ruler.

5. Draw a circle of radius 4 cm. Draw any two of its chords. Construct the perpendicular bisectors of these chords. Where do they meet?

Web Resources: Watch step by step constructions on

- http://goo.gl/R6rsgX

Learning Outcomes:
student will be able to

- bisect a given angle using compass and ruler.
- construct the angles of measure 30°, 45°, 75°, 60°, 90°,105°,120°) using compass and ruler.
- construct a perpendicular to a given line (through a point on it and from a point outside it) using compass and ruler.
- construct a perpendicular bisector of a given line segment using compass and ruler.

ENRICHMENT TIME

1) Let A, B be the centres of two circles of equal radii. Draw them so that each one of them passes through the centre of the other. Let them intersect at C and D. Examine whether AB and CD are at right angles.

2) Construct an angle of 120° with vertex O. Take a point A on one of its arms and B on another such that OA = OB. Draw the perpendicular bisectors OA and OB. Let them meet at P.

Is PA = PB?

Fun corner -Some Calculator Tricks

Pocket and desk calculators are not only useful; they also can be used to surprise and entertain yourself and your friends. Here is a choice selection of some of the calculator amusement.

a. Select any number key (other than 0) and press it three times. Divide the number on display by 3, and then divide the result by the number on the key you first punched. The result is 37.

a. Put 1443 on display. Ask someone to tell you her age. (She must be older than 9). Multiply 1443 by her age, then multiply by 7. The computer will "stutter" her age.

b. When certain numbers in the readout are viewed upside down, they make words. Here are two of such tricks. In each case, after you do the math, turn your calculator around to read what it says.
   i. Say 'hi" to the machine. Then divide 6.1872 by 8.
   ii. What did Santa Claus say when Rudolf showed him one of these stunts? Multiply 0.06734 by 6.

RAMANUJAN – Indian Mathematician

- He was born on 22nd of December 1887 in a small village of Tanjore district, Madras. He failed in English in Intermediate, so his formal studies were stopped but his self-study of mathematics continued.
- He sent a set of 120 theorems to Professor Hardy of Cambridge. As a result he invited Ramanujan to England.
- He used to write his ideas and results on loose sheets. His three filled notebooks are now famous as *Ramanujan's Frayed Notebooks*.
- Ramanujan showed that any big number can be written as sum of not more than four prime numbers.

- He showed that how to divide the number into two or more squares or cubes.
- When Mr Littlewood came to see Ramanujan in taxi number 1729, Ramanujan said that 1729 is the smallest number which can be written in the form of sum of cubes of two numbers in two ways,
- i.e. 1729 = $9^3 + 10^3 = 1^3 + 12^3$ then the number 1729 is called Ramanujan's number.

Assignment No.12
Ratio and proportion

1. Find the ratio of:
   a. 55 paise to Re 1.
   b. 500 ml to 2 litres.
2. Is the proportion true?
   a. 200 ml: 2.5 litres : : Rs 4 : Rs 50.
   b. 6 min: 25 sec : : 15 cm : 80 mm.
3. Are 30, 40, 45 and 60 in proportion?
4. The sum of the angles of a triangle is 180 degrees. The angles of the triangle are in the ratio 1:2:3.
   a. Find the measure of each angle.
   b. Classify the triangle on the basis of angles.
5. 25 oranges are shared by 10 persons. How many oranges are shared by 2 persons?
6. A car travels 90 km in 2 hours and 30 minutes.
   a. How much time is required to cover 30 km with the same speed?
   b. Find the distance covered in 2 hours with the same speed.
7. Which of the following pairs of ratios are equivalent?
   a. 4:12 and 2:6
   b. 10:33 and 18:44
   c. 9:12 and 21:28
8. A man earns Rs7500 a year and spends Rs6300 a year. Find the ratio of
   a. his income to his expenditure
   b. his saving to his income
9. Divide:
   a. Rs84 in the ratio 5:7
   b. 450g in the ratio 5:4

10. Vivek's recipe for fruit punch requires 5 parts of water and 2 parts of punch mix. Set up a Proportion and find out how much water did he need for 8 cups of punch mix.

Web Resources: Interesting videos to learn the concept of Ratio and Proportion
http://goo.gl/s1R9lm
http://goo.gl/WfshSs

Learning Outcomes:
Students will be able to

- Understand and define ratios.
- find ratio between given numbers
- compare two ratios.
- define equivalent ratios.
- define proportion as equality of two ratios.
- find if the given terms are in proportion or not.
- solve problems based on ratio, proportion, unitary method (with only direct variation).

Optional Enrichment

1. The ratio of speeds of two vehicles is 2: 3. If the first vehicle covers 50 km in 3 hours, what distance would the second vehicle cover in two hours?
2. The ratio of income to expenditure of Mr. Natrajan is 7: 5. If he saves Rs 2000 a month, what could be his income?
3. The ratio of the length to breadth of a lawn is 3: 5. It costs Rs 3200 to fence it at the rate of Rs 2 per metre. What would be the cost of developing the lawn at the rate of Rs 10 per square metre?
4. At 10 am, a two-metre-high pole gives a shadow of 2m 60cm. A tall tree in the same streat at the same time gives a shadow of length 15.6m. What is the height of the tree?
5. The length and breadth of a rectangular field are in the ratio 2:3. If its perimeter is 150m, then what is the area of the field?

Chocolate Calculator Cake (Serves 15)

Ingredients:
50g margarine
125g soft brown sugar
150g self-raising flour
1.25ml/4 tsp) bicarbonate of soda
1 egg
2 ripe bananas
2.5ml (1/2 tsp) vanilla essence

100g Cadbury Dairy Milk chocolate
40-60ml (2-3 Tbs) milk

Filling and icing:
1 large Cadbury Flake
1 pkt dessert topping mix
125ml (1/4 pt) cold milk
60ml (3 Tbs) Cadbury Drinking Chocolate
1 large packet Cadbury Buttons (milk chocolate)

Questions about the Calculator Cake

1. How many grams of flour would be in each slice of cake?
2. What fraction of an egg would be in each slice?
3. The recipe says to use between 40 and 60ml of milk. How much would you need to use to make sure that each slice contained 4ml of milk?
4. If 2.5ml is equivalent to $1/2$ a teaspoon, what is the ratio of ml to tsp in its simplest form?
5. If 125ml is about $1/4$ of a pint, how many ml are there in a pint?
6. How much drinking chocolate would be in each slice?
7. This recipe is for a cake that serves 15 people. How many bananas would you need to use for a cake that serves 30 people?
8. How much bicarbonate of soda would you need to use?
9. How much vanilla essence would you need to use?
10. If you wanted to make a Calculator Cake to serve 60 people, how many eggs would you need?
11. How much margarine would you need to use?
12. How much brown sugar would you need?

An interesting fact-A Strange Prime Number

The Prime number 73,939,133 has a very strange property. If you keep removing a digit from the right hand end of the number, each of the remaining numbers is also prime. It's the largest number known with this property. Take a look: 73,939,133 and 73,93,913 and 7,39,391 and 73,939 and 7,393 and 739 and 73 and 7 are all prime: (Thanks to Toby Howard)

Math is Fun

Activity Sheets

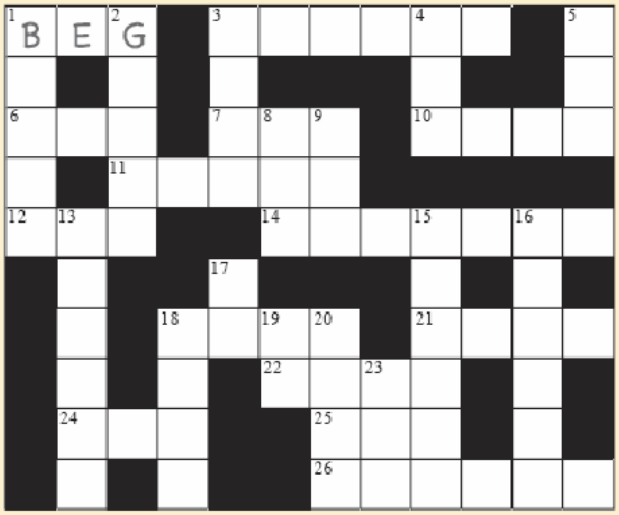
Activity 1:

Cross "*Calcuword*" Puzzle

This "Calcuword" puzzle is different from any crossword puzzle you've ever done. To discover which words to fill in, you must solve the equations below with your calculator. Turn the calculator upside down after you solve each equation and read the word that appears in the answer screen. If a word is not familiar to you, look it up in a dictionary. The first problem has been done for you.

ACROSS

1) 22 x 29 = 638 ➥ BES
3) 96 x 3,923 =
6) 31.5 ÷ 50 =
7) 692 – 85 =
10) 2,568 + 3,095 =
11) 12,335 + 19,403 =
12) 15 x 23 =
14) 756,327.4 x 5 =
18) 8,100 – 995 =
21) 3 x .269 =
22) 70.5 ÷ 100 =
24) .21 + .16 =
25) 1 – .94 =
26) 20 x 27,679 =

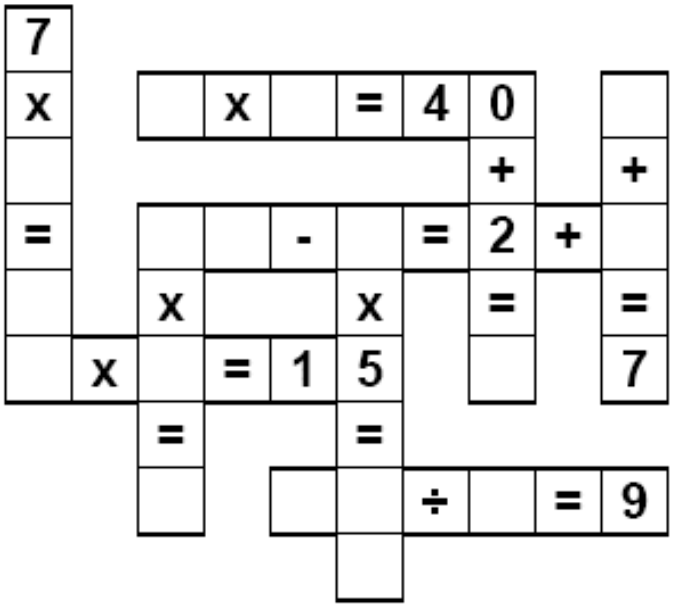


DOWN

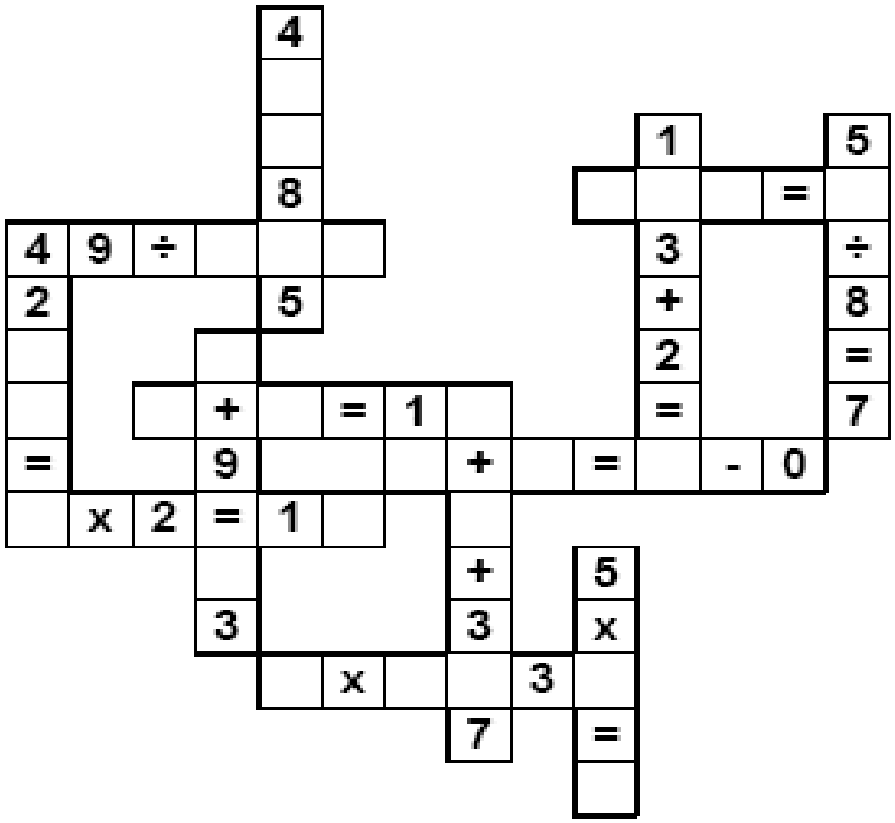
1) 2 x 27,689 =
2) 76 x 501 =
3) 12,969 – 5,231 =
4) 161 + 156 =
5) 611 – 97 =
8) 457 + 253 =
9) 4,032 ÷ 12 =
13) 12 x 31,567 =
15) 4,506,849 ÷ 9 =
16) 89,652 + 484,165 =
17) 3 ÷ 5 =
18) 3,941 – 896 =
19) 32 + 19 =
20) .222 + .385 =
23) 269 x 3 =

