Knowing Our Numbers

Q.1.   Fill up the blanks :

    (a)   Smallest 6-digit number in Indo Arabic Numeration System is _____.

    (b)   Largest 8-digit number in International Numeration System is _____.

    (c)   Expanded notation of 2730145 is _____ .

    (d)   MDCL in Hindu-Arabic form is written as _____ .

    (e)   707 in Roman Numerals can be written as _____ .

Q.2.   Using 2, 0, 4, 5 write largest and smallest 4-digit number (without repetition).

Q.3.   Fill up the blanks using > or < signs :

    (i)   2347 _____ 2437 _____ 2473 _____ 2734 _____ 2743

    (ii)   50725 _____ 50572 _____ 50527 _____ 50275 _____ 50257

Q.4.   Add 825432 and 543082 and write the sum according to Indo Arabic Numeration System.

Q.5.   Subtract 405235 from 995432 and write the difference according to International system of numeration.

Q.6.   If in a garden there are 4592 flowering plants and 3257 fruit trees then what's the total number of plants in the garden?

Q.7.   Evaluate : 81 [15 {7 – 2 (7 – 3)}]

Q.8.   A flask has 5 litres of lemonade. How many glasses, each of 200ml capacity, can it fill?

Q.9.   Estimate each of the following using general rule :

    (i)   842 + 1245   (ii)   19,643 – 13,775   (iii)   2149 × 493

    (iv)   5762 ÷ 287   (v)   439 + 8325 – 387

Q.10.   Fill up the blanks :

×	1	2	3	4	5	6	7	8	9	10
15										
16										
17										
18										
19										

Chapter-2

Whole Numbers

Q.1.   Predecessor of :

(a)   2340 is _____   (b)   25621 is _____

Q.2.   Successor of :

(a)   21029 is _____   (b)   7810 is _____

Q.3.   Match the following :

(i)   Predecessor of smallest 5-digit number   (a)   100000

(ii)   Successor of largest 5-digit number   (b)   1000
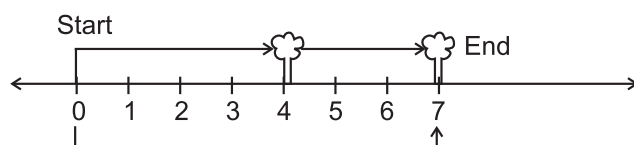
(iii)   Successor of largest 3-digit even number   (c)   9999

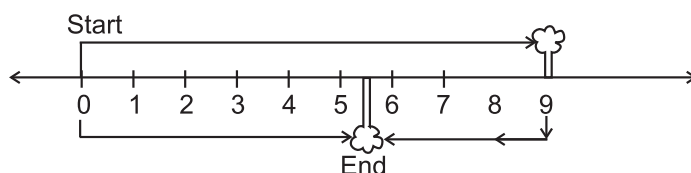(iv)   Predecessor of smallest 4-digit odd number   (d)   999

Q.4.   A boy is moving from one tree to another find the position of the boy from number line?
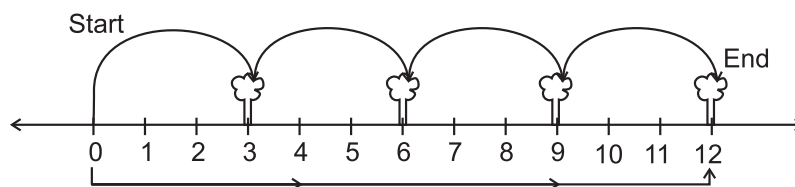
(i)

(ii)

(iii)

Q.5.   Represent the following on a number line :

(i) $5 + 3$ (ii) $10 - 6$ (iii) 2×5

Q.6.   Simplify by using suitable re-arrangement :

(i) $417 + 225 + 583$ (ii) $4 \times 537 \times 25$

(iii) $8212 + 284 + 788 + 716$ (iv) $125 \times 4 + 125 \times 8$

Q.7. Find the value of following using suitable properties :

(i) 437×102 (ii) 925×99 (iii) $143 \times 22 + 143 \times 8$

(iv) $12345 \times 15 - 2469 \times 25$ (v) $92785 \times 98 + 92785 \times 2$

Q.8. Write the smallest 3-digit number which will not change on reversing the digits.

Q.9. The difference of smallest 3-digit number and its predecessor is _____ .

Q.10. Write 'True' or 'False' for the following statements :

(i)   The product of two odd numbers is always odd.

(ii)   The product of two even numbers is always even.

(iii)   The sum of two odd numbers is always odd.

(iv)   The difference of one even and on odd number is always even.

(v)   The difference of two odd numbers is always even.

Chapter-3

Playing with Numbers

Q.1.   Fill up the blanks :

(i)   Write all even prime numbers _____ .

(ii)   Number of factors of 2 are _____ .

(iii)   Smallest pair of co-prime numbers is _____ .

(iv)   Smallest twin prime numbers are _____ .

(v)   The largest 2-digit number which is odd and prime is _____ .

Q.2.   Find the smallest number which is divisible by 2, 3, 4, and 5. Can we find a largest number which is divisible by 2, 3, 4 and 5?

Q.3.   Write smallest 3-digit number which is exactly divisible by 6.

Q.4.   Replace '*' by the smallest possible digit so that the following numbers are divisible by 3 and 9 :

(i)   * 4129   (ii)   2*985   (iii)   987*32

Q.5.   Write the largest 3-digit number which is divisible by 11.

Q.6.   Find HCF of : 15 m 60 cm and 20 m 16 cm.

Q.7.   Find the least number which when divided by 25, 40 and 60 leave the remainder 7 in each case.

Q.8.   Find HCF of 90 and 243 check if it divides 90 and 243 both?

Q.9.   Find LCM of 18 and 15. Check if the LCM so obtained is divisible by 15 as well as 18.

Q.10.   Match the following :

| (i)	HCF of two consecutive numbers	(a)	4
(ii)	LCM of two co-prime numbers	(b)	97
(iii)	HCF of two consecutive even numbers	(c)	1
(iv)	Smallest composite number	(d)	2
(v)	Largest 2-digit prime number	(e)	product of two numbers

Chapter-4

Basic Geometrical Ideas

Q.1.   What do the following things in our surrounding represent : (use the words given in the box).

A point	A ray	A line segment	A plane
Parallel lines		Intersecting lines	

Tip of pencil   A point (example)

(a)   Edge of a ruler   _____

(b)   Corner of a book   _____

(c)   Light coming out of torch   _____

(d)   Flat surface of a table   _____

(e)   Opposite edges of a ruler   _____

(f)   Adjacent edges of a ruler   _____

Q.2.   In relation to the adjoining figures, write the names of :

(a)   6 line segments

(b)   6 rays

(c)   Two intersecting lines

(d)   Two parallel lines

(e)   How many points have been marked and named on the line 'n'?

(f)   How many points does a line have?
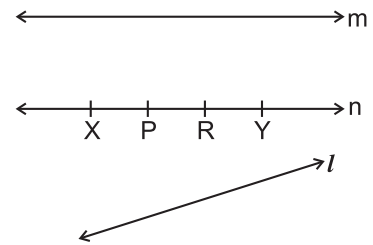
Q.3.   Fill in the blanks, according to the given figure :

(a)   Shaded region is representing _____ .

(b)   _____ is a diameter of the circle.

(c)   _____ is a chord of the circle.

(d)   _____ is a radius of the circle.

(e)   Line segment PO = line segment _____ (in length)

(f)   PR is dividing the circle into two equal halves, and each half is called _____.
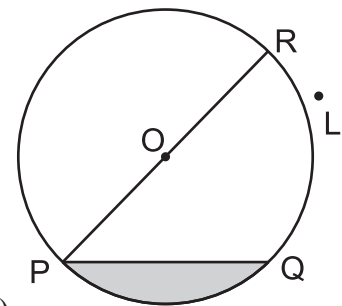
Q.4.   State whether the following statements are true or false :

(a)   Sector of a circle is the region in the interior of a circle enclosed by an arc on one side and a pair of radii on the other two sides.

(b)   Circle is a polygon.

(c)   A line is also a curve.

(d)   Interior of an angle is a restricted area.

(e)   Line is a part of a ray.

(f)   Two lines in a plane can intersect each other at two points.

(g)   Line segment is a definite part of a line.

(h)   Through a given piont, only one line can be drawn.

Q.5.   For quadrilateral ABCD, write

(a)   Other name of this quadrilateral.

(b)   One pair of opposite sides.

(c)   One pair of adjacent sides.

(d)   One pair of adjacent angles.

(e)   One pair of opposite angles.

(f)   One pair of adjacent vertices.

(g)   Name of diagonals.

