GRADE: VIII **QUESTION BANK** **MATHS**

Section - A

Multiple choice questions:

Chapter - 1

1) What should be added to -5/4 to get -1?
a. -1/4
b. 1/4
c. 1
d. -3/4

2) What should be subtracted from -5/4 to get -1?
a. -1/4
b. 1/4
c. 1
d. -3/4

3.) Which of the following is the identity element?
a. 1
b. -1
c. 0
d. None of these

4) Which of the following is the Multiplicative identity for rational numbers?
a. 1
b. -1
c. 0
d. None of these

5) Which of the following is neither appositive nor a negative rational number?
a. 1
b. 0
c. Such a rational number doesn't exist
d. None of these

6. Which of the following lies between 0 and -1?
a. 0
b. -3
c. -2/3
d. 4/3

7. Which of the following is the reciprocal of "a"?
a. 0
b. a
c. 1/a
d. -1/a

8. Which of the following is the product of 7/8 and -4/21?
a. -1/6
b. 1/12
c. -16/63

d. -147/16

9. Which of the following is the product of (-7/8) and 4/21?

a. -1/6

b. 12

c. -63/16

d. -16/147

10. Which of the following is the reciprocal of the reciprocal of a rational number?

a. -1

b. 1

c. 0

d. The number itself

Chapter – 2 Linear Equation in one variable

1. What do we get when we transpose 5/2 to RHS in the equation x/4 + 5/2 = -3/3?

a. x/4 = -3/4 + 5/2

b. x/4 = -5/2 + ¾

c. x/4 = -3/4 + (-5/2)

d. none of these

2. In the equation 3x = 4-x, transposing -x to LHS we get

a. 3x - x = 4

b. 3x + x = 4

c. -3x + x = 4

d. -3x - x = 4

3. If x/3 + 1 = 7/15, then which of the following is correct?

a. x/3 = 7/15 - 1

b. x/3 = -7/15 + 1

c. x/3 = -7/15 - 1

d. none of these

4. If 7x+15 = 50, then which of the following is the root of the equation?

a. -5

b. 65/7

c. 5

d. 1/5

5. If 2x/5 = 4, the value of x is-

a. 10

b. -10

c. -8/5

d. 8/5

6. If the sum of two consecutive numbers is 71 and one number is x, then the other number is-

a. x + (x+1) = 71

b. x + (x+2) = 71

c. x + x = 71

d. none of these

7. Two year ago my age was x years, then what was my age 5 years ago?

a. X + 7

b. X - 2 - 5

c. X - 5

d. X- 3

8. How old will I be after 10 years, if my age before 10 years was 'x' years?

a. X + 20
b. X - 20
c. X + 10
d. X - 10

9. If the difference of two consecutive number is 15 and greater of them is x then the smaller number is:

a. 16
b. 14
c. 8
d. 7

10. If x is an even number, which is the next odd number?

a. X + 1
b. X + 2
c. X - 1
d. X - 2tudy with us

Chapter - 3

1. Which of the following quadrilaterals has two pairs of adjacent sides equal and diagonals intersecting at right angles?

a. square
b. rhombus
c. kite
d. rectangle.

2. Which of the following quadrilaterals has a pair of opposite sides parallel?

a. rhombus
b. trapezium
c. kite
d. rectangle.

3. Which of the following quadrilaterals is a regular quadrilateral?

a. rectangle
b. square
c. rhombus
d. kite.

4. Which of the quadrilaterals has all angles as right angles, opposite sides equal and diagonals bisect-each other?

a. rectangle
b. rhombus
c. square
d. none of these.

5. Which of the parallelograms has all sides equal and diagonals bisect each other at right angle?

a. square
b. rectangle
c. rhombus
d. trapezium.

6. In an isosceles parallelogram, we have:

a. pair of parallel sides as equal

b. pair of non-parallel sides as equal
c. pair of non-parallel sides as perpendicular
d. none of these.
7. Which of the following is true for the adjacent angles of a parallelogram?
a. they are equal to each other
b. they are complementary angles
c. they are supplementary angles
d. none of these.
8. The sides of a pentagon are produced in order. Which of the following is the sum of its exterior angles?
a. 540°
b. 180°
c. 720°
d. 360°
9. Which of the following is a formula to find the sum of interior angles of a quadrilaters of n-sides?
a. $\frac{n}{2} \times 180°$
b. $\left(\frac{n+1}{2}\right) \times 180°$
c. $\left(\frac{n-1}{2}\right) \times 180°$
d. (n – 2) × 180°
10. Diagonals of which of the following quadrilaterals do not bisect it into two congruent triangles?
a. rhombus
b. trapezium
c. square
d. rectangle.