Activity 2: MaTh–PUZzLeS

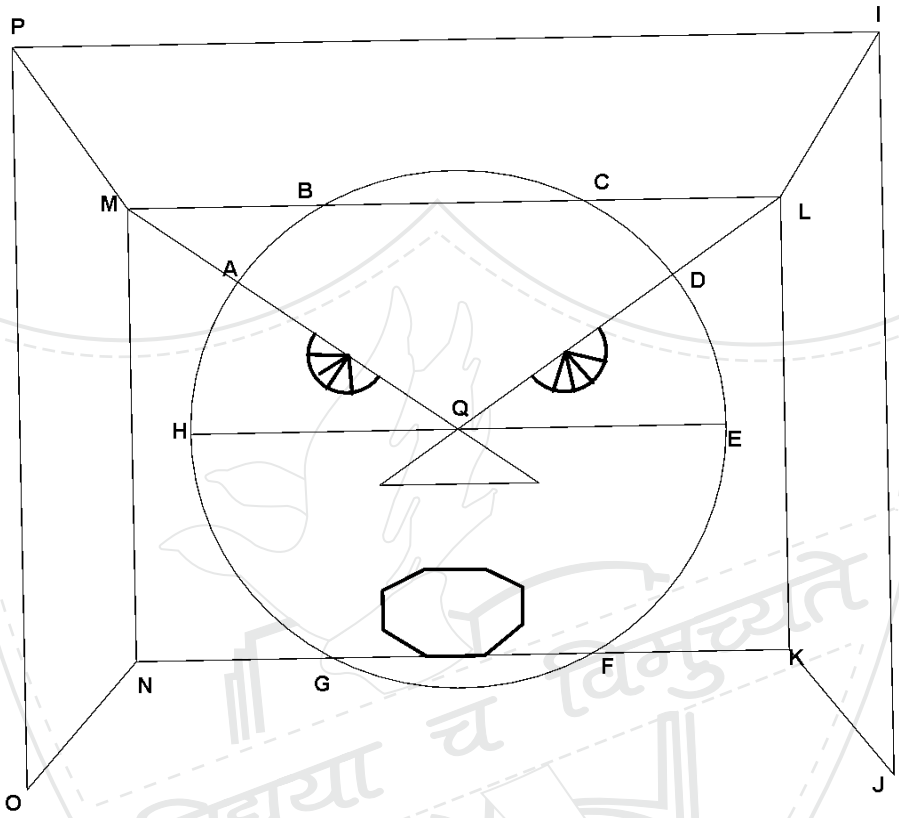
Fill the boxes with numbers to solve the following puzzle:



Fill the boxes with numbers or operations (+, –, ×, ÷) to solve the following puzzle:



Activity 3: FIGURE IT OUT



Look at the given figure and answer the following questions:

1. Number of radii……..
2. Number of chords……..
3. Name an arc……
4. Name the longest chord……..
5. Sum of the angles in the nose of the figure=
6. Shade a major segment
7. Color two minor segments as red.
8. Name four collinear points.

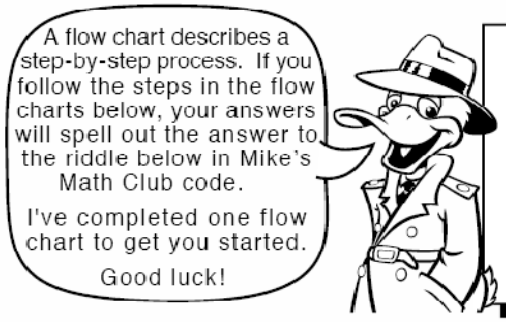
Activity 4: FRACTION WORD SEARCH

M	G	G	I	F	R	E	P	O	R	P	D	C	L	A
L	U	O	N	X	R	B	H	O	J	E	Y	A	A	D
R	Y	L	C	I	S	A	T	O	N	E	D	N	C	D
S	E	E	T	L	T	A	C	O	P	I	O	C	O	I
L	W	P	B	I	R	R	M	T	V	W	O	E	R	T
A	D	Q	O	E	P	I	E	I	I	M	L	L	P	I
M	K	E	M	R	N	L	S	V	M	O	E	L	I	O
I	Y	U	X	A	P	I	I	O	N	Z	N	A	C	N
C	N	O	T	I	O	M	N	C	N	O	Q	T	E	U
E	V	O	E	N	M	J	I	J	A	A	C	I	R	M
D	R	P	E	R	C	E	N	T	S	T	T	O	K	B
N	O	I	T	C	A	R	T	B	U	S	I	N	F	E
Y	F	I	L	P	M	I	S	Z	O	G	E	O	Q	R
I	X	P	R	S	D	X	P	O	U	H	U	B	N	S
D	U	B	K	R	E	D	U	C	I	N	G	A	P	G

ADDITION
CANCELLATION
COMMON
CONVERTING
DECIMALS
DENOMINATOR
DIVISION
FRACTION
IMPROPER
MIXED
MULTIPLICATION
NUMBERS
NUMERATOR
PERCENTS
PROPER
RECIPROCAL
SUBTRACTION
SIMPLIFY

Activity 5:

FLOW CHART SECRET CODE

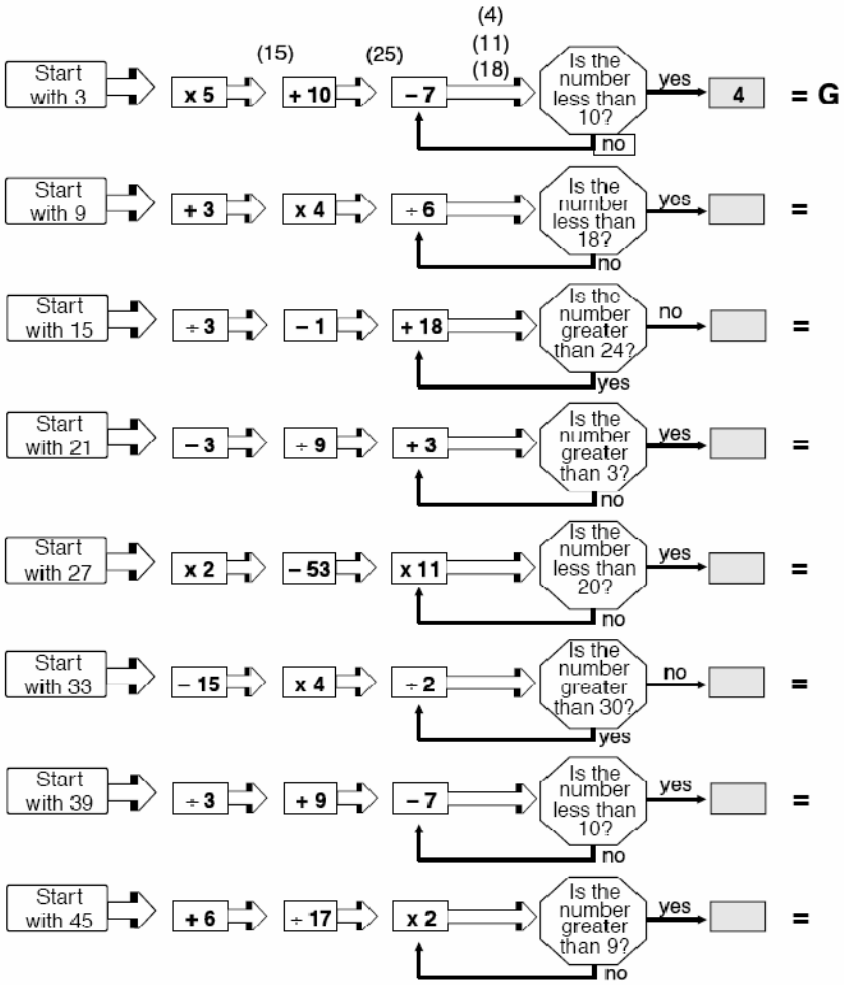


Mike's Math Club
Secret Coded Letter Values

0 = '	9 = N	18 = D
1 = F	10 = I	19 = B
2 = M	11 = L	20 = P
3 = H	12 = R	21 = W
4 = G	13 = X	22 = T
5 = O	14 = C	23 = Q
6 = A	15 = J	24 = Z
7 = S	16 = Y	25 = U
8 = E	17 = K	26 = V