(h)   Name of the triangle whose one angle is ∠DAC.
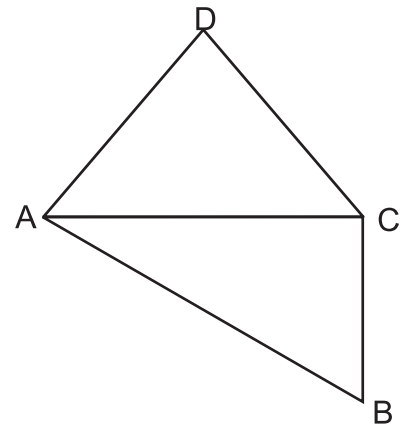
Q.6.   Match the following :

(a)   Open curve   (i)

(b)   Closed curve   (ii)

(c)   Polygon   (iii)

(d)   Not a simple curve   (iv)

Chapter-5
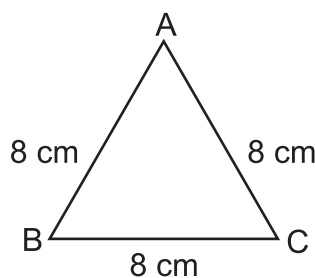
Understanding Elementary Shapes

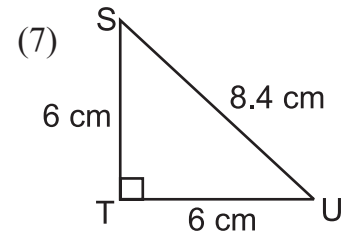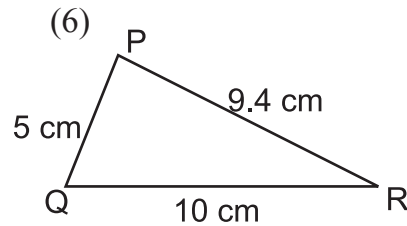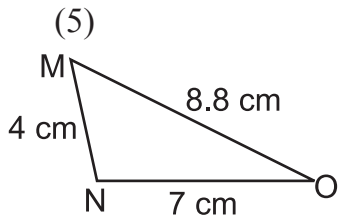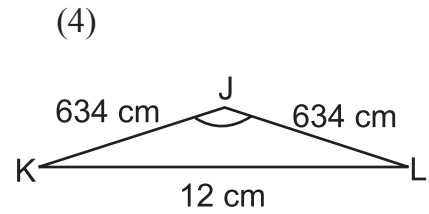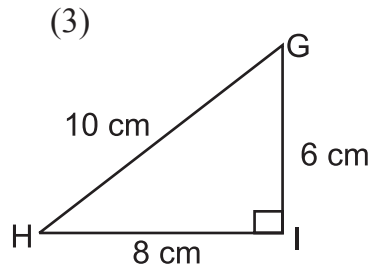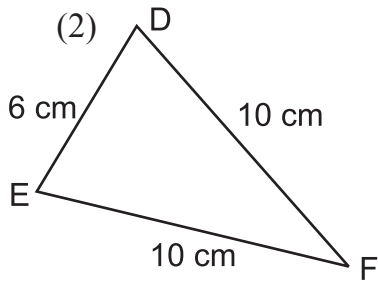Q.1. Match the column B with A and C :

A	B	C
(a) Straight angle	(i) An angle whose measure is less than 90°.	(f) One fourth of a revolution.
(b) Right angle	(ii) An angle whose measure is between 90° and 180°.	(g) Half of a revolution.
(c) Acute angle	(iii) An angle whose measure is 180°.	(h) More than half a revolution
(d) Obtuse angle	(iv) An angle whose measure is 90°.	(i) Less than one-fourth of a revolution.
(e) Reflex angle	(v) An angle whose measure is between 180° and 360°.	(j) Between ¼ and ½ of a revolution.

For example (a) → (iii) → (g)

Q.2. A sailor is rowing a boat due north. In which direction will he be rowing if he turns it through

(i)   a straight angle   (ii)   a complete angle

Q.3. You are standing in a class-room facing north. In what direction will you be facing after making a quarter turn in clockwise direction?

Q.4. Write five capital letters of the English alphabet which show perpendicular lines/line segments.

Q.5. Identify the following triangles according to the measurement of sides and angles given. Also mention the type of triangle :

(1)

(2)

D
6 cm
10 cm
E
10 cm
F

(3)

G
10 cm
6 cm
H
8 cm
I

(4)

J
634 cm
634 cm
K
12 cm
L

(5)

M
8.8 cm
4 cm
N
7 cm
O

(6)

P
9.4 cm
5 cm
Q
10 cm
R

(7)

S
8.4 cm
6 cm
T
6 cm
U

(e.g. (1) ΔABC is an equilateral triangle and acute angled triangle.

Q.6.   Fill in the blanks :

(a)   Each angle of a rectangle is a _____ angle.

(b)   _____ sides of a rhombus are of equal length.

(c)   In a _____ , there is only one pair of parallel sides.

(d)   The _____ sides of a rectangle are equal in length.

(e)   A rhombus with four right anlges is called a _____ .

(f)   The polygon with least number of sides is _____ .

Q.7.   Complete the following table :

(One is done as example-sphere)

	Shape	Example	Number of faces	Number of vertices	Number of Edges
(1)	Cuboid	—	—	—	—
(2)	Cube	—	—	—	—
(3)	Triangular pyramid	—	—	—	—
(4)	Sphere	Football	No face	No vertex	No edge

Chapter-6

Integers

Q.1. Write 'True' or 'False' for the following :

(i) −20° C represent temperature "above 20°C"

(ii) 8 > (−10)

(iii) | − 2 | = 2

(iv) | − 4 − 2 | = − 6

(v) (−3) > (−5)

Q.2. Fill up the blanks :

(i) Integer which is neither positive nor negative is _____

(ii) Predecessor of (−99) is _____

(iii) | -26-14 | = _____

(iv) Successor of (−100) is _____

(v) Largest 3-digit negative integer is _____
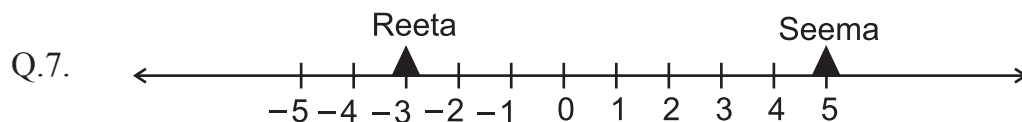
Q.3. Subtract (−25) from the sum of 15 and 35.

Q.4. Add the sum of (−2063) and 562 to (−2063).

Q.5. Simplify :

(i) (−50) + (−200) − (−500)   (ii) 23 − (−15) + 12

(iii) (24 + 6) ÷ (−3)   (iv) 19 + {10 ÷ (7 − 9)}

(v) 12 − {16 − (6 + 2 − 6 ÷ 3)}

Q.6. Write additive inverse of :

(i) (−6347)   (ii) 0   (iii) 4231   (iv) 2132 − 132   (v) −10 − 5

Q.7.

Reeta   Seema

$$\xleftarrow{\hspace{3cm}} \overset{\blacktriangle}{\underset{-5\ -4\ -3\ -2\ -1\quad 0\quad 1\quad 2\quad 3\quad 4\quad 5}{\rule{8cm}{0.4pt}}} \overset{\blacktriangle}{} \xrightarrow{\hspace{3cm}}$$

Observe the number line given above and answer the following :

(i) What is the position of Reeta on the number line?

(ii) What is the position of Seema?
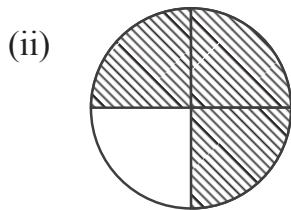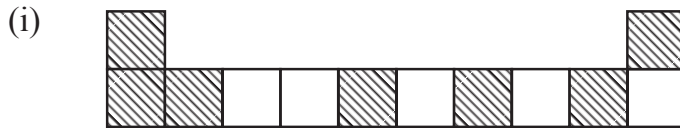
(iii) What is the distance between Reeta and Seema?

Q.8. Represent the following numbers/expressions on a number line?

(i) -7 (ii) $+9$ (iii) $7 - 2$ (iv) $-5 - 4$ (v) $4 - 9$

Q.9. Enter the correct sysmbol $>$, $=$, $<$ in the following :

(i) (-7) _____ (2)

(ii) 7 _____ (-12)

(iii) 0 _____ (-2)

(iv) (-16) _____ $(9 + 7)$

(v) $-(10 + 5)$ _____ (-15)

Q.10. Find the values of 'a' when :

(i) $a + 10 = -18$ (ii) $a - 3 = 7$

(iii) $-13a = 91$ (iv) $a \div 5 = 3$

Chapter-7

Fractions

Q.1.   Write the fraction representing the shaded portion.

(i)

(ii)

Q.2.   Color the part according to given fraction :

(i) $\frac{3}{4}$

(ii) $\frac{5}{8}$
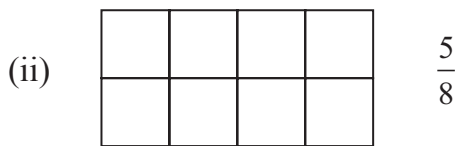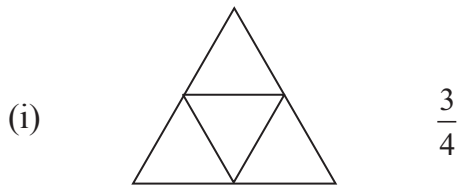
Q.3.   Which of the following represent $\frac{1}{2}$?
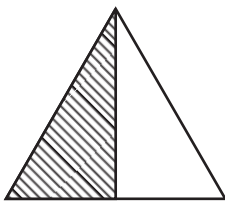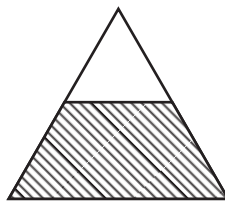
(a)   (b)

(i)   Only figure (a)   (ii)   Only figure (b)

(iii)   Both figures (a) and (b)   (iv)   Neither figure (a) nor figure (b)

Q.4. Write natural numbers from 1 to 15 :_____

    (i)   What fraction of them are prime numbers?