Chapter - 5

1. The range of the data: 6,14,20,16,6,5,4,18,25,15, and 5 is

I. 4

II. 21

III. 25

IV. 20

2. The class mark of the class 20-30 is

I. 20

II. 30

III. 25

IV. 10

3. The difference between the highest and the lowest value of the observations in a data is called:

I. Mean

II. Range

III. Total frequency

IV. Sum of observation

4. In the interval 35-45, 45 is called

I. Upper limit

II. Lower limit

III. Range

IV. Frequency

5. The number of times a particular observation occurs in a given data is called:

I. Its frequency

II. Its range

III. Its mean

IV. None of these

6. Is history which of the following is represented by the heights of the rectangles?

I. Frequency

II. Class interval

III. Class size

IV. Range

7. Tally marks are used to find which of the following?

I. Frequency

II. Lower limits

III. Upper limits

IV. Class marks

8. Which of the following is the probability of an impossible event?

I. 0

II. 1

III. 2

IV. None of these

9. Which of the following is the probability of a sure event?

I. 0

II. 1

III. 2

IV. None of these

10. A coin is tossed. Which of the following is the probability of getting a head or tail?

I. 0

II. 1

III. 1/2

IV. None of these

11. The Arithmetic Mean of 36, 35, 50, 46, 60, 55 is ————

I. 45
II. 46
III. 47

12. The range of the marks 85, 76, 89, 39, 54, 65 is ————-

I. 89
II.39
III. 50

13. The mode of the given set of numbers 2, 4,3,2,2,1,4,5 is —————-

I. 1
II.2
III. 3

14. The median of the data 24, 36, 46, 17, 18, 25, 35 is ——————

I. 24
II. 25
III. 26

15. A coin is flipped to decide which team starts the game. What is the probability that your team will start?

I. ½
II. 1/3
III.1/4

16. The representation of numbers using bars of uniform widths is called ————

(a) Pictograph
(b) Bar Graph
(c) Histogram

17. ———— help to compare two collections of data at a glance.

(a) Bar Graph
(b) Double Bar Graph
(c) Histogram

18. ————- shows the central tendency of a group of observations or data.

(a) Average
(b) Median
(c) Mode

19. The ——— of a set of observations is the observation that occurs most often.

(a) Mode
(b) Range
(c) Median

20. The difference between the highest and lowest observation is known as ——

(a) Range
(b) Mode
(c)Mean

Chapter – 6 square and square root

1)How many natural numbers lie between 25^2 and 26^2?
(a) 49
(b) 50
(c) 51
(d) 52

2)Square of an even number is always
(a) even
(b) odd
(c) even or odd
(d) none of these

3)1+ 3 + 5 + 7 + …….. up to n terms is equal to
(a) $n^2 – 1$
(b) $(n + 1)^2$
(c) $n^2 + 1$
(d) n^2

5)$\sqrt{208 + \sqrt{2304}}$ is equal to
(a) 18
(b) 16
(c) 14
(d) 22

6)$\sqrt{0.0016}$ is equal to

(a) 0.04
(b) 0.004
(c) 0.4
(d) none of these

7)The smallest number by which 75 should be divided to make it a perfect square is
(a) 1
(b) 2
(c) 3
(d) 4

8)The smallest number by which 162 should be multiplied to make it a perfect square is
(a) 4
(b) 3
(c) 2
(d) 1

9)If the area of a square field is 961 unit^2, then the length of its side is
(a) 29 units
(b) 41 units
(c) 31 units
(d) 39 units

10)The smallest number that should be subtracted from 300 to make it a perfect square is
(a) 11
(b) 12
(c) 13
(d) 14

11)If one number of the Pythagorean triplet is 6, then the triplet is
(a) (4, 5, 6)
(b) (5, 6, 7)
(c) (6, 7, 8)
(d) (6, 8, 10)