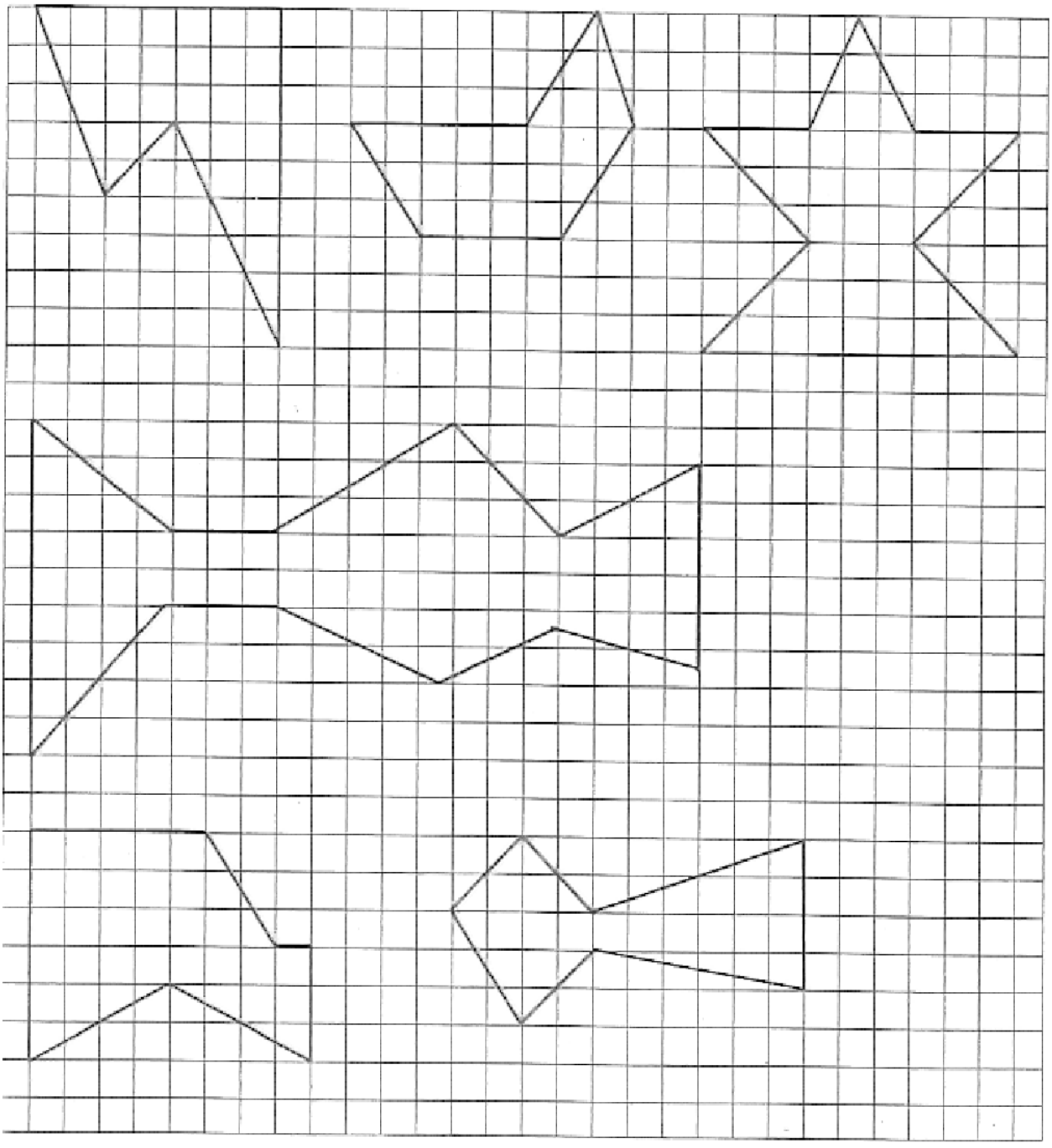
What does every person in the world do at exactly the same time?

When you answer the question in the octagon, follow the arrows until your answer points you to the gray box. **(You might need to repeat the last step more than once.)**



Activity 6: AREA OF IRREGULAR POLYGONS

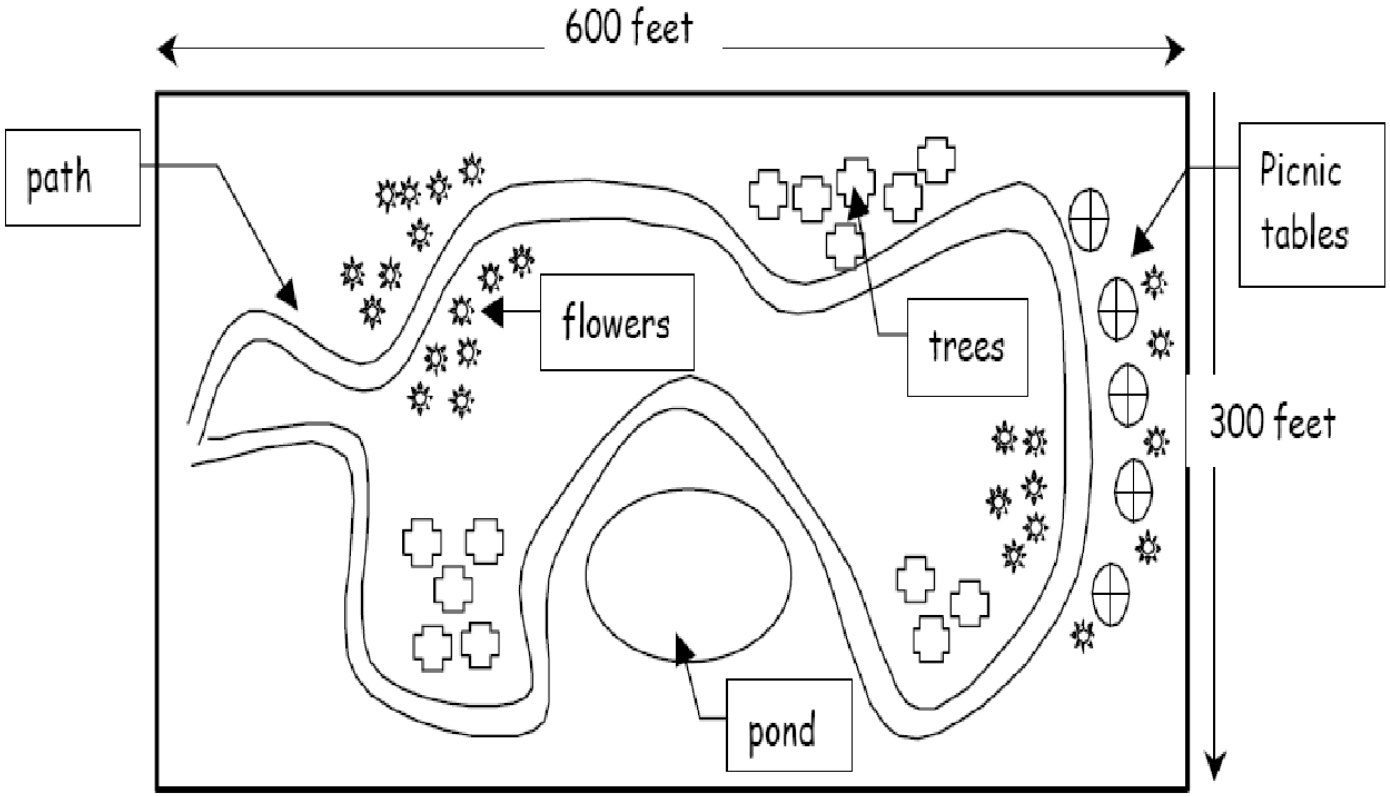
Find the areas of the following irregular figures. Assume that each small square is 1cm².



Activity 7: THE GARDEN

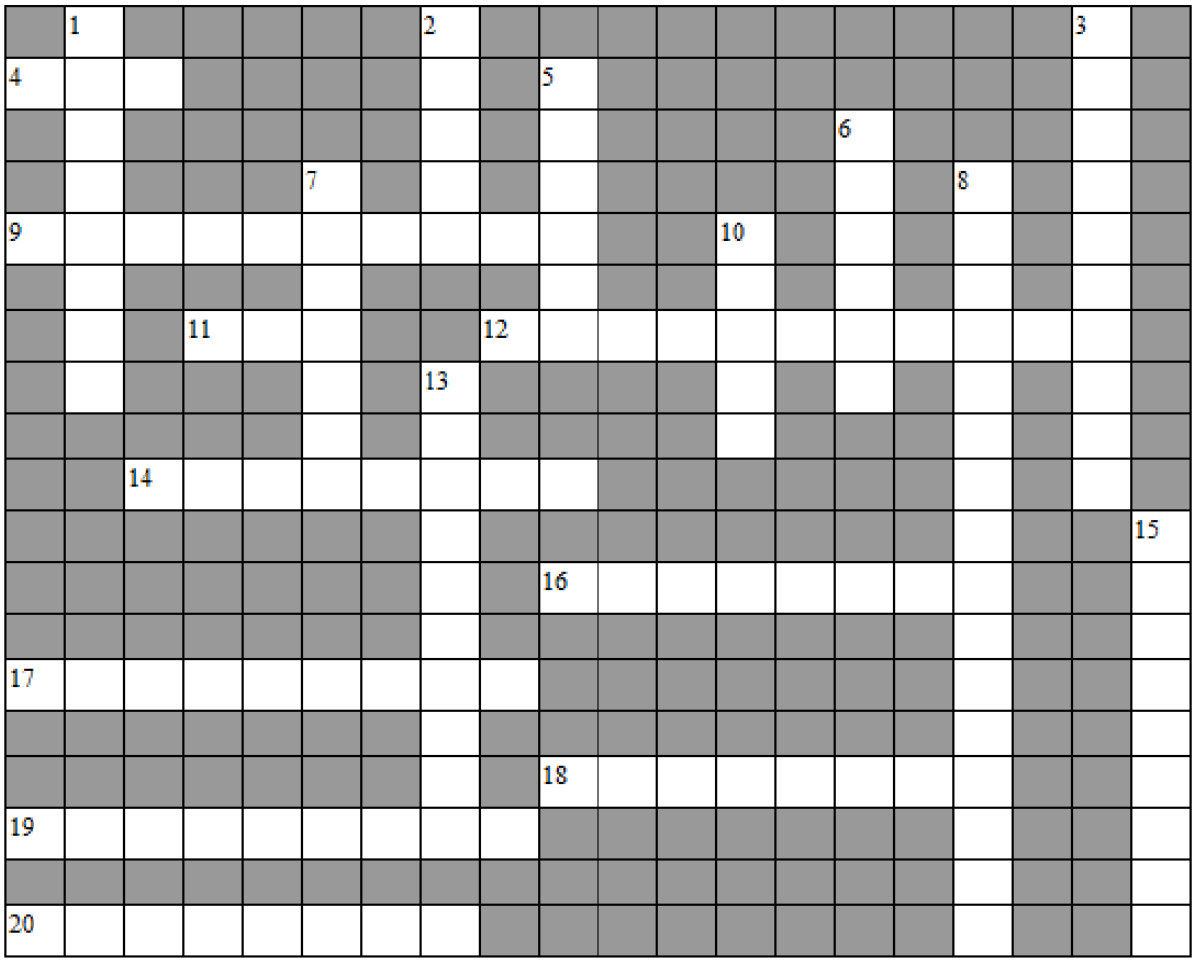
The garden in the picture below is open every day from 10:00am to 5:00 p.m. It costs Rs 2.00 per visitor to walk through the garden.
Which amounts are variables? Write a "V" next to them.

1. The area covered by the garden. _____
2. The number of people who visit the garden each day. _____
3. The amount of sunlight that falls on the garden each day. _____
4. The number of hours the garden is open each day. _____
5. The amount of water in the pond. _____
6. The amount of plant food the gardeners use each week. _____
7. How much money each person pays to visit the garden. _____
8. The length of the path through the garden. _____
9. The number of bees in the garden. _____
10. The amount of rain that falls on the garden each day. _____



Activity 8: MATH

CROSSWORD



ACROSS

4. answer to an addition problem
9. answer to a subtraction problem
11. 3, 19, 37, and 131 are all __ numbers
12. bottom number of a fraction
14. polygon with five sides
16. straight lines that never cross
17. having the same size and shape
18. shape of a soup can
19. distance around a figure
20. Hindu-Arabic numeral for LXII

DOWN

1.answer to a division problem
2.twelve
3.five lines passing through the same point
5.shape of a tennis ball
6.line intersecting the circle at two distinct points
7.answer to a multiplication problem
8.another name for a cuboid
10.nine_____seven equals 63
13.90 degree angle
15.top number of a fraction

MULTIPLE CHOICE QUESTIONS (TERM I)

1. The product of a number and 109 is 109. The number is.

   a) 1 b) 0 c) $\frac{1}{109}$ d) 109

2. $8 \times (10 + 9) = (8 \times 10) + (8 \times 9)$ is an example of _____ property.

   a) Associative b) Closure c) Commutative d) Distributive

3. In the set of whole numbers, **1** is the identity element for

   a) Addition b) Subtraction c) Multiplication d) Division

4. 205×12 is not the same as

   a) $(200 + 5) \times 12$ b) $205 \times (10 + 2)$ c)$(300 - 95) \times 12$ d) $200 + 5 \times 12$