    (ii)   What fraction of them are composite numbers?

Q.5. Identify the following fractions :

    (i)   6 hours of a day.

    (ii)   750 gms of a kilogram.

Q.6. Fill the following boxes with $<, >$ or $=$

    (i) $\dfrac{1}{2}$ ☐ $\dfrac{1}{5}$

    (ii) $\dfrac{3}{3}$ ☐ $\dfrac{3}{6}$

    (iii) $\dfrac{1}{4}$ ☐ $\dfrac{2}{8}$

Q.7. Put the following set of fractions in descending order :

    (i) $\dfrac{1}{5}, \dfrac{3}{5}, \dfrac{13}{5}, \dfrac{9}{5}, \dfrac{12}{5}$

    (ii) $\dfrac{3}{7}, \dfrac{3}{11}, \dfrac{3}{2}, \dfrac{3}{5}, \dfrac{3}{10}$

Q.8. Represent $\dfrac{5}{8}$ and $\dfrac{3}{8}$ on the number line.

Q.9. Rita has a pizza with 8 slices. She ate 3 pieces out of it. Sita eats $\dfrac{1}{4}$ of the same pizza. Who eats more and by how much?

Q.10. Is it true or false for the following? If not fill it with correct options ($<, >$ or $=$)

    (i) $\dfrac{1}{4}$ $=$ 1

    (ii) $\dfrac{5}{5}$ $=$ 1

    (iii) $\dfrac{0}{6}$ $>$ 1

    (iv) $\dfrac{7}{8}$ $<$ 1

Q.11. Find the equivalent fraction of $\dfrac{3}{5}$ with

    (i)   Numerator 27   (ii) Denominator 25

Q.12. Reduce to the simplest form :

    (i) $\dfrac{150}{60}$ (ii) $\dfrac{36}{72}$ (iii) $\dfrac{5}{125}$

Q.13. Match the following :

	(A)		(B)
(i)	$8\dfrac{1}{7}$	(a)	$\dfrac{53}{7}$
(ii)	$4\dfrac{3}{5}$	(b)	$\dfrac{57}{7}$
(iii)	$7\dfrac{4}{7}$	(c)	$\dfrac{42}{5}$
(iv)	$8\dfrac{2}{5}$	(d)	$\dfrac{23}{5}$

Q.14. Complete the addition subtraction box.
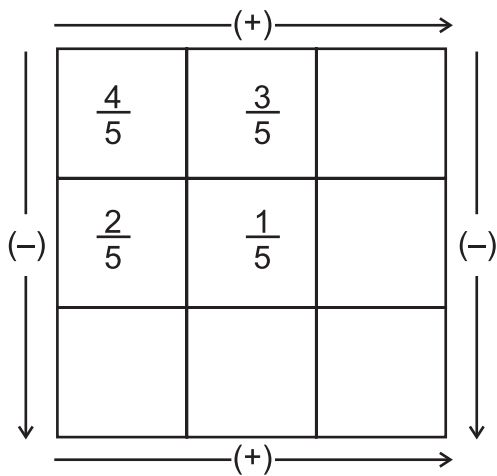
Q.15. Fill in the boxes :

(i) $\quad 4\dfrac{2}{5} - \boxed{} \;=\; 2\dfrac{1}{5}$

(ii) $\quad \boxed{} - \dfrac{3}{8} \;=\; \dfrac{1}{4}$

(iii) $\quad \dfrac{1}{3} - \boxed{} \;=\; \dfrac{1}{6}$

Decimals

Q.1.   Write each of the following as decimals :

    (i)   Three tens and 8 tenths   _____

    (ii)   Three hundred four and five hundredths _____

    (iii)   Thirty and one tenth   _____

    (iv)   Sixty point two seven six   _____

Q.2.   Convert the following decimals into lowest form of fractions :

    (i)   0.8   _____

    (ii)   4.5   _____

    (iii)   8.8   _____

    (iv)   7.0   _____

Q.3.   Express 0.5 and 2.1 on number line.

Q.4.   Write down the following as decimals :

    (i) $5+\dfrac{1}{100}$ _____

    (ii) $40+5+\dfrac{1}{10}+\dfrac{2}{100}$ _____

    (iii) $7\dfrac{1}{100}$ _____

Q.5.   Which is greater?

    (i)   5.31 or 5.28   _____

    (ii)   6.321 or 6.312   _____

Q.6.   Express as rupees using decimals :

    (i)   60 paise   _____

    (ii)   825 paise   _____

Q.7.   Expres as km using decimals :

    (i)   7 mm   _____

    (ii)   32 km 51m   _____

Q.8. Add : 15.07 + 10.252 + 6.8

Q.9. Subtract : 18.728 – 9.97

Q.10. Raghu got ₹ 500 and he spent ₹ 118 on stationary items and ₹ 50.75 on eatables. Find the money left with Raghu.

Q.11. Fill in the box with correct option (<, > or =)

(i) 0.7 ☐ 0.78

(ii) 1 ☐ 0.96

(iii) 1.8 ☐ 1.80

(iv) 5.66 ☐ 5.604

(v) 3.52 ☐ 4.42

Q.12. Which whole number is nearer to the following?

(i) 4.6 _____

(ii) 0.99 _____

Q.13. Rina bought 4 kg 500 g of rice, 3 kg 400 g of dal and 1 kg 250 g of sugar. Find the total weight of all the items she bought.

Q.14. (i) Write 1.284 in words.

(ii) Convert in to decimals :

(a) $3\dfrac{3}{5}$ _____ (b) $\dfrac{7}{4}$ _____ (c) $4\dfrac{1}{2}$ _____

Q.15. Write the following decimals in the place value chart :

(i) 158.42 (ii) 101.056 (iii) 0.496

Data Handling

Q.1. Reena collected the data for the ages (in years) fo her hobby class group and she records the findings in the manner shown below :

10	10	11	12	9	10	9	12	9	8
11	12	9	8	10	12	9	11	9	10
10	9	10	8	11	10	8	10	8	11

Represent the above data using tally marks in the table below :

Ages (in years)	Tally Marks	Frequency
8	⊮	05
9		
10		
11		
12		

(i) Find the age that appeared the maximum number of times?

(ii) Find the ages that appeared equal number of times.

(iii) How many children are below 11 years?

(iv) How many children are of 10 years or above?

Q.2. The bar graph below is showing the liking of different fruits by students :
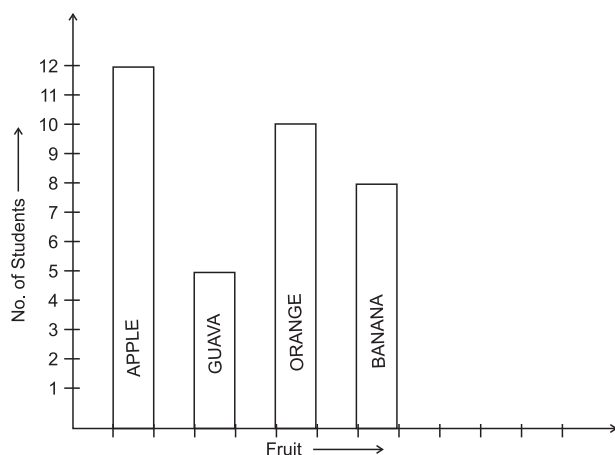
(i)   Which fruit is liked by most students?

(ii)   How many students like orange?

(iii)   How many more students like banana than guava?

Q.3.   Following is the production of cars in six months by a company.

Month	Production
January	2000
February	1000
March	2400
April	800
May	1400
June	1800

Take 1 unit = 200 cars and draw a bar graph to represent the information.

Q.4.   Following is the pictograph of class VI students. Here 1 = 10 boys and 1

= 10 girls. Looking at the pictograph below, answer the following questions.

(i)   How many students are there in VI A, VI B, VI C and VI D sections each?   _____

(ii)   Which section has maximum number of boys?   _____

(iii)   Which section has maximum number of girls?   _____

(iv)   What is the total strength of class VI?   _____

Q.5. Number of students present in calss VI during a particular week are given below. It is represented by a pictograph where 1 ☺ = 6 students.