12)Given that $\sqrt{1521}$ = 39, the value of $\sqrt{0.1521} + \sqrt{15.21}$ is
(a) 42.9
(b) 4.29
(c) 3.51
(d) 35.1

chapter - 7Cubes and Cube Roots

1. Which of the following is correct?

I. Cube of a negative number is always positive.

II. Cube of a negative number is always negative.

III. Cube of a negative number may be positive or negative.

IV. All of the above

2. If the digit in one's place of a number is 2, then the last digit of its cube will be:

I. 2

II. 4

III. 6

IV. 8

3. If the digit in one's place of a number is 3, then the last digit of its cube will be:

I. 3

II. 6

III. 7

IV. 9

4. If the digit in one's place of a number is 6, then the last digit of its cube will be:

I. 6

II. 3

III. 2

IV. 8

5. The volume of a cubical box is 64 cm3. Which of the following is its side?

I. 2 cm

II. 4 cm

III. 6 cm

IV. 8 cm

6. Which of the following is a perfect cube?

I. 10000

II. 243

III. 343

IV. 270000

7. If a number is doubled then which of the following is a correct statement?

I. Its cube is two times the cube of the given number.

II. Its cube is three times the cube of the given number.

III. Its cube is six times the cube of the given number.

IV. Its cube is eight times the cube of the given number.

8. Which of the following is equal to its own cube?

I. -1

II. -2

III. -3

IV. -9

9. Which of the following is the cube root of 27000?

I. 30

II. 300

III. 3000

IV. None of these

10. Which of the following is the cube root of -64/243?

I. 7/4

II. -7/4

III. 4/7

IV. -4/7

11)Cube of a negative number is
(a) negative
(b) positive
(c) negative or positive
(d) None of these.

12)The unit digit of a cube of 476 is
(a) 4
(b) 6
(c) 8
(d) 2

13)Cube of (-8) is
(a) -512
(b) 512
(c) -64
(d) 64

14)Cube root of -1331 is
(a) 11
(b) 21
(c) -11
(d) -21

15)Cube root of 2744 is
(a) 16
(b) 18
(c) -14
(d) 14

16)The smallest number by which 192 should be multiplied to make it a perfect cube is
(a) 9
(b) 6
(c) 3
(d) 2

17)The smallest number by which 686 should be divided to make it a perfect cube is
(a) 1
(b) 2
(c) 3
(d) 4

18)The volume of a cube is 729 m3. Length of its side is
(a) 3 m
(b) 6 m
(c) 9 m
(d) 27 m

Chapter - 8

1) On what a discount is calculated?

a. s. p.

b. c.p.

c. marked price

d. none of these

2) On which figure the VAT of a product is calculated?

a. s.p.

b. c.p.

c. market price

d. none of these

3) On which of the following percent profit or profit loss is calculated?

a. s,p.

b. c.p.

c. market price

d. none of these

4) If an article sold for Rs 100 then there is a gain of Rs 20, which of the following is the gain percent?

a. 25%

b. 22%

c. 20%

d. 16 . %

5) An article is at 10% more than the CP. If discount of 10% is allowed then which of the following is right?

a. 1% gain

b. 1% loss

c. no gain no loss

d. 1.1% loss

6) A building worth Rs a is depreciated by R% per annum. Which of the following is true?

a. P[1- 5/100]

b. P [1+5/100]

c. P[(1+5/100)-1]

d. P[1-(1-5/100)]

7) If MP of a box is Rs 10 and a discount of 10% is allowed then what should be the sale price?

a. Rs 10

b. Rs 9

c. Rs 11

d. none of these

8) What should be the rate of interest per annum if interest is calculated quarterly?

a. Reduced to half

b. Reduced to one fourth

c. Is doubled

d. Becomes four times

9) What time period is taken when interest is calculated half yearly?

a. Twice as much as the number of given years

b. Half as much as the number of given years

c. Same as the number of given years

d. None of these

10) what should be percentage gain on a product when it is sold for Rs 120 with a gain of Rs 20.

a. 20%

b. 25%

c. 22%

d. 16.25%

11) To compare two quantities, the units must be the ———

A. Same
B. Different
C. None of these.

12) Percentages are numerators of fractions with denominator ———-

A. 1000
B. 100
C. 10

13) The ratio of 5 Rs to 50 paise is ————

A. 10:1
B. 1:10
C. 1:5

14) Per cent is derived from Latin word per centum meaning ————

A. per thousand
B. per hundred
C. per ten thousand

15) Out of 30 students, 6 are absent. What per cent of the students are absent?