5. Which one of the following does not represent the digit 0?

   a) $5 \times 0 + 0$ b) $\frac{3-3}{3}$ c) $\frac{2\times0}{5}$ d) $\frac{2}{3-3}$

6. A fraction equivalent to $\frac{13}{27}$ is

   a) $\frac{26}{27}$ b) $\frac{13}{54}$ c) $\frac{39}{54}$ d) $\frac{26}{54}$

7 $\frac{12}{25} + \frac{13}{25}$ is:

   a) 1 b) $\frac{1}{25}$ c) $\frac{26}{25}$ d) $\frac{26}{25}$

8. $\frac{1}{4}$ of 1 kg is

   a) 500 g b) 250 g c) 750 g d) 100 g

9. Rs 13.09 is equivalent to

   a) 1390 p b) 1309 p c) 13090 p d) 130900 p

10. 25 litres 7 ml is equal to

    a) 25.7litres b) 25.07litres c) 25.007litres d) 25.70litres

11. $12\frac{7}{100}$ can be written as

a) 12.7 b) 12.07 c) 12.70 d) 12.007

12. Sum of three negative integers will be

a) +ve b) -ve c) 0 d) May be + ve or may be –ve

13. $12-(-18)$ is

a) -6 b) -30 c) 6 d) 30

14. $-28-(+25)$ is

a) -3 b) +3 c) -63 d) -53

15. $+28-(+78)$ is

a) 50 b) -50 c) -106 d) 106

16. $|15|+|-15|$ is:

a) 30 b) 0 c) -30 d) 10

17. The additive inverse of -3 is

a) $\frac{1}{3}$ b) $\frac{1}{-3}$ c) 3 d) -3

18. In a given plane, two distinct intersecting lines can intersect at the most at

a) 2 points b) 0 point c)1 point d) 3 points

19. A triangle having two acute and one obtuse angle is

a) Acute angled b) Obtuse angled c) Right angled d) Zero angled

20. Which of the following represents a natural number?

a) $35\div 0$ b) $35\div 35$ c) $0\div 35$ d) $35-35$

21. 6 *kg* 5 *g* is equivalent to

a) 6.5 *kg* b) 6.05 *kg* c) 6.500 *kg* d) 6.005 *kg*

22. A triangle can have _____.

a) 2 acute angles b) 2 obtuse angles c) 2 right angles d) none of these

23. The additive inverse of $|-5|$ is _____.

a) -5 b) 5 c) 1/5 d) 5+(-5)

24. The interior together with boundary of a curve is called _____.

a) interior b) exterior c) region d) all of these

25. Joseph has 10 candies. He gave 4 candies to John and John returned 2 candies to Joseph after few days. Number of candies Joseph has altogether are

a) 8 b) −8 c) 10 d) −10

26. On the number line the integer 5 is located

a) to the left of 0 b) to the right of 0 c) to the left of 1 d) to the left of -2

MULTIPLE CHOICE QUESTIONS (TERM II)

1. In the word MATHEMATICS, the ratio of the number of vowels to the number of consonants is

a) 4:11 b) 7:11 c) 4:7 d) 7:4

2. If $4:9::x:18$ is true, then x is

a) 2 b) 6 c) 8 d) 40.5

3. If 57: a = 51:85 are in proportion, then **a** is

a) 95 b) 76 c) 114 d) none of these

4. If Raju cycles 40 kms in 5 hours and Shalini cycles 36 kms in 4 hours, then the ratio of Shalini'sspeed to Raju's speed is

a) 10:9 b) 9:10 c) 9:8 d) 8:9

5. The solution of 3m - 3 = 0 is

a) -3 b) -1 c)1 d) 3

6. $3a$ equals

a) $3+a$ b) $3\times a$ c) $a\times a\times a$ d) $3\div a$

7. The number of terms in $5xy$ is

a) 3 b) 2 c) 5 d) 1

8. I think of a number x , and subtract 3 from it and then divide by 5. The correct algebraic expression is

a) $3-x\div 5$ b) $x-3\div 5$ c) $\frac{x-3}{5}$ d) $\frac{x}{5}-3$

9. The quotient of x by 3 is multiplied by y is

a) $\frac{3}{xy}$ b) $\frac{x}{3y}$ c) $\frac{xy}{3}$ d) $\frac{y}{3x}$

10. A pen costs Rs 25 and a pencil costs Rs 3. The total cost of ***m*** pens and ***n*** pencils is

a) Rs (25+n) b) Rs (25m+ 3n) c) Rs 25m+3n d) Rs 25(m+3n)

11. The value of x in $5x-3=12$ is

a) -1 b) 20 c) -3 d) 3

12. The perimeter of a rectangle 10 cm long and 25 mm wide is

a) 35 cm b) 70 cm c) 25 cm d) 35 mm

13.A square is 44 m long. Its perimeter is

a) 1936 m b) 1936 m² c) 176 m d) 166 m

14. Area of a square is 100 cm². Its side is

a) 10 cm b) 40 cm c) 25 cm d) 11 cm

15. (Number of zeros in 1 thousand): (Number of zeros in 1 million)= _____ .

a) 1 : 1 b) 1 : 2 c) 2 : 3 d) 4 : 7

16. The brochure said "Watch your mail! " I watched my mail for 5 days less than 5 weeks. For how many days did I watch my mail?

a) 10 b) 25 c) 30 d) 35

17. A quadrilateral having one and only one pair of parallel sides is called

a) a parallelogram b) a kite c) a rhombus d) a trapezium

18. Each angle of an equilateral triangle measures

a) 45˚ b) 30˚ c) 60˚ d) 80˚

19. A quadrilateral having two pairs of equal and adjacent sides but unequal opposite sides is called a

a) trapezium b) parallelogram c) kite d) rectangle

20. If a,b,c are in proportion, then

a) $a^2 = bc$ b) $b^2=ac$ c) $c^2 = ab$ d) none of these

21. Which of the following is regular quadrilateral?

a) A rectangle b) A rhombus c) A square d) A trapezium

22. If $x/5 = 1$, then x =

a) 1/5 b) 5 c) (5+1) d) none of these

23. Which of the following values satisfy the equation $x/3 +5 = 8$

a) 3 b) 6 c) 9 d) 12

24. The angles of a triangle are in the ratio 3:1:2.The measure of the largest angle is

a) 60˚ b) 30˚ c) 90˚ d) 120˚

25. Every _____ number has at least one even prime factor.

a) even b) odd c) prime d) whole

26. Prime factorization of 30 is

a) $1 \times 2 \times 3 \times 5$ b) $2 \times 3 \times 5$ c) 6×5 d) 15×2

27. The least number exactly divisible by 2, 3, 4, 6 and 9 is

a) 18 b) 24 c) 36 d) 72

28. Which of the following numbers is divisible by 6?

a) 5024 b) 7125 c) 3018 d) 7123

29. The greatest number which divides 36, 48, 96and 144 exactly is

a) 16 b) 12 c) 24 d) 36

30. HCF of two numbers is 8 and their LCM is 144. If one number is 16, then the other is

a) 48 b) 24 c) 72 d) 144

Question Bank 1

Q1. Using suitable rearrangement, solve:
   a. 25 ×125×80
   b. 123+345+477+655

Q2. Find the value by suitable rearrangement:
   a. 23+ 546 + 377 + 154
   b. 4 ×168 ×250

Q3. Using distributive property, find the value of:
   a. 785 ×94
   b. 968 ×73 + 968 ×27

Q4. Simplify:
   a. (-25) – [14 - 18]
   b. 11 + (-12) – (-13)

Q5. Pooja bought 16 roses and 14 lilies. Cost of each flower is Rs 15. How much money did she spend in all on the flowers? (Use suitable property)

Q7. Draw a circle of diameter 7 cm and show its major and minor segments with different colours.

Q8. Arrange in descending order:
   -12, -15, 14, 0, 2 -5, 8, 9

Q9. A place is 48 m above the sea level and another is 37 m below the sea level. What is the difference of level between the two places?

Q10. 59 chairs and 30 blackboards were purchased for a school. If each chair costs Rs 170 and a blackboard costs Rs 59, find the total amount of the bill. (Use Distributive Property)

Q11. Using suitable property of multiplication, find the value of: (**also name the property**)
   a) 375 × 96

   b) (14 × 2 × 64) + (7 × 36 × 4)

Q12. Draw a circle of diameter 6.8 cm. In the circle,
   a) Mark the centre.
   b) Draw a chord.
   c) Show the minor and major segments with different colours.
   d) Draw a secant of the circle.

Q13. Fill in the blanks:
   a) _____ is the multiplicative identity of whole numbers.
   b) Three or more points lying on a line are called _____ points.
   c) (a + b) + c = a + (b + c) is the _____ property of addition for whole numbers.
   d) _____ is the additive inverse of -14.

Q14. Subtract the sum of $3\frac{5}{9}$ and $3\frac{1}{3}$ from the sum of $5\frac{5}{6}$ and $4\frac{1}{9}$.

Q15. Express the following fractions as decimals:

a) $2\frac{1}{10}$

b) $1\frac{27}{100}$

Q16. Convert each of the following decimals into a fraction in its simplest form:

a) 0.625

b) 0.06

Q17. Ramesh purchased a book worth Rs 146.75 from a bookseller and gave him a 500 rupee note. How much balance did he get back?

Q18. A car travelled 60 km north of Patna and then 90 km to the south of it. How far from Patna was the car finally? Is it a good idea to travel by individual car or a public transport?

Q19. Solve:

a) [- 13 – (- 17)] + [- 22 – (- 40)]

b) 37 – [11 – (- 30) + 4]

Q20. Find the value of:

a) $(-13)+(-8)$ b) $(-47)+(36)$

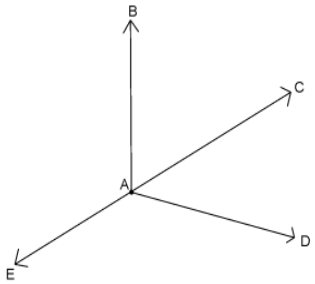
Q21. There are 250 flowers in a garden. The garden has roses, lilies and orchids. Half of the flowers in the garden are roses. The lilies 1/5 th are of the number of roses and the remaining are orchids. How many orchids are there?

Q22. Subtract the sum of -34 and -15 from 19.

Q23. In the given figure:

a) Name four rays.

b) Name the line.



Q24. The sum of two integers is 78 and one of them is -14. Find the other.

Q25. Write all the integers between -27 *and* -32. Which is the largest of these?

Q26. Find the missing numbers in the blanks and state the property involved in each case:

(a) $(67+42)+38=67+(42+\_\_\_\_)$

(b) $2\times 63=\_\_\_\_\times 2$

(c) $437+\_\_\_\_\_=437$

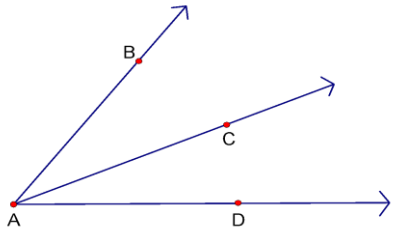
Q27. Rohit buys 552 badminton rackets and 448 cricket bats. If the cost of a badminton racket and a cricket bat is Rs 140 each, find how much total money does he spend?
(Use Distributive Property)

Q28. Simplify:$[-27-(-54)]+[-43+(-52)]$

Q29. Study the given figure and answer the following:

a) Name the vertex of $\angle BAC$.

b) Find how many angles are formed at the vertex A and name them?