Day	Students
Monday	☺ ☺ ☺ ☺ ☺
Tuesday	☺ ☺ ☺ ☺ ☺ ☺
Wednesday	☺ ☺ ☺ (
Thursday	☺ ☺ ☺ ☺ ☺
Friday	☺ ☺ ☺ ☺ (
Saturday	☺ ☺ ☺ ☺ ☺ ☺ ☺
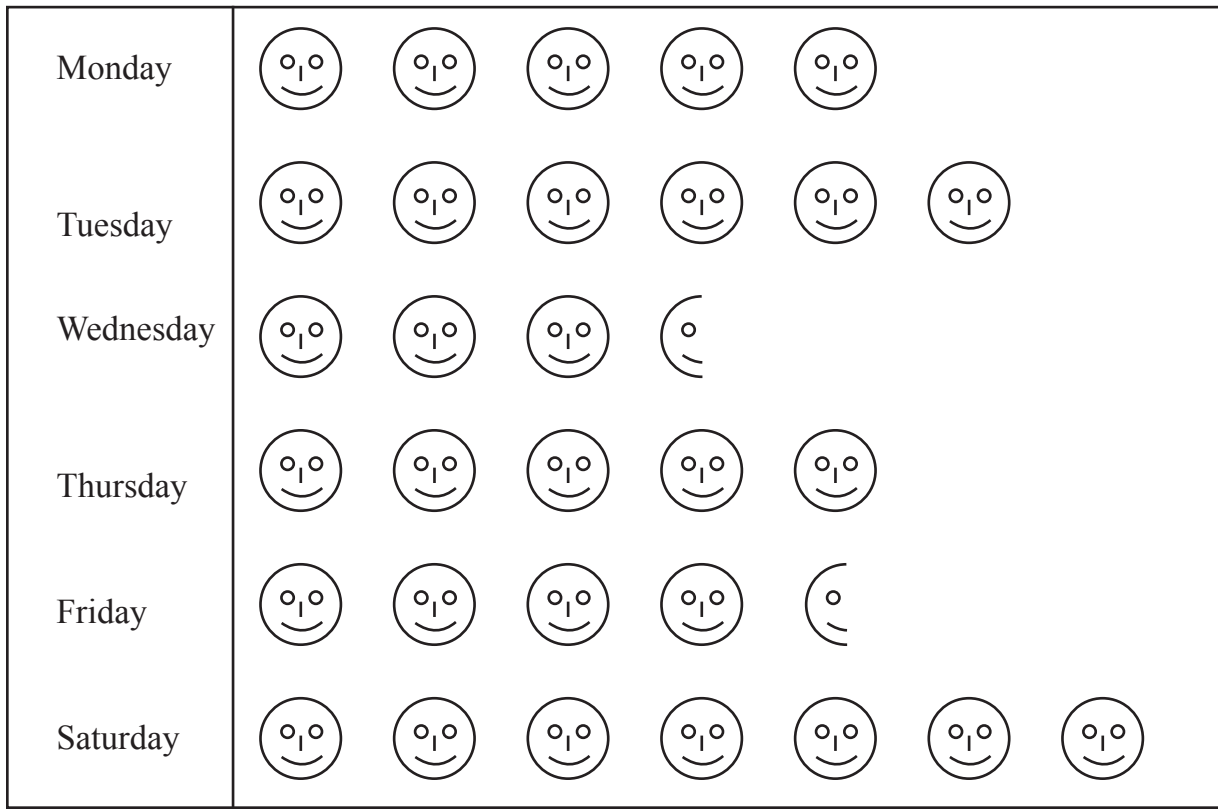
(i) On which day maximum students were present? _____
(ii) On which day minimum students were present? _____
(iii) How many students were present on wednesday and Thursday each? _____

Q.6. A survey showed the preference of different subjects by students of class VI

Subject	No. of Students
English	25
Hindi	30
Maths	50
Science	35
Social Science	40

Draw a pictograph to illustrate the above data taking a scale of 1 ☺ = 5 students.

Chapter-10

Mensuration

Q.1. Find the total distance covered by an athlete in taking 2 rounds of a rectangular park of length 150 m and breadth 80 m.

Q.2. A tailor wants to put lace around a square table cloth of side 20 cm. He bought 1 m lace from the market. Find the length of lace left with him after completing the task.

Q.3. The length of a rectangular park is 50 m and its area is 650 m². Find its breadth.

Q.4. Find the number of square tiles required to cover the floor of a room whose length is 4 m and width 3 m, if each square tile is of side 0.2 m.

Q.5. Two equal sides of an isosceles triangle measure 10 cm each. Find the length of its third side if its perimeter is 32 cm.

Q.6. A piece of string is 60 cm long. What will be the length of each side if the string is used to form :

    (a)   a square

    (b)   an equilateral triangle

    (c)   a regular pentagon

Q.7. A farmer's rectangular graden is adjacent to his house, (as shown in the figure).

The rectangular garden is 200 m long and 150 m wide. Find the cost of fencing three sides of this garden at the rate of ₹ 12 per meter.
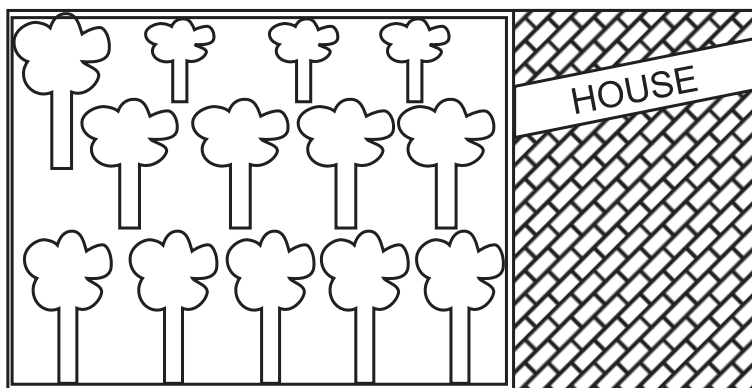
Q.8. Find the perimeter of each of the following figures :
(The measures are given in cm)
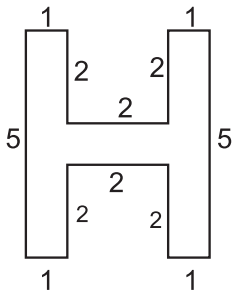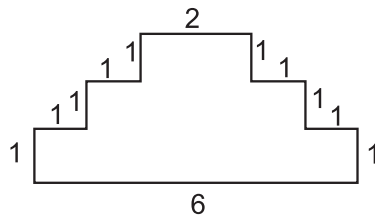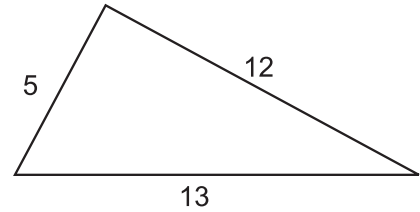
(a)   (b)   (c)

Q.9. Find the area of each of the following figures :
(The measures area given in cm)
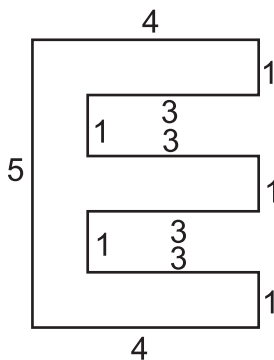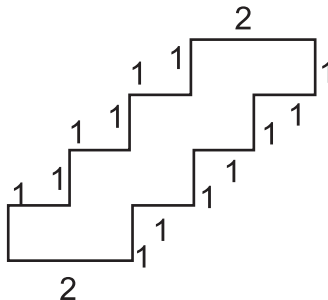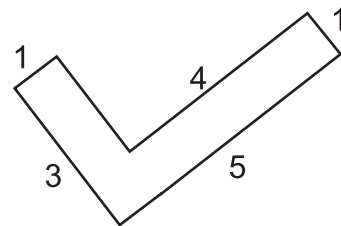
(a)   (b)   (c)

Q.10. Complete the crossword :

Across →

(1) Perimeter (in cm) of an equilateral triangle of side 220 cm.

(3) Perimeter (in cm) of a regular hexagon of side 84 cm.

(5) 4 m 25 cm = _____ cm.

Down ↓

(2) Perimeter (in cm) of a regular pentagon of side 120 cm.

(4) Number of unit squares (sq. cm.) enclosed in a square of side 22 cm.

(6) Distance covered along a triangular park (in 1 round) measuring 12 m, 20 m and 23 m. (distance in m)
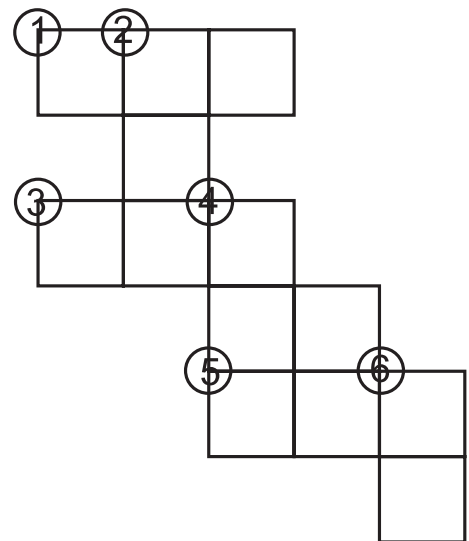
Chapter-11

Algebra

Q.1.   Find the rule which gives the number of lines required to make the following pattern. Use a variable to write the rule.

(i)   Letter $\lfloor$ _____

(ii)   Letter $\models$ _____

(iii)   Letter $|\bigwedge|$ _____

(iv)   Letter $\bigvee$ _____

Q.2.   Children stand 10 in a row to perform a drill. How many children can there be in a drill? Give a rule to calcualte this. (Use n for the number of rows)

Q.3.   Form an algebraic expression using the statements given below :

(i)   17 subtracted from '–y'   _____

(ii)   '–m' multiplied by 10   _____

(iii)   x divided by '–2'   _____

(iv)   4 added to 6 times y   _____

Q.4.   If y is Meena's age now in years how old will she be after 7 years? _____

Q.5.   If the side of a regular septagon is m units, then what is it's perimeter? _____

Q.6.   Is 2 p–3> 7 an algebraic equation? _____

Q.7.   A teacher distributes 6 notebooks per student. How many notebooks are needed if s is the number of students?