A. 20%
B. 25%
C. 30%

16)75% 0f what number is 15?

A. 15
B. 20
C. 25

17) 75% of 12 is ————

A. 9
B. 10
C. 12

18) In a city, 30% are females, 40% are males and remaining are children. What per cent are children?

A. 30%
B.40%
C. 70%

19) The buying price of any item is known as its ————

A. Selling price
B. Cost price
C. Profit

20) If Cost Price is greater than the selling price, then you have a ————

A. Profit
B. Loss
C. No profit no loss.

21) Charge given on borrowed money is ————-

A. Profit
B. Interest
C. Principal

22) 10 is 25% of what number?

A. 10
B. 20
C. 40

23) 5% of 1 hour is ————
A. 3 minutes
B. 6 minutes
C. 9 minutes

24) Out of 30 students in a class, 9 are girls. What is the percentage of girls?

A. 30%
B. 20%
C. 10%

25) 0.2 = —-%

A. 2%
B.20%
C.50%

rat **Fill in the blanks.**

Chapter - 1

1)The product of two positive rational number is always positive

2)The quotient of two positive rational number is always positive

3) The quotient of two negative rational number is always positive

4) The quotient of two negative rational number is always positive

5) The product of a positive rational number and a negative rational is negative.

6) The quotient of negative and positive rational number is always negative.

7)Zero has no reciprocal.

8)The number zero is not the reciprocal of any number.

9)The product of rational number and its reciprocal is always 1.

10) The numbers 1 and -1 are their own reciprocals.

Chapter -2

1)If cx+d = 0 then the value of x is -d/c

2)Is x+9 =d a linear equation? Yes

3)Is 5x-3y =5 is a linear equation in one variable? No

4)The value of the variable which satisfied the equation is called the solution of equation,

5)If the number is thrice is the other and their sum is 16, then the numbers are 4,12

6)On adding two same number to both sides on an equation, the equation remains unaltered.

7)If 0.7 x = 0.4x +3.9, then the value of an equation is 6

8)The dimension of a rectangle whose length is twice of the breadth and its perimeter equal to 180 cm, are 30cm ,60 cm.

9)A linear equation has one solution.

10)A linear equation may have for its solution any one number.

Chapter 3

1) A quadrilateral has three acute angles each measuring 80, the measure of fourth angle is 120

2)Line segment joining the opposite vertices of a quadrilateral is called its diagonal

3)Name the polygon having minimum number of sides Triangle.

4)The sun of adjacent angle is a parallelogram is 180

5)The quadrilaterals that have four sides of equal length are rhombus, square

6) In convex polygon each interior angle is less than 180

7)Two adjacent angles of ‖gram are in the ratio 5:4. The angles of the ‖gram 80 ,100,10,100

8)The angles of the quadrilateral are in the ratio 1:3:7:9. The values of largest angle is 162

9)Can a quadrilateral have two acute angle and two obtuse angles? Yes

10) The base angles P and Q of a trapezium PQRS measure 110 and 120. The

angle R is 60

Chapter – 5

1)The probability of sure event is 1.

2) The probability of impossible event is 0.

3)The value of probability lies between 0 and 1.

4)The relationship between a whole and its part graphically represented using pie chart.

5)If number 3 is represented 4 times in a data then the frequency of a number3 is 4.

6)In a histogram the gap between the class interval is zero.

7)The class marks of the interval 40 -50 is 45.

8) The lower limit of the class interval 0-5 is 0,5 and upper limit is

9) In the pie chart the total angle of the centre of a circle is 360

10) Double bar graph is useful for comparison of the data.

11)The class size is the class interval 15-25 is 10

12)Number of times of an observation occurs in the data is called frequency.

13)A Pie graph is used to compare the two set of data simultaneously.

14)Double bar graph is used to compare part of a whole.

15)The probability of getting a number more than 6 in the throw of a dice is 0.

Chapter – 6

1)The value of $\sqrt{}$ 0.09 is 0.3

2)Square root of 169 is 1.3

3)The least number which must be subtracted from 170 to make it a perfect square is 1

4)The smallest number by which 338 must be divided to