Q30. A dice was thrown 30 times and the following outcomes were noted:
2, 1, 2, 4, 6, 1, 2, 3, 6, 5, 4, 4, 3, 1, 1, 3, 1, 1, 5, 6, 6, 2, 2, 3, 4, 2, 5, 5, 6, 4
Prepare a frequency table

Q31. Poppy read 3 comic strips on Tuesday, 8 comic strips on Wednesday, 7 comic strips on Thursday, 7 comic strips on Friday, and 9 comic strips on Saturday. Represent this data using a bar graph.

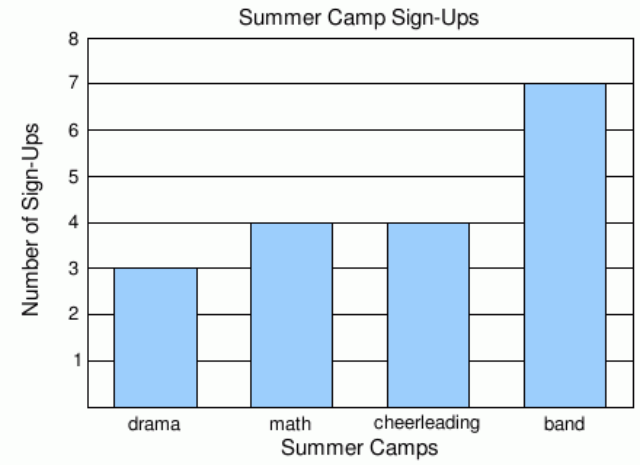
Q32. A geography class recorded the number of neighbouring countries each country has. Use the data in the table to construct a bar graph.

Neighbouring countries	
Country	Number of neighbouring countries
Niger	7
Turkey	8
Germany	9

Q33. Some friends compared the sizes of their sticker collections. Use the data in the table to construct bar graph .

Sticker collections	
Name	Number of stickers
Denise	8
Tamir	9
Darnay	10
Carrie	6
Karen	10
Rowan	7

Q 34. Answer questions regarding the graphs.



1. What is the title of the graph?
2. Which summer camps have the same number of sigups?

35. What is the minimum number of sides required to make a Polygon?
36. The whole number which cannot be used as divisor is _____.
37. – 81 ___ 18 (put > or <)
38. What fraction of a day is 8 hours?
39. Find 4 ×1625 ×25 by suitable rearrangement.
40. Draw a rough figure and label suitably:
    a) Line l contains points A and B but not C.
    b) OA and OB meet at O.
41. Are whole numbers commutative under division? Give one example to justify your answer.
42. Evaluate: $|17| - |-15|$
43. Seema purchased $7\frac{1}{2}$ kg of rice at the rate of Rs. $38\frac{3}{4}$ per kg. How much money did she pay to the shopkeeper?
44. Convert the following:
    a) 4.5 Km to cm
    b) 36 mg to gram
45. State whether the following statements are true or false.
    a) Radius is also a chord.
    b) Infinite lines can pass through two given points.
    c) A circle can have infinite chords
    d) Diameter is twice the radius.
46. The Mount Everest is 29,018 feet above sea level. The deepest point in the Indian Ocean is the Java Trench at 23,376 feet. Find the distance between the two.

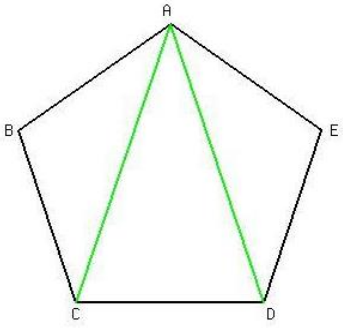
47. Arrange the numbers in ascending order:
-6 , 0 , -7 , 3 , -10 , 4

48. Subtract 29 from the additive inverse of -127.

49. Prepare a data table using tally marks. Find the numbers that appeared
a)The maximum number of times
b) The minimum number of times

2	1	22		6	1	4	4	2 6
1	6	36		3	3	4	1	4 2
5	2	54		1	2	6	4	3 2

50. In the given figure:
a) Name a diagonal
b) Name one pair of adjacent sides
c) Name the shape ABCDE



51. Find the value using suitable property:
a) 55315 X 85 + 15 X 55315
b) 627 X 995

52. Use the number line to add:
(-3) + (- 8)

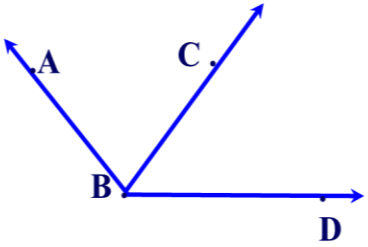
53. Tushar spent 2 ¼ hrs. for completing his homework while sunny took 2 2/5 hrs. Who took more time and by how much?

54. Find the difference between a temperature of 7 ° C above zero and a temperature of 10° C below zero.

55. Sheela had Rs.50,000 with her. She ordered 35 radio sets. If the cost of one radio set is Rs. 1300, find the amount left with her.

56. Find the value using suitable rearrangement:
a) 2062 + 353 + 1438 + 547
b) 4 X 2893 X 250

57. How many angles are there in the given figure? Name them.



58. a) Subtract the sum of 865 and – 493 from the difference of – 380 and 675.
b)The sum of two integers is 45. If one of the integer is -23, find the other integer.

59. Akshat's school bag weighs 4 7/12 kg. he takes out his Maths book weighing $1\frac{3}{4}$ kg and Science book weighing ⅓ kg from the bag. What is the weight of the bag now?

60. Draw a circle with centre O and diameter 6 cm. Also draw and name the following:
    a) A small area enclosed between a chord and an arc of the circle.
    b) A small portion of the circumference with points X, Y, Z
    c) A longest chord of the circle.
    d) A line cutting the circle

61. What must be added to the difference of 22.7 and 10.078 to get their sum?

62. The number of absentees in class VIII was recorded in a particular week. Represent this data on the bar graph

Days	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
Number of Absentees	130	120	135	130	150	80

(a) On which day the maximum and minimum students were absent?

(b) How many students were absent on Wednesday and Friday?

(c) On which days the same number of students was absent?

63. $\frac{3}{10} + \frac{5}{100} + \frac{7}{1000} =$ _____

64. Write an integer which is equal to its additive inverse.

65. Name a mathematical operation which is not closed under whole numbers.

66. A Rudraksh weighs about 40 mg. What will be the weight in grams of a necklace consisting of 108 Rudraksh?

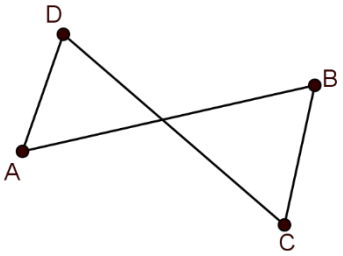
67. Evaluate (a) $14 - |-76|$
    (b) Additive inverse of -82.

68. Find the value: $-32 + 24 - (-18) + 7 - 81$.

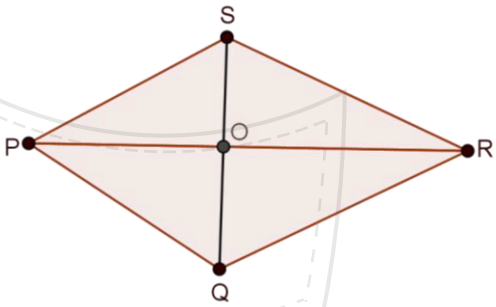
69. A daily wages worker earned Rs 245 per day. He worked for 15 days. Then he spent Rs 25 per day for next 15 days without working. How much money was left with him? (**use distributive property)**

70. Check the divisibility of 836532 by 11.

71.Is the given figure a simple curve? Give reasons to support your answer.



72. For the given quadrilateral PQRS, name



(a) All Vertices

(b) Diagonal other than SQ

(c) Angle opposite to $\angle PSR$

(d) Side adjacent to PQ

73.From a bottle of 1 litre, Ram consumed 250 ml where as Sheela consumed $\frac{1}{5}^{th}$ of a litre. Have they consumed same a mount of water? If not then who consumed more water than other?

OR

Meena read 30 pages of a book containing 180 pages where as Mala read $\frac{1}{5}^{th}$ of the same book. Who read more?

74.The total weight of Brinjal, Ladyfinger and Potato is 48.057 kg. If the Brinjal and Ladyfinger weighs 5.35kg and 24.52kg respectively. Find the weight of Potato.

75.Find the difference between the greatest and the smallest fractions among the following:--

$$\frac{17}{5},\ 3\frac{1}{4},\ \frac{23}{4},\ 7\frac{1}{10}$$

76.Add using number line : $-7 + 9 + (-4) + 2$

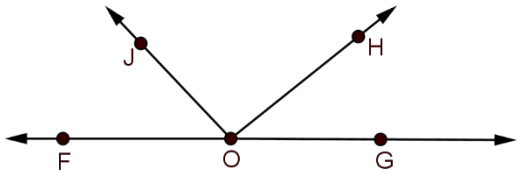
77.Write the integer that represents the situation. Then write the opposite of that integer.

(a) Sixteen degree centigrade below zero.

(b) Team A won by 13 points.

(c) A withdrawal of Rs 150.

78. In the given figure, name all the angles formed with common vertex O



79. Solve using suitable property:-

(a) 325×102

(b) $1862 + 543 + 1538 + 357$

80. Fill in the blank with >, < or = sign.

(a) $-17 + 54$____$34 + (-48)$

(b) $-8 + 12 - 7$ ____$13 - 9 - 1$

(c) $-3 + 0$_____$0 - 3$

81. State the following as true or false:

(a) Only one radius can be drawn in a circle.

(b) Any two diameters of the circle intersect at the centre of the circle.

(c) A circle can have infinite chords.

(d) The population of a particular state in different years is given below.

Year	2005	2006	2007	2008	2009	2010
Population in Lakhs	35	40	50	65	90	105

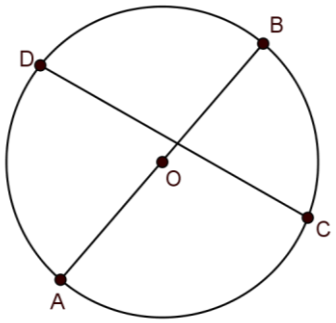
(e) Represent the above data using the bar graph.

82. Match the following

	Column A	Column B
1.	$\|-29\|$	15
2.	Opposite of 29	7
3.	$\|6 - 13\|$	29
4.	7m below sea level	-29
5.	Opposite of -15	-7

83. (A) In the adjoining fig, a circle with centre O is given

Name the following parts of the circle:-



(a) Line segment AB

(b) Line segment CD

(c) Which line segment is larger in length AB or CD?

(B) Fill in the blanks

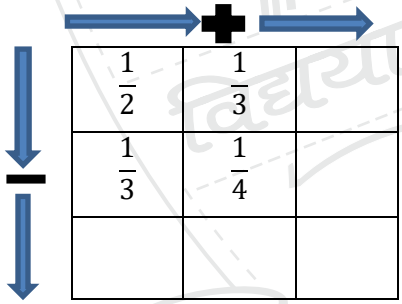
(a) Major arc is greater than _____.

(b) The line segment drawn from the centre of the circle to any point on its circumference is called _____

(c) The region enclosed by a chord and its corresponding arc is called _____

(d) The centre of the circle lies in the _____of the circle.

84. Complete the addition subtraction table **(copy the table in the answer sheet)**



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

85. (a) Convert 8.25 in to fraction and reduce to its lowest term.

(b) Write in descending order

0.444 , 4.04 , 4.44 , 4.044 , 0.404 , 4.404

86. Closure property holds true for subtraction of whole numbers. State true or false. Give reason for your answer.

87. "A ray cannot be divided into two equal halves." Why?

88. What fraction of numbers from 1 to 10 are even numbers?

89. Write 4.5 as fraction in lowest form.

90. Evaluate $|-8| - 6$

91. Draw:

i) a simple closed curve which is not a polygon.

ii) an open curve which is not a simple curve.