Q.8.   Pick out the correct solution from the values given in the bracket next to each equation:

(i) $r - 8 = 0$ $(8, -8, 0, 1)$ $r =$ _____

(ii) $\dfrac{t}{3} = 21$ $(7, 14, 21, 63)$ $t =$ _____

(iii) $\dfrac{k}{8} = 8$ $(1, -1, 64)$ $k =$ _____

Q.9. Complete the table and by inspection of the table find the solution to the equation $\dfrac{t}{4} = 4$

t	8	9	10	11	12	13	14	15	16	17	18	19
$\dfrac{t}{4}$	2	$2\dfrac{1}{4}$	$2\dfrac{2}{4}$	$2\dfrac{3}{4}$	–	–	–	–	–	–	–	–

Q.10. In a game of cricket there are n children but in football there are $\dfrac{n}{3}$ children. What does this indicate?

Q.11. Match the following :

(i) $5x = 20$ (a) $x = 6$

(ii) $8 = x + 3$ (b) $x = 4$

(iii) $\dfrac{12}{x} = 4$ (c) $x = 5$

(iv) $8 - x = 2$ (d) $x = 3$

Q.12. Give a mathematical expression for the statement : m multiplied by 5 and 6 subtracted from the product.

Solve the equations (Q.13 - Q15) :

Q.13. $\dfrac{l}{2} = 18$ $l =$ _____

Q.14. $n - 12 = -19$ $n =$ _____

Q.15. $\dfrac{3m}{2} = 9$ $m =$ _____

Chapter-12

Ratio & Proportion

Q.1. Fill in the box :

$$\frac{14}{21} = \frac{\square}{3} = \frac{6}{\square}$$

Q.2. Find the ratio of the following :

(i) 21 hours to 49 hours _____

(ii) 75 cm to 3 m _____

(iii) A dozen to a score _____

(iv) 1 hour to 20 minutes _____

(v) A dozen to a gross _____

Q.3. Write True or False :

(i) 2 : 8 :: 4 : 16 (   )

(ii) 500 : 200 :: 150 : 60 (   )

(iii) 50 : 45 :: 30 : 20 (   )

Q.4. Fill in the blanks so that the numbers are in proportion :

(i) 20, 18, 40, ...

(ii) ...., 35, 3, 15

(iii) 25, 100, ..., 160

(iv) 32, ..., 6, 12

Q.5. Find x, if the numbers are in proportion :

(i) 3, 9, 9, x _____

(ii) 25, x, 1, 4 _____

Q.6. Divide ₹ 60 in the ratio 1:2 between Bulbul and Kanika :

(i) Bulbul's share = _____

(ii) Kanika's share = _____

Q.7. Give two equivalent ratios of 6 : 4

Q.8. Weight of 80 books in 160 kg. What is the weight of 25 books?

Q.9. Divide ₹ 1200 among A, B and C in the ratios 4 : 5 : 6.

(i) A's share = _____

(ii) B's share = _____

(iii) C's share = _____

In a class of 40 students, 15 like cricket, 20 like football and 5 like both cricket and football. (Now answer question number 10 and 11) :

Q.10. Find the ratio of number of students who like cricket to those who like football.

Q.11. Find the ratio of number of students who like football to those who like both.

Q.12. If 2, 5 and x are in proportion, find x _____ [Hind 2 : 5 :: 5: x]

Q.13. Find the ratio of 5 days to 2 weeks.

Q.14. The cost of one dozen bananas is ₹ 60. Find the cost of 8 bananas.

Q.15. In a class of 48 students, there are 12 girls and rest are boys. Find the ratio of :
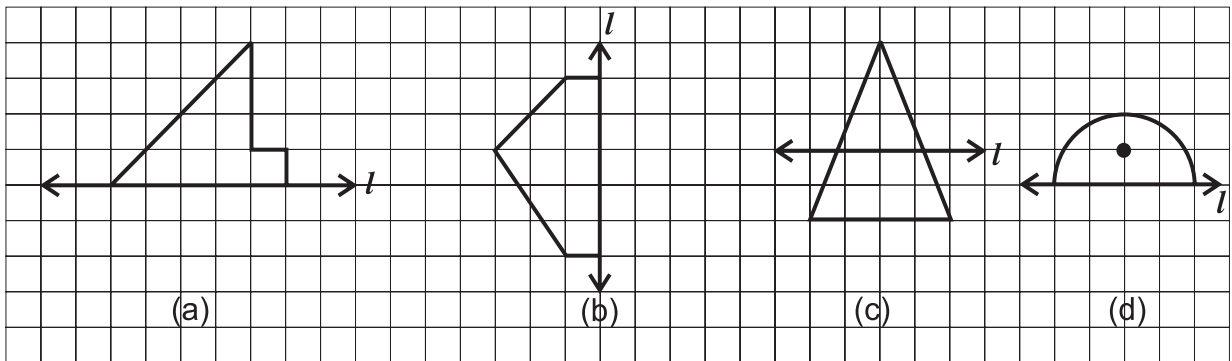
(i) Girls to Boys. _____

(ii) Girls to total number of students. _____

Chapter-13

Symmetry
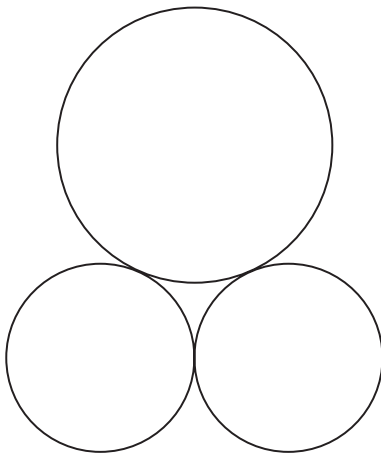
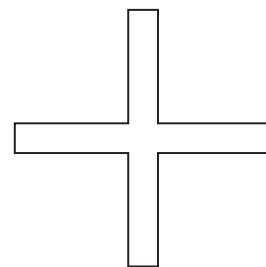Q.1. In the following figures, *l* is the line of symmetry. Complete the diagram to make it symmetric.

(a)   (b)   (c)   (d)

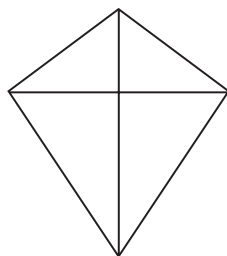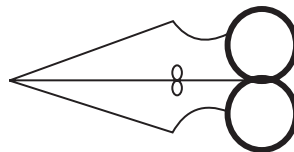Q.2. Draw the line (s) of symmetry for each of the following figures :

(a)   (b)   (c)

(d)   (e)

Q.3. Match the following :

Column X	Column Y
Shape	No. of Lines of Symmetry
(a) Rectangle	(g) 0
(b) Square	(h) 1
(c) Scalene Triangle	(i) Infinitely many
(d) Isosceles Triangle	(j) 3
(e) Equilateral Triangle	(k) 4
(f) Circle	(l) 2

For example : A scalene triangle has no line of symmetry, so (c) is matched with (g).

Q.4. Consider the first ten capital letters of English alphabet, list among them the letters which have :

(i) Vertical lines of symmetry (e.g. A)

(ii) Horizontal lines of symmetry (e.g. B)

(iii) No lines of symmetry (e.g. F)

(iv) Both-vertical and horizontal lines of symmetry (e.g. H)

Q.5. State whether the following statements are True or False :

(i) Perpendicular bisector of a line segment is also its line of symmetry.

(ii) Angle bisector of an angle, with equal arms, is also its line of symmetry.

(iii) All the chords of a circle are its lines of symmetry.

(iv) A pentagon can have exactly one line of symmetry.

(v) A regular octagon has 8 lines of symmetry.

(vi) Two diagonals of a rectangle are its lines of symmetry.

(vii)   This figure has 4 lines of symmetry.

Chapter-14

Practical Geometry

Q.1. Choose suitable units for the following measurements :

(a) Lenght of your pencil   (cm or km)   cm (for example)

(b) Your height   (cm or km)   _____

(c) Distance by road between Delhi and Jaipur   (cm or km)   _____

(d) Lenght of your feet   (cm or km)   _____

(e) Length of rice grain   (mm or km)   _____

(f) Length of cloth needed to make your long raincoat   (m or km)   _____

Q.2. In the figure, OA = AB = BC = CD

Fill in the blanks :
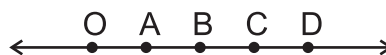
(i) A is the mid point of line segment _____.

(ii) B is the mid point of line segment _____ and line segment _____ also.

(iii) OC + CD = _____

(iv) OC – OA = _____

(v) Name the line segment whose length is equal to 3 times OA.

Q.3. Which angle is bigger?