92. Name the property:

i) $23 \times 45 \times 37 = 23 \times 37 \times 45$

ii) $45 + 0 = 0 + 45 = 45$

93. Write in ascending order: $\frac{3}{4}, \frac{7}{8}, \frac{5}{6}$

94. Convert:

a) 27 cm into m

b) 546 ml into l

95. Write an appropriate integer to represent the following:

a) 100 m below sea level

b) a deposit of Rs 2500

96. Using rearrangement, solve:

6121 + 238 + 1409 + 142

97. State true or false:

a) A radius is a chord of a circle

b) Infinite lines can be drawn passing through two distinct points.

c) Triangle is a polygon.

d) Every chord of a circle is parallel to one of the diameters of the circle.

98. Find 15.4 + 13.415 - 24.219

99. Sum of two integers is 17. If one of the integers is -235. Find the other integer.

100. Draw a quadrilateral NAME and name the following:

a) one of its diagonals.
b) a pair of opposite angles.
c) a pair of adjacent sides.
d) all its vertices.

101. Shilpa covers 25.17 km in 3 hours.

i) Find the distance that she will cover in one hour.

ii) Find the distance that she will cover in 5 hours.

102. Dhruv reads $\frac{2}{5}$ of a book containing 100 pages while Neena reads $\frac{3}{7}$ of a book containing 140 pages. Who reads more and by how many pages.

103. Draw a circle with diameter 6 cm and centre O. Mark MN as one of its chords. Shade the major segment so formed.

104. A dealer purchased 98 colour T.V. sets. If the cost of each set is Rs. 13510. Find the cost of all the sets together. (Use distributive property to solve)

105. Simplify:

$3\frac{1}{5} \times 1\frac{7}{8} \div 2\frac{6}{15}$

106. Evaluate:

-65 + (-78) - (-28) + 30

107. Using suitable property, find

$79 \times 18 + 32 \times 18 - 11 \times 18$

108. A die is thrown 25 times and the number appeared was as given below:

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

Construct a frequency distribution table using tally marks.

109. Rashmi deposited Rs 4370 in her account on Monday and withdrew Rs 2050 on Tuesday. Next day, she deposited Rs 1450. What is the balance in her account on Thursday.

110. Draw a bar graph showing the number of families with different number of members in a locality and answer the following questions.

No. of members	1	2	3	4	5	6	7
No. of families	14	110	115	97	85	30	10

a) How many members are there in maximum number of families?

b) How many families have minimum number of members?

111. Using appropriate properties, find:

a) $93 \times 63 + 37 \times 93$

b) 3157×101

c) $798 \times 1045 - 45 \times 798$

112. a) Rahul bought 4 kg 90 g apples, 2 kg 60g grapes and 5 kg 300 g mangoes. Find the total weight of fruits he bought.

b) Rajni bought 3 packets of $2\frac{3}{4}$ kg, $3\frac{1}{3}$ kg and $5\frac{5}{12}$ kg. Find the total weight of 3 packets.

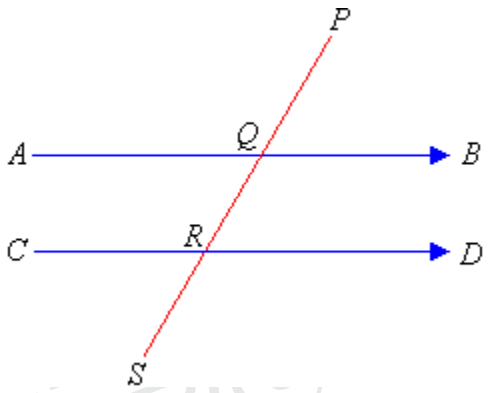
c) Who carried more weight?

113. a) Find the sum of predecessor of - 41 and additive inverse of 25.

b) Subtract 40 from the successor of -73.

114. From the given figure, name:

a) a line segment
b) point of intersection of AB and PS
c) collinear points
d) two rays
e) an angle at R



Question Bank II

Q1. The L.C.M of a pair of numbers is 108. If the product of the numbers is 1944, what is the H.C.F of the numbers?

Q2. Two equal sides of an isosceles triangle are 8 cm each. The perimeter of the triangle is 40 cm. Find the third side.

Q3. Priya runs around a square park of side 60m. Satish runs around a rectangular park with length 50m and breadth 45m. Who covers more distance and by how much?

Q4. The L.C.M and H.C.F of two numbers is 2175 and 145 respectively. If one of the number is 725, find the other

Q5. There are 527 apples, 646 pears and 748 oranges. These are to be arranged in heaps containing the same number of fruits. Find the greatest number of possible in each heap.

Q6. a) Test the divisibility of 19083625 by 11 (b) Test the divisibility of 723405 by 15.

Q7. A transport company charges Rs 175 to carry 25 tonnes of weight. What will it charge to carry 35 tonnes?

Q8. Find the ratio in the simplest form:

a. 24 minutes to an hour.
b. 3 m 5 cm to 90 cm.

Q9. The boys and girls in a school are in the ratio 5 :9. If the total strength of the school is 448. Find the number of girls. What does it tell you about the people of the place where the school is?Do they want to educate their daughters as they want to educate their sons?

Q10. Is the proportion true?

a. 30 cm : 18 m = 20 hours : 20 minutes.
b. Rs20 : 18 paise = 6 litres : 5 ml.

Q11 A designer uses 15 m cloth to make 25 dresses. How much cloth does he use to make 60 dresses?

Q12. Write an expression for the total of k and 99

Q13. Solve for x in each problem.

a) $x + 9 = 16$
b) $\frac{x}{2} = 1$
c) $5 + x = 10$
d) $x + 4 = 8$

Q14. Find x:

a) $x + 10 = 20$
b) $\frac{x+2}{4} = 1$

Q15. Write the algebraic expression for :

a. Sum of x and the quotient of y by 5.
b. Puran's age 5 times three years hence if he is y years now.

Q16. Solve:

a. $20 + 4x = 32$ b. $8x - 56 = -40$

Q17. The area of a rectangle is 540 sq cm and its length is 36 cm. Find its width and perimeter.

Q18. Draw an angle of 145° using protractor and bisect it.

Q19. Which words describe this shape? Choose all that apply.

Parallelogram quadrilateral rhombus square

Q20. Solve for s.

$s + 9 = 93$

Q21. A wire of length 120cm is bent to form a regular hexagon. What is the length of each of its sides?

Q22. Divide 6kg 600g in the ratio 5 : 6.

Q23. Meera is x years old. Express the following in algebraic form:

i) Four times Meera's age four years ago.

ii) The present age of Meera's friend, if her friend is two years less than thrice of Meera's age.

Q 24. Write an expression for 8 less than q.

Q25. Draw a circle with centre O and radius 3.5cm. Construct a perpendicular bisector of its diameter. Does it pass through O

Q26. In a class there are 45 students. Out of which, 24 are boys and rest are girls. Find the ratio in the simplest form:

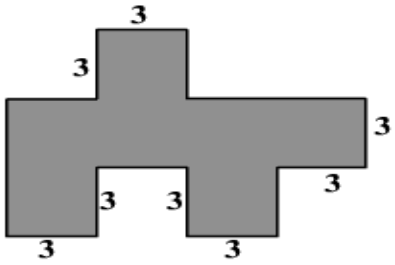
(i) girls to boys

(ii) boys to all students

Q27. Complete the table:

	No. of faces	No. of vertices	No. of edges
Cylinder	(a) _____	0	(b) _____
Square pyramid	5	(c) _____	(d) _____
Cone	(e) _____	1	(f) _____

Q28. Find the total area of the shaded region. (In the figure, all angles are right angles.)



Q29. The cost of 5 kg of rice is Rs 36.25. What will be the cost of 4 kg of rice?

Q30 The perimeter of a rectangle is 42 inches. If the width is 8 inches, what is the length?

Q31 How many envelopes can be made out of a sheet of paper 324 cm by 172 cm, if each envelope requires a piece of paper of size 18 cm by 12 cm?

Q32 The area of a field is 40 m^2. If the length of the field is 16m, Find its width.

Q33. Construct:
a. An angle of 45˚ using a compass and a ruler.
b. A perpendicular to a line through a point on it using a compass and a ruler.

Q34. A path is to be paved with square tiles. The length of the path is 7.5m and its breadth is 2.5m. Find the number of tiles required to pave the path if side of the square tile is 25cm.

Q35. Construct using a compass and a ruler:
a. An angle of 75°.
b. A perpendicular to a line from a point outside it.
c. A perpendicular to a line segment of length 6 cm such that it bisects the segment as well.

Q36. Name the shape :
a. A parallelogram with all four sides equal.
b. A quadrilateral with only one pair of opposite sides parallel.
c. A 3D shape with no vertices and no edges
d. A quadrilateral with two pairs of adjacent sides equal.

Q37. Shalu is 3yrs less than 5 times Raju's age. Find Shalu's age if Raju is 8 yrs old.

Q38. Write the following algebraic expressions using signs and symbols
(a) Sum of numbers a and b subtracted from product of x and y.
(b) 15 less than quotient of x by 3.

Q39. The sides of a triangular field are 20cm , 15cm and 12cm. Find the total distance traveled by the boy in taking 2 complete rounds of this field.

Q40. Find the cost of fencing a rectangular garden of dimensions 15 m by 12m, if the fence is put five times all around and cost of fencing is Rs 5 per m.

Q41. Seth TejaLal divided Rs 5,02,002 between his son and daughter in the ratio 4 : 5.
(a) How much did each of them get?
(b) What do you think about Sethji as a person?

Q42. A man earns Rs 4900 in one week. How much will he earn in 10 days?

Q43. Solve the following equations:

(a) $4x - 7 = -3$

(b) $8 = 6x - 4$

Q44. Find the cost of carpeting the floor of a room which is 4m 20cm long and 3m 65cm wide at the rate of Rs 1215 per sq m.

Q45. Seema can type 150 words in 3 minutes. Find out
(a) In how much time can she type 375 words?

(b) How many words can she type in 9 min 30 seconds

Q46. a) Test the divisibility of 19083625 by 11.

b) Test the divisibility of 723405 by 15.

Q47. There are 527 apples, 646 pears and 748 oranges. These are to be arranged in heaps containing the same number of fruits. Find the greatest number of fruits possible in each heap.

Q48. The L.C.M and H.C.F of two numbers is 2175 and 145 respectively. If one of the number is 725, find the other.

Q49. The L.C.M of a pair of numbers is 108. If the product of the numbers is 1944, what is the H.C.F of the numbers?

Q50. Put $<$ *or* $>$ in each box appropriately.

a) $0 \square -3$ b) $-14 \square -17$ c) $4 + (-2) \square 2 + (-4)$

Q51. Express 148 as a product of its prime factors.

Q52. A table top measures 3 m 25 cm by 2 m 50 cm. Find its perimeter in metres.

Q53. Write the number of faces and edges of :

a) Triangular Prism b) Cone

Q54. State true or false for the following statements:

a) The diagonals of a rectangle are perpendicular bisectors of each other.

b) I have turned through $\frac{3}{4}$ part of a revolution if I stand facing east and turn clockwise to face north.

Q55. Check whether $a = 3$ is a solution of the equation $2a - 1 = 5$.

Q56. Raj earns Rs. 25000 per month and saves Rs. 5000 per month. Find the ratio of:

a) earnings to savings

b) earnings to expenditure.

Q57. Construct ∠ABC = 90° and its angle bisector using a compass and a ruler.

Q58. Are the ratios 25 g : 30 g and 40 kg : 48 kg in proportion?

Q59. The LCM of two numbers is 840 and their HCF is 4. If one number is 28, find the other number.

Q60. Simplify:

a) $(-7) - 0 + (-5)$

b) $|-28| - |-5|$

c) $6 - (-3 + 8)$

Q61. Represent the following statements in algebraic expressions. (Use your own variables)

a) Half of a number decreased by the 12

b) Ram's father's age is 2 years more than 3 times Ram's age.

c) Product of 4 and a number divided by 5.

Q62. Construct a perpendicular to a line segment AB = 7 cm from a point M outside it using a compass and a ruler.

Q63. Give reasons:

a) A rectangle can be thought of a special parallelogram.

b) A trapezium is not a parallelogram.

c) A line cannot have a perpendicular bisector.

Q64. a) Complete the table given below:

$\boldsymbol{l}$	3	4	5	6
$\boldsymbol{l + 10}$				

b) Which value of $\boldsymbol{l}$ satisfies the equation $l + 10 = 15$?

Q65. Joy wanted to cover the floor of a room 3 m wide and 4 m long by squared tiles. If each square tile is of side 0.5 m, then find the number of tiles required to cover the floor of the room.

Q66. a) Check the divisibility of 80124 by 11.

b) Find the HCF of 136 and 170 by long division method.

Q67. State true or false.

a) Sum of two negative integers is always negative.

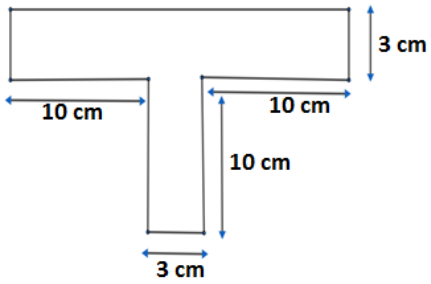
b) Additive inverse of $-9 + (-12)$ *is* 21.

c) Successor of -23 *is* 22

Q68. Match the following: (An extra option is given in the second column)

a) An angle whose measure is less than that of a right angle.	Straight angle
b) An angle whose measure is the sum of the measures of two right angles.	Reflex angle
c) An angle whose measure is more than a right angle but less than a straight angle.	Obtuse angle
	Acute angle

Q69. a) Split the given shape into rectangles and find its area.



b)The perimeter of an isosceles triangle is 154 cm. One of the sides is 42 cm. Find each of its equal side.

Q70. Solve to find the value of the unknown variables.

a) $\frac{b}{7} - 19 = -4$

b) $\frac{5r}{2} = 30$

c) $2m - 7 = -7$

d) Twice a number p plus 3 is 17. What is the number?

Q71. Answer the following:

a) Divide 750 gms in the ratio 3 : 2

b) Fill in the missing numbers $\frac{6}{\square} = \frac{\square}{8} = \frac{3}{\square} = \frac{24}{16}$

Q72. I. Fill in the blanks with correct answers:

a) Every number is a multiple of _____.

b) LCM of 2 co-prime numbers is _____.

c) HCF of consecutive even numbers is _____.

II. Find the least number which can be divided by 6, 8 and 12.

Sample Paper (Term I)

Section A

1. The predecessor of the smallest 4-digit number is

   a) 99 b) 999 c) 1000 d) 1001

2. Write a fraction equivalent to $\frac{3}{5}$ with the numerator as 21.

3. What is a polygon with 5 sides called?

4. Which of the following is smallest?

   $\frac{11}{7}$, $\frac{11}{9}$, $\frac{11}{10}$

5. Write the place value of the digit 6 in the decimal number 7.0369.

6. The greatest integer lying between -10 and -15 is

   a) -10 b) -11 c) -14 d) -15

7. Write $\frac{45}{81}$ in simplest form.

8. State true or false:

   $|-7| < |-3|$

9. Which of the following statement is false?

a) A quadrilateral has four sides and four vertices

b) A quadrilateral has four angles

c) A quadrilateral has four diagonals

10. Correct the following statement, if incorrect:

    "Between any two whole numbers, there is a whole number."

Section B

11. Find the product using suitable rearrangement:

    $625 \times 149 \times 16$

12. Write 0.125 as a fraction in its simplest form.

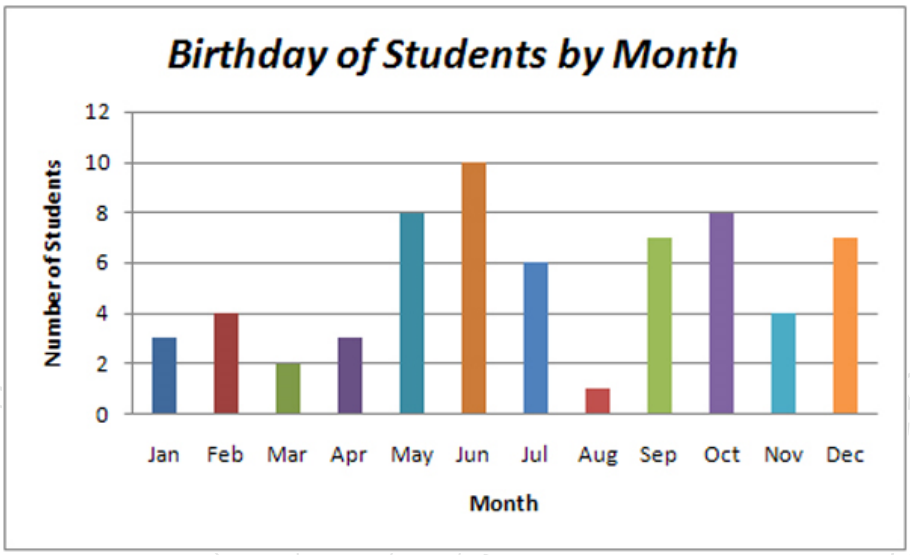
13. Add the successor of -45 and the predecessor of -77.

14. Using distributive property, solve:

    1978×99

15. Draw an angle PQR and mark a point N in its interior.

16. Read the given bar graph and answer the following questions:



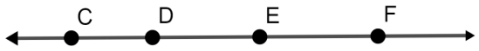
a) How many students have their birthday in the month of November and December?

b) Which months have the maximum and minimum birthdays?

17. Find:

$\frac{4}{5}$ *of* $7\frac{1}{3}$

18. From the given figure:



a) Name two opposite rays.

b) Name a ray with D as initial point.

19. Convert:

a) 3.56 kg into g

b) 345 mm into cm

Section C

20. A dealer purchased 87 TVs and 13 refrigerators. If the cost of each TV and refrigerator is Rs 13510. Find the total cost of all items together. (Use distributive property to solve)

21. Simplify:

$2\frac{1}{2} - 3\frac{1}{4} + 5\frac{5}{6}$

22. Arrange the following numbers in ascending order and find the sum of the smallest and the biggest number. -353, 207, -289, 702, -335, 0

23. The product of two fractions is $5\frac{1}{3}$. If one of the fractions is $1\frac{1}{9}$. Find the other fraction.

24. Fill in the blanks and name the property used:

    a) $(35 \times 16) \times 22 = 35 \times (\_\_\_\_ \times 22)$

    b) $493 \times 109 = 493 \times 100 + 493 \times \_\_\_\_\_$

    c) $7329 \times 42 = 42 \times \_\_\_\_\_$

25. Draw a circle with radius 3 cm and then:

    a) Draw a chord AC.

    b) Shade the minor segment so formed.

    OR

    Draw a quadrilateral ABCD and name

    a) A pair of opposite sides.

    b) A pair of adjacent angles.

26. Shruti bought 5 pens for Rs 12.50 each and 3 pencils for Rs 2.75 each. How much did she spent in all?

27. Draw a bar graph for the given data showing the preferred mode of communication used by people in a survey done :

Mode of communication	Telephonic call	E-mail	Face to face conversation	Writing letters	Messages
Number of people	95	50	100	20	80

28. A man deposited Rs 10000 in his bank account. He withdrew Rs 5879 on the next day. Later, He deposited Rs 4174 in his account. What is the balance in his account?

Section D

29. Solve using suitable properties:

    a) $698 + 1519 + 302 + 5481$

    b) $796 \times 850 + 796 \times 150$

30. By how much is the sum of 15.457 and 29.157 more than the sum of 17.97 and 19.507?

31. Ekam is asked to collect data for size of shoes of students in class VI. Her findings are recorded as follows:

5	4	7	5	6	7	6	5	6	6
5	4	6	5	7	4	5	6	5	5
6	7	4	7	5	8	6	6	5	8

Construct a frequency distribution table for the above data. Also answer the following questions:

a) What is the size of shoes worn by maximum number of students.

b) Find the number of students who wear a shoe size less than or equal to 6.

32. Evaluate:

$[-997-(-3398)]+[-146+(-78)]—[-124+69]$

OR

Subtract the sum of -367 and -199 from the sum of -998 and 435.

33. Illustrate each of the following with a figure:

a) A polygon with three sides.

b) A simple closed curve which is not a polygon.

c) An open simple curve.

d) A simple curve made up of line segments.

e) A curve that is neither simple nor closed.

Sample Paper (Term II)

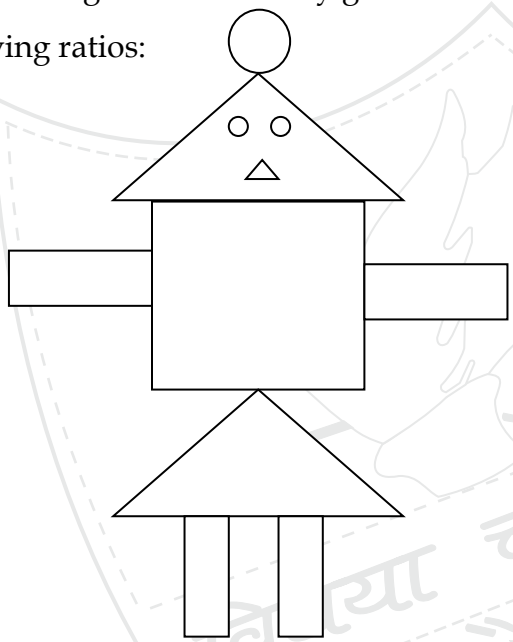
Section -A

1. Write any two integers greater than -25.
2. Draw any geometrical figure which is not a polygon.
3. Write the following equation in the statement form : x - 7 = 11
4. Complete the pattern: 8, 6, 4, 2, 0, -2,_____,_____
5. There are one dozen boxes. If we pack m shirts in each box, how many total shirts are packed?
6. 1 km^2 = _____ m^2
7. A negative integer is always _____ than 0.
8. Write an expression for"z is subtracted from -10".
9. The perimeter of a square with side 8 cm is _____.
10. What fraction of a clockwise revolution does the hour hand of a clock turn through when it goes from 9 to 6 ?

Section-B

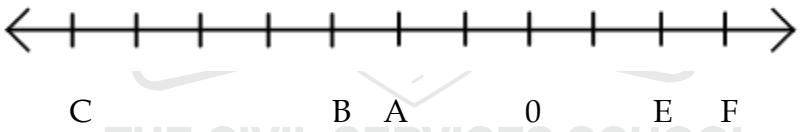
11. a) Where will the hour hand of the clock stop if it starts from 3 and turns through 2 right angles?
    c) Which direction will you face if you initially face South and turn ¼ revolution anti-clockwise?
12. Write the integers for the following and represent both of them on the same number line:
    a) A profit of Rs 8.
    b) A diver dives to a depth of 6 feet below the ground level.
13. Draw a line segment AB = 7 cm and construct its perpendicular bisector.
14. The length of a rectangle is 10 cm and its breadth is 4 cm.
    a) If the length is doubled, find the new length.
    b) If the breadth is reduced to half, find the new breadth.
    c) Hence, find the new area.
    d) Is the new area same as the original area? Just answer YES/NO.