∠ABC or ∠DEF?
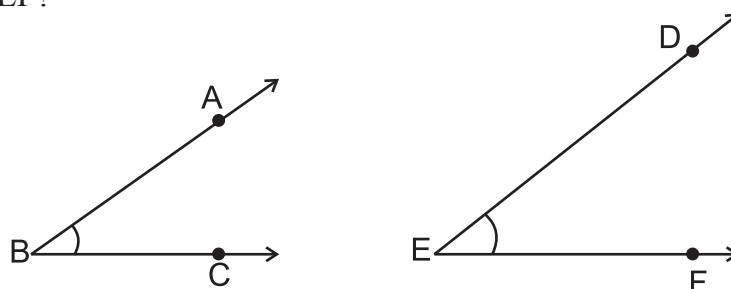
Q.4. Using ruler and compass to construct angles of following measures :

(a) 135°   (b) 90°   (c) 180°   (d) 15°

Q.5. Draw an angle measuring 54° using protractor. Now, without using protractor, construct

(a) a copy of this angle.

(b) an angle measuring 27°.

Q.6. Draw a line segment AB of length 10 cm. By drawing its perpendicular bisector repeatedly, obtain a line segment of length $\frac{1}{4}$ AB.

Q.7. Draw a circle with centre X and radius 4 cm. Draw any chord $\overline{LM}$. Construct the perpendicular bnisector of $\overline{LM}$ and check whether it passes through X. (Yes/No).

Q.8. Draw a line segment $\overline{PQ}$ of length 7 cm. Take any point, M, not on it. Through M, draw a perpendicular to $\overline{PQ}$, using ruler and compasses.

Q.9. Draw a line segment AB of length 8 cm. At each end point of this line segment, draw a line perpendicular to AB. Are these two lines parallel? (Yes/No)

Q.10. If AB = 7.5 cm and CD = 1.5 cm, construct a line segment whose length is equal to

(i) 2 CD   (ii) AB + CD   (iii) AB – CD

Answer Key

CHAPTER-1

1. (a) One lakh
    (b) Ninety nine million nine hundred ninety nine thousand nine hundred ninety nine.
    (c) $2 \times 10,00,000 + 7 \times 1,00,000 + 3 \times 10,000 + 0 \times 1000 + 1 \times 100 + 4 \times 10 + 5$
    (d) 1650
    (e) DCCVII
2. Largest number : 5420 Smallest number : 2045
3. (i) $2347 < 2437 < 2473 < 2734 < 2743$
    (ii) $50725 > 50572 > 50527 > 50275 > 50257$
4. Sum = 13,68,514 (Thirteen lakh sixty eight thousand five hundred and fourteen.)
5. Difference = 590,197 (Five hundred ninety thousand one hundred ninety seven.)
6. Total number of plants = 7849
7. −1215
8. Number of glasses = 25
9. (i) 2,000   (ii) 6,000   (iii) 10,50,000   (iv) 20   (v) 8,000
10.

X	1	2	3	4	5	6	7	8	9	10
15	15	30	45	60	75	90	105	120	135	150
16	16	32	48	64	80	96	112	128	144	160
17	17	34	51	68	85	102	119	136	153	170
18	18	36	54	72	90	108	126	144	162	180
19	19	38	57	76	95	114	133	152	171	190

CHAPTER-2

1. (a) 2339   (b) 25620
2. (a) 21030   (b) 7811
3. (i) ↔ (c)   (ii) ↔ (a)   (iii) ↔ (d)   (iv) ↔ (b)
4. (i) Position of boy is 7 units (4 + 3 = 7)
    (ii) Position of boy is 9 − 3 = 6 units
    (iii) Position of boy is 4 × 3 = 12 units

5.   (i)

$$5 + 3 = 8$$

(ii)

$$10 - 6 = 4$$

(iii)

$$2 \times 5 = 10$$
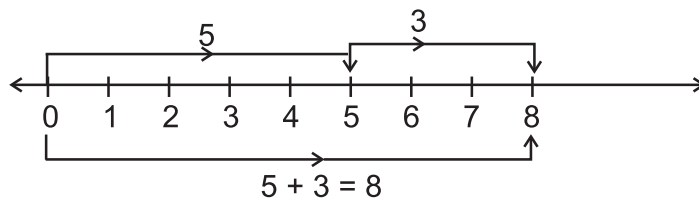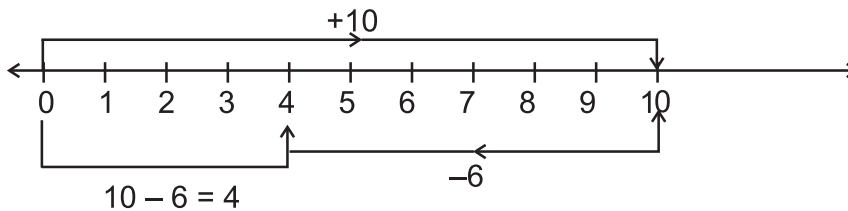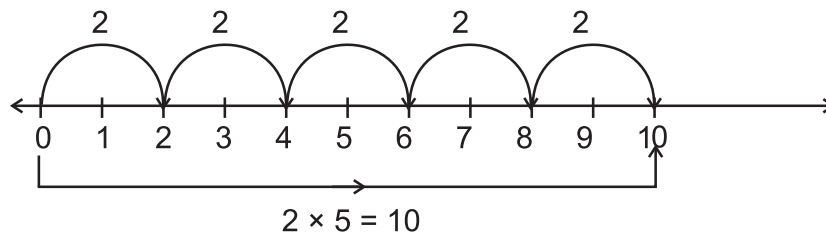
6.   (i)   1,225   (ii)   53,700   (iii)   10,000   (iv)   5,00,000

7.   (i)   44,574   (ii)   91,575   (iii)   4,290   (iv)   1,23,450

     (v)   92,78,500

8.   101

9.   1

10. (i) True   (ii)   True   (iii)   False   (iv)   False   (v) True

CHAPTER-3

1.   (i)   2   (ii)   two (1and 2)

     (iii) (2, 1)   (iv)   3, 5   (v)   97

2.   60, No

3.   102

4.   (i)   2   (ii)   3   (iii)   7

5.   990

6.   24 cm

7.   607

8.   HCF = 9, yes

9.   LCM = 90, yes

10. (i) ↔ (c),   (ii) ↔ (e),   (iii) ↔ (d)

     (iv) ↔ (a)   (v) ↔ (b)

CHAPTER-4

1. Basic Geometrical Ideas
   - (a) Line segment
   - (b) Point
   - (c) Ray
   - (d) Plane
   - (e) Parallel lines
   - (f) Intersecting lines

2. (a) Line segments $\overline{XP}, \overline{PR}, \overline{RY}, \overline{XR}, \overline{XY}, \overline{PY}$
   - (b) Rays $\overrightarrow{XP}, \overrightarrow{XR}, \overrightarrow{XY}, \overrightarrow{PR}, \overrightarrow{PY}, \overrightarrow{RY}$
   - (c) Line '*n*' and line '*l*'
   - (d) line '*m*' and line '*n*'
   - (e) 4
   - (f) Infinitely many

3. (a) Segment of a circle
   - (b) PR
   - (c) PQ
   - (d) OP or OR
   - (e) RO
   - (f) Semi-circle
   - (g) Point L

4. (a) True   (b) False   (c) True   (d) False
   - (e) False   (f) False   (g) True   (h) False

5. (a) BCDA or CDAB (any 1 name)
   - (b) AD and BC; AB and CD (any 1 pair)
   - (c) AB and BC; BC and CD; CD and AD; AD and AB. (any 1 pair)
   - (d) ∠DAB and ∠ABC; ∠ABC and ∠BCD; ∠BCD and ∠CDA; ∠CDA and ∠DAB. (any 1 pair)
   - (e) ∠ABC and ∠ADC; ∠DAB and ∠DCB (any 1 pair)
   - (f) A and B; B and C; C and D; D and A. (any 1 pair)
   - (g) AC and BD
   - (h) ΔADC or ΔDAC or ΔDCA (any 1)

6. (a) ↔ (ii),   (b) ↔ (iii),   (c) ↔ (iv),   (d) ↔ (i)

CHAPTER-5

1. (a) → (iii) → (g)
   (b) → (iv) → (f)
   (c) → (i) → (i)
   (d) → (ii) → (j)
   (e) → (v) → (h)

2. (i) South   (ii) North

3. East

4. E, F, H, I, J, L, T (any five)

5. (1) ΔABC : Equilateral and acute angled triangle

    (2) ΔDEF : Isosceles triangle and acute angled triangle

    (3) ΔGIH : Scalene triangle and right angled triangle

    (4) ΔJKL : Isosceles triangle and obtuse angled triangle

    (5) ΔMNO : Scalene triangle and obtuse angled triangle

    (6) ΔPQR : Scalene triangle and acute angled triangle

    (7) ΔSTV : Isosceles triangle and right angled triangle

6. (a) Right angle   (b) All

    (c) Trapezium   (d) Opposite
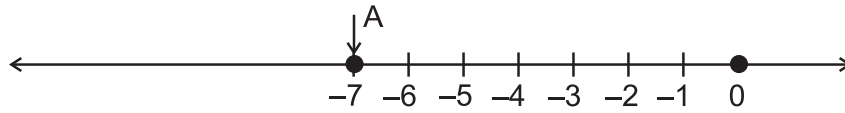
    (e) Square   (f) Triangle

7.

Shope	Example	No. of Faces	No. of vertices	No. of edges
Cuboid	Math book	6	8	12
Cube	Die	6	8	12
Triangular Pyramid	Egypt Pyramid	4	4	6

CHAPTER-6

1. (i) False   (ii) True
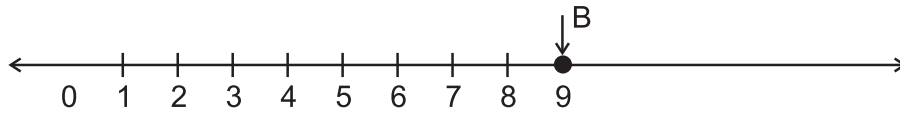
    (iii) True   (iv) False   (v) True

2. (i) 0   (ii) −100

    (iii) 40   (iv) −99   (v) −100

3. 75

4. −3564

5. (i) 250   (ii) 50

    (iii) (−10)   (iv) 14   (v) 2

6. (i) 6347   (ii) 0

    (iii) −4231   (iv) −2000   (v) 15

7. (i) Position of Reeta = −3

    (ii) Position of Seema = 5
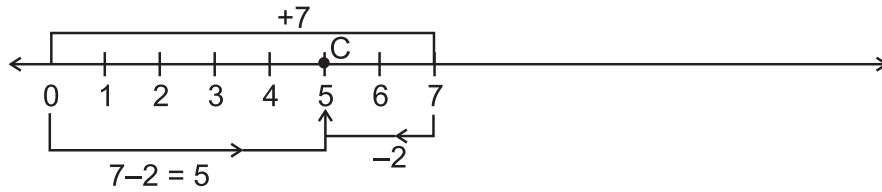
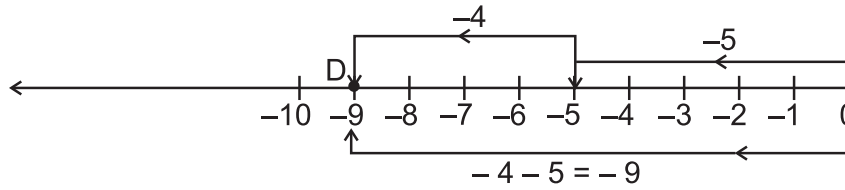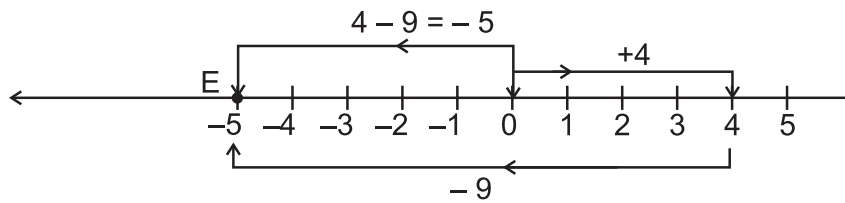   (iii) Distance between them = 8 units

8. (i)

(ii)

(iii)

(iv)

(v)

9. (i) $<$

(ii) $>$

(iii) $>$

(iv) $<$

(v) $=$

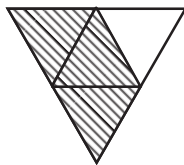10. (i) -28 (ii) 10 (iii) -7 (iv) 15
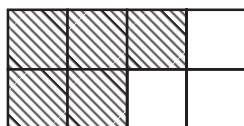
CHAPTER-7

1. (i) $\dfrac{7}{12}$ (ii) $\dfrac{3}{4}$

2. (i)

(ii)

3. (i) Only figure (a)

4. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15

    (i) $\dfrac{6}{15}=\dfrac{2}{5}$
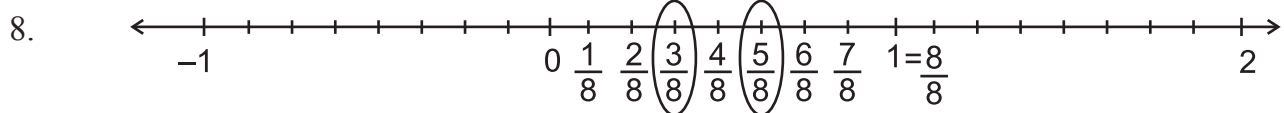
    (ii) $\dfrac{8}{15}$

5. (i) $\dfrac{6}{24}=\dfrac{1}{4}$

    (ii) $\dfrac{750}{1000}=\dfrac{3}{4}$

6. (i) $>$ (ii) $>$ (iii) $=$

7. (i) $\dfrac{13}{5}>\dfrac{12}{5}>\dfrac{9}{5}>\dfrac{3}{5}>\dfrac{1}{5}$

    (ii) $\dfrac{3}{2}>\dfrac{3}{5}>\dfrac{3}{7}>\dfrac{3}{10}>\dfrac{3}{11}$

8.

9. Rita eats more pizza than Sita.

    Rita eats $\dfrac{3}{8}-\dfrac{2}{8}=\dfrac{1}{8}$ more pizza than Sita.

10. (i) False, $<$

    (ii) True

    (iii) False, $<$

    (iv) True

11. (i) $\dfrac{27}{45}$

    (ii) $\dfrac{15}{45}$

12. (i) $\dfrac{5}{2}$ (ii) $\dfrac{1}{2}$

    (iii) $\dfrac{1}{25}$

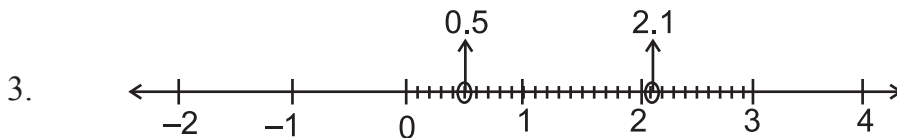13.   (i) ↔ (b)   (ii) ↔ (d)   (iii) ↔ (a)   (iv) ↔ (c)

14.

$\dfrac{4}{5}$	$\dfrac{3}{5}$	$\dfrac{7}{5} = 1\dfrac{2}{5}$
$\dfrac{2}{5}$	$\dfrac{1}{5}$	$\dfrac{3}{5}$
$\dfrac{2}{5}$	$\dfrac{2}{5}$	$\dfrac{4}{5}$

15.   (i) $2\dfrac{1}{5}$ (ii) $\dfrac{5}{8}$ (iii) $\dfrac{1}{6}$

CHAPTER-8

1.   (i)   30.8   (ii)   304.05   (iii)   30.1   (iv)   60.276

2.   (i) $\dfrac{8}{10} = \dfrac{4}{5}$ (ii) $\dfrac{45}{10} = \dfrac{9}{2}$ (iii) $\dfrac{88}{10} = \dfrac{44}{5}$ (iv) $\dfrac{7}{10}$

3.

4.   (i)   5.01   (ii)   45.12   (iii)   7.01

5.   (i)   5.31   (ii)   6.321

6.   (i)   ₹ 0.6   (ii)   ₹ 8.25

7.   (i)   0.000007 km   (ii)   32.051 km

8.   32.122

9.   8.758

10.   ₹ 331.25

11.   (i)   <   (ii)   >   (iii)   =   (iv)   >   (v)   <

12.   (i)   5   (ii)   1

13.   9 kg 150 g

14.   (i)   One point two eight four.

         (ii)   (a)   3.6

                (b)   1.75

                (c)   4.5

15.

	Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths
(i)	1	5	8	4	2	0
(ii)	1	0	1	0	5	6
(iii)	0	0	0	4	9	6

CHAPTER-9

1.

Ages (in Years)	Tally marks	Freequency
8	卌	05
9	卌 ‖	07
10	卌 ‖‖	09
11	卌	05
12	‖‖	04

(i)   10 years   (ii)   8 years & 11 years

(iii)   21   (iv)   18

2.   (i)   Apple   (ii)   10   (iii)   03

3.
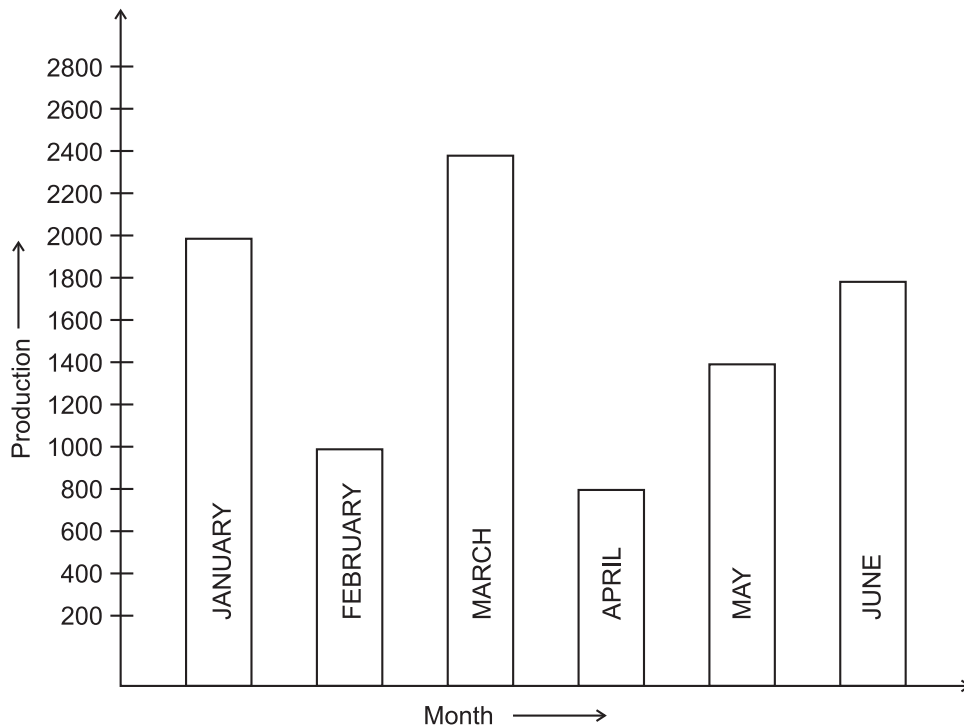
4.   (i)   VI A   50 students

                   VI B   45 students

                   VI C   50 students

                   VI D   45 students

    (ii)   Section C

    (iii)   Section D

    (iv)   190 Students

5.   (i)   Saturday

    (ii)   Wednesday

    (iii)   21 students were present on wednesday and 30 students were present on thursday.

6.   1 😊 = 5 students

Subject	No. of students
English	😊 😊 😊 😊 😊
Hindi	😊 😊 😊 😊 😊 😊
Maths	😊 😊 😊 😊 😊 😊 😊 😊 😊 😊
Science	😊 😊 😊 😊 😊 😊 😊
Social Science	😊 😊 😊 😊 😊 😊 😊 😊

CHAPTER-10

1.   920 m

2.   20 cm

3.   13 m

4.   300 tiles

5.   12 cm

6.   (a)   15 cm   (b)   20 cm   (c)   12 cm

7.   550 × 12 = ₹ 6600

8.   (a)   26 cm   (b)   18 cm   (c)   30 cm

9.   (a)   14 sq. cm   (b)   8 sq. cm   (c)   7 sq. cm

10.   (1)   660   (2)   600   (3)   504

          (4)   484   (5)   425   (6)   55

CHAPTER-11

1. (i)   2n

    (ii)   3n

    (iii)   4n

    (iv)   2n

2. 10 n

3. (i) $-y-17$

    (ii) $-10m$

    (iii) $\dfrac{x}{-2}$ or $\dfrac{-x}{2}$

    (iv) $6y+4$

4. (y + 7) years

5. 7 m units

6. No

7. 6s

8. (i) $r = 8$

    (ii) $t = 63$

    (iii) $k = 64$

9.

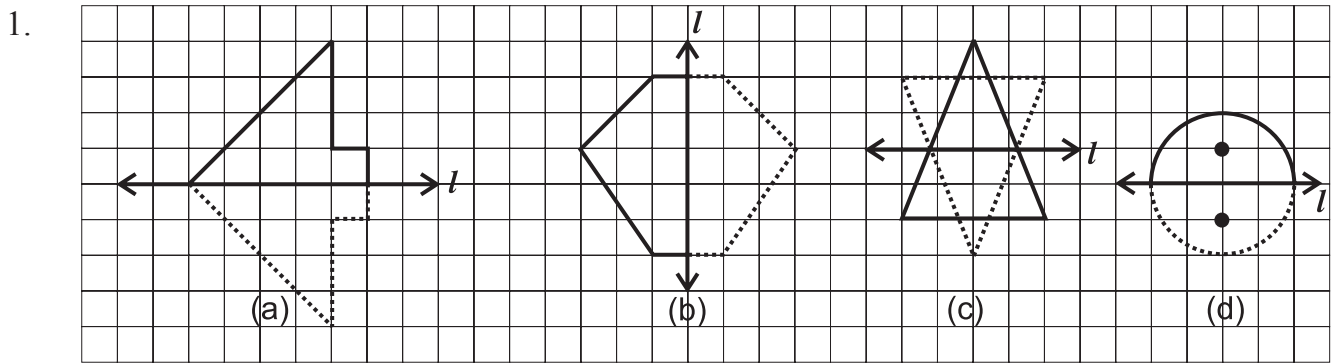| t	8	9	10	11	12	13	14	15	16	17	18	19
$\dfrac{t}{4}$	2	$2\dfrac{1}{4}$	$2\dfrac{2}{4}$	$2\dfrac{3}{4}$	3	$3\dfrac{1}{4}$	$3\dfrac{2}{4}$	$3\dfrac{3}{4}$	4	$4\dfrac{1}{4}$	$4\dfrac{2}{4}$	$4\dfrac{3}{4}$

    t = 16

10. It indicates that number of children in the game of football are one third as there are in the game of cricket.

11. (i) ↔ (b)

    (ii) ↔ (c)

    (iii) ↔ (d)

    (iv) ↔ (a)

12. 5 m – 6

13. $l = 36$

14. $n = -7$

15. $m = 6$

CHAPTER-12

1.   2, 9

2.   (i)   21 : 49 = 3 : 7

         (ii)   75 : 300 = 1 : 4

         (iii)   12 : 20 = 3 : 5

         (iv)   60 : 20 = 3 : 1

         (v)   12 : 144 = 1 : 12

3.   (i)   True   (ii)   True   (iii)   False

4.   (i)   36   (ii)   7

         (iii)   40   (iv)   64

5.   (i)   27   (ii)   100

6.   (i)   ₹ 20   (ii)   ₹ 40

7.   3 : 2, 12 : 8 (or any other two equivalent ratios)

8.   50 kg

9.   (i)   ₹ 320

         (ii)   ₹ 400

         (iii)   ₹ 480

10.   20 : 25 = 4 : 5

11.   25 : 5 = 5 : 1

12. $x = \dfrac{25}{2} = 12.5$

13.   5 : 14

14.   ₹ 40

15.   (i)   12 : 36 = 1 : 3   (ii)   12 : 48 = 1 : 4

CHAPTER-13

1.

2.

(a)   (b)   (c)

(d)   (e)
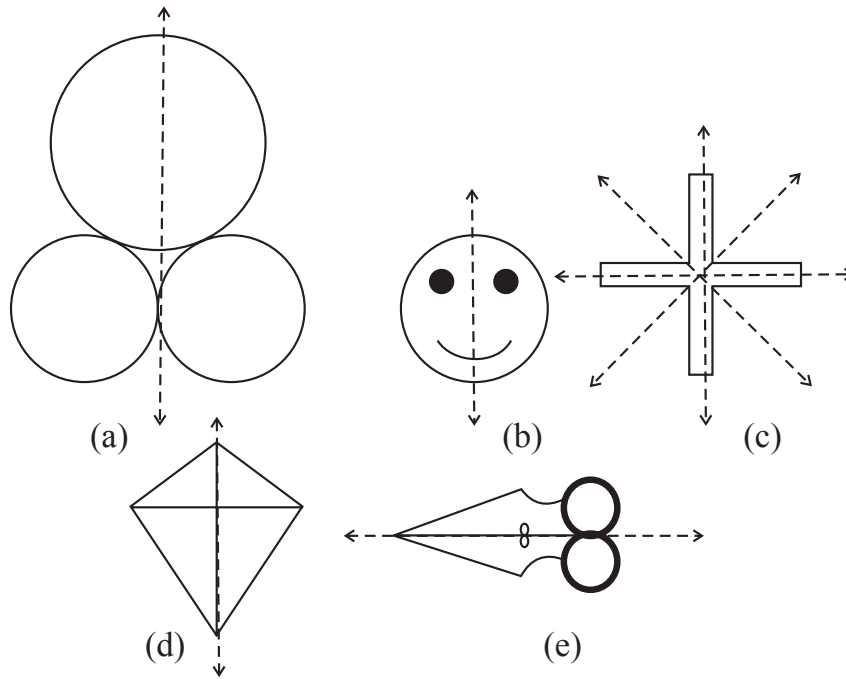
3.   (a) ↔ (l)   (b) ↔ (k)   (c) ↔ (g)   (d) ↔ (h)
     (e) ↔ (j)   (f) ↔ (i)

4.   (i)   A, H, I   (ii)   B, C, D, E, H, I   (iii)   F, G, J   (iv)   H, I

5.   (i)   True   (ii)   True   (iii)   False
     (iv) False   (v)   True   (vi)   False   (vii)   False

CHAPTER-14
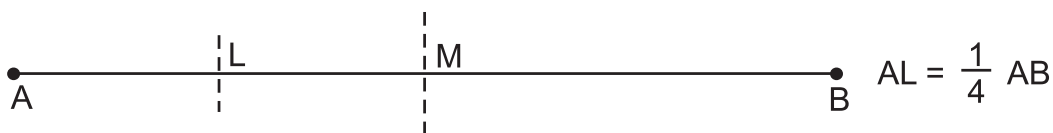
1.   (a)   cm   (b)   cm   (c)   km   (d)   cm
     (e)   mm   (f)   m

2.   (i)   OB   (ii)   AC and OD (iii)   OD   (iv)   AC   (v) OC

3.   Both angle, are equal, ∠ABC = ∠DEF

4.   Angle construction

5.   Angle construction

6.

$AL = \frac{1}{4} AB$

7.   Yes and construction

8.   Construction

9.   Construction, Yes

10. Construction.