15. What fraction of revolution have you turned if :
    a) you face North and turn clockwise to face South
    b) the hand of the hour clock starts at 1 and moves clockwise to 4.
16. A ribbon of length 240 cm is bent to form a hexagonal banner with equal sides. Find the length of each side.
17. The given figure is formed by geometrical shapes. Based on the figure, find the following ratios:



    a) Number of triangles to the number of rectangles
    b) Number of circles to the number of triangles

18. If A represents -2 in the given number line, answer the questions given below:



    a) Which point represents -7 ?
    b) Which point denotes the negative of the integer represented by point B?

19. The cost of 8 shirts is Rs 7200. Find the cost of 15 such shirts.

Section-C

20. Subtract 100 from the sum of (-58) and (-42).

21. Ankita scored the following points in four rounds of a quiz. Find the total points scored by her.

Round 1	Round 2	Round 3	Round 4
10	- 2	8	- 4

22. Mrs Sinha wants to cover the floor of her kitchen with tiles. The length and breadth of the kitchen floor is 5 m and 3 m respectively. The length and breadth of each tile is 20 cm and 15 cm respectively. Find the number of tiles required to pave the floor.

23. If the cost of 6 cans of juice is Rs. 180, then
    a) Find the cost of 1 can of juice.
    b) What will be the cost of 9 cans of juice?
    c) Use proportion method to find number of cans whose cost is Rs. 360

24. Write algebraic expression/equation for the following:
    a) One more than one-third of the number
    b) 2 subtracted from 3 times the number
    c) A number multiplied by – 8 gives the result as – 48.

25. The cost of 10 notebooks is Rs 330 and the cost of 2 pens is Rs 44. Find the ratio of the cost of one notebook and one pen.

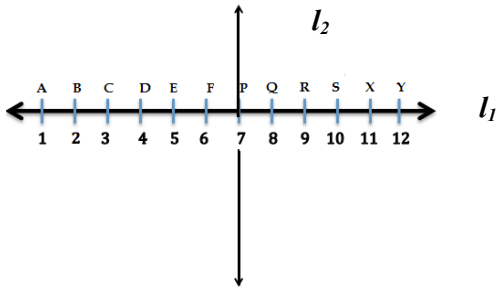
26. Give reason to explain:
    1. A square is a rectangle.
    2. A rhombus is a parallelogram.

27. Using a protractor, draw ∠PQR = 78° and bisect it using compass.

OR

Using a ruler and compass, construct 30° angle.

28. With reference to the following diagram, answer the following questions given that l_1 and l_2 are perpendicular lines.



a. Say true or false?

i) AF < PY

ii) F is the midpoint of PQ.

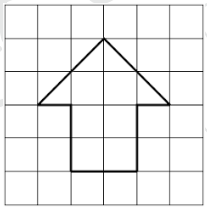
iii) Line l_2 bisects BY

iv) AC = SY

b. Name any one line segment for which Q is the midpoint.

Section-D

29. Look at the given figure and answer the related questions.



The number of half - filled squares = ☐

The number of fully – filled squares = ☐

The area of the given figure = ☐ square units

30. The ratio of number of boys to the number of girls in two sections of class 6 is given below:

- 6 A , Boys : Girls = 8 : 6
- 6 B, Boys : Girls = 3 : 4

Determine whether the two ratios are in proportion or not.

31. Fill in the blanks.

1. A triangle with one right angle and two equal sides is called a _____.
2. A triangle can have maximum _____ right angles.
3. A triangular prism has _____faces,_____ edges and_____ vertices.
4. _____is the successor of -1.
5. A square pyramid has a square base and rest of its faces are _____ in shape.
6. A cube is a_____ (pyramid/prism).
7. In the proportion 1 : 3 : : 2 : 6, 1 and 6 are called _____terms and 3 and 2 are called _____terms.

32. Evaluate:

(i) A lift starts at the second floor. It goes up 3 floors and then comes down 5 floors.

Where is it now?

(ii) Add the successor of (-62) to the predecessor of 10.

(iii) Subtract -5308 from the sum of $[(-2100) + (-2001)]$

33.Solve the following equations:

a) $9y + 1 = 19$

b) $\frac{z}{8} - 1 = 8$

c) $p + 15 = -1$

ANSWERS

Assignment No. 1: Whole numbers

1) a. 1078 b. 1267 c. 1015 d. 1000
2) a. 30,000 b. 89000 c. 136500 d. 1000.
3) a. 52430 b. 7140 c. 27900 d. 0 e. 578000 f. 146
4) 7500
5) 25000

Assignment No. 4(A): Fractions (warm up)

1) . $\frac{1}{6}$, $\frac{2}{9}$ 2) $\frac{7}{12}$ 3) $\frac{2}{5}$ 4) a. 10 b. 8

5) a. No b. No 6) a. $\frac{2}{5}$ b. $\frac{2}{5}$ c. $\frac{2}{5}$

7) a. $7\frac{1}{4}$ b. $6\frac{3}{10}$ c. $9\frac{8}{9}$ 8) a. $\frac{23}{4}$ b. $\frac{58}{9}$ c. $\frac{97}{8}$

9) Raj , Payal , Lara , Shubh 10) a. Rs 12 b. 20 cm c. 45 weeks.

Assignment No. 4(B): Fractions (Addition and Subtraction)

1) a. $\frac{6}{5}$ b. $\frac{5}{4}$ c. $\frac{11}{8}$ d. $8\frac{7}{8}$ e. $19\frac{1}{3}$
2) a. $\frac{2}{5}$ b. $\frac{1}{4}$ c. $\frac{8}{63}$ d. $6\frac{9}{24}$ e. $\frac{83}{16}$

3) No 4) $3\frac{5}{6}$ 5) $10\frac{1}{24}$ 6) Rashmi , $\frac{3}{20}$cm 7) $\frac{7}{24}$ 8) Rs.$34\frac{1}{4}$

Assignment No. 4(C): Fractions (Multiplication and Division)

1) a. 34 b. $34\frac{2}{5}$ c. $11\frac{7}{8}$ d. $\frac{2}{27}$ e. $\frac{1000}{3}$ 2) $7\frac{7}{8}$ 3) $1\frac{1}{2}$ 4) Rs 100 5) 4m

6) $2\frac{1}{2}$km 7) $1\frac{2}{5}$ 8) 22hrs

Assignment No. 5: Decimals

1) a. 6.003 b. 0.245 2) a. 5.875 b. 0.6 3) a. $\frac{109}{125}$ b. $\frac{1001}{200}$

4) a. $\frac{14}{5}$ b. $\frac{5}{4}$ 5) 75.75, 75.5, 75.4, 75.39, 75.258, 75.20

6) Sameera, 1.85kg 7) Rs 4.75 8) 36.725

9) a) 48.9 b) 45 c) 9530 d) 91.9202 e) 0.05 f) 0.00211
g) 2 h) 0.003 i) 64.8 j) 0.00086

10) a) 161.37 b) 5.845 c) 2469.6 d) 287.064 e) 31.317 f) 0.688

11) a) 23.6 b) 0.214 c) 412 d) 9.8 e) 40 f) 2580

12) 25.85 cm 13) 11.5 km 14) a) 5000000mm b) 4570mm c) 8.945 l
d) 0.0465kg e) 7807cm f) 125.050km g) 170.4 cm h) 120200 ml i) 1536

Assignment No.6: Integers

1) a. 5 b. –60 c. –10 d. –99 e. 13

2) a. –21 b. –166 c. –38 d. 21 e. 105

3) a. 14 b. 10 c. –12 d. 1

4) 1550

5) Loss of Rs54

6) a. –7 b. –144 c. 425 d.30

7) a.–4 b. –80

8) 24 9) 41 km west 10) Rs 2710

Assignment No.7: Understanding Elementary Shapes

1) (c) 2) (d) 3) a. 1 b. 4

4) a. scalene b. equilateral c.Right angled isosceles d. acute angled

5) a. South-east b. north-west

6) i) Trapezium ii) kite

7) a. 9 b. Trapezium c. Octagon d. Square e. 8, 0 f. reflex

8) a. Cube b. Triangular prism

Assignment No.8: Algebra

1) a. x+7 b. y-5 c. 2-x d. yz e. $\frac{x}{3}$

2) a.y-2z b. -x-4 c. $\frac{x}{3} - 15$ d. $\frac{xy}{5}$ e. 5x+7y

3) nr 4) (5y-3) years 5) xy cm 6) 75m + 35n

7) I) a. 16 b. -16 c. 10 d. -13 e. 1 f. 30 g. 135 h. -40 i. 9
j. 4 k. 9 l. 10 m. 30 n. 108 o. 45 p. 77

II) a. 2 b. 1 c. 2 d.3 e. 2 f. 6 g.10 h. 1 i. 20
j. 18 k. 28 l. 32 m. 99 n. 324 o. 105 p. 16

Assignment No.9: Mensuration

1) 1700m 2) 900 sq m 3) 442 m 4) 86 sq.cm. 5) 3000

6) 12cm 7) 1920 tiles, Rs15360 8) 30 cm 9) Perimeter = 20 cm, Area = 14 sq.cm.

Assignment No. 10(A): Playing with numbers (Warm up)

1) a. 1,2,3,4,6,8,12,24 b. 1,2,3,6,9,18 c. 1,2,3,4,6,9,12,18,36 d. 1,3,7,21
e.1,2,3,4,5,6,10,12,15,20,30,60

2) 9,18,27,36,45,54,63,72,81,90,99

3) a.1 b. itself c. finite d. infinite e. less than or equal to f. greater than or equal to
g. 1 and number itself h. No i. 2,3,5,7,11,13 j. 1 k. 2,4 l. 2 m. even, even
n. 7

4) a. False b. False c.True d. False

5) 3,5; 5,7; 11,13

6) a. 5+31 b. 5+13

7) a. 3+5+13 b. 3+5+23

8) a.1,2,4 b. 1,5 c. 1,5

9) a. 24,48,72 b. 36,72,108

10) a. No b. Yes c. Yes d. No

11) a. Not divisible b. divisible c. Divisible

12) a. Divisible b. Not Divisible c. Not Divisible

13) a. Divisible b. Not Divisible c. Divisible

14) a. false b. True c. True d. True e. True f. false

15) Yes

Assignment No. 10(B): Playing with numbers (HCF & LCM)

1) a.$2 \times 3 \times 3 \times 5$ b. $2 \times 2 \times 2 \times 2$ c. $2 \times 2 \times 7$ d. $2 \times 2 \times 5 \times 7 \times 7$

2) $9999=3 \times 3 \times 11 \times 101$

3) $10000=2 \times 2 \times 2 \times 2 \times 5 \times 5 \times 5 \times 5$

4) a. 6 b. 6 c. 6 d. 9 e. 12

5) a. 34 b. 35 c. 7 d. 9 e. 3

6) a. 36 b. 360 c. 720 d. 300 e. 360

7) a. 1 b. 1 c.1 d. 2 e. smaller number f. product of two numbers g. product of two numbers h. bigger number

8) 3 kg

9) 6930 cm

10) 31 litre

11) 75 cm

12) 35cm

13) 607

14) After 200 sec

15) 2730

16) 217

17) 120

18) 360, 72

Assignment No. 12: Ratio& Proportion

1)a. 3:4 b. 1:8 2) a.Yes b. No 3) yes

4) a. 30°, 60°, 90° b. Right Angled Triangle

5) 5 6) a.50 min b.72km 7) (a), (c)

8) a) 25:21 b) 4:25 9) a) 35, 49 b) 250g, 200g 10) 20 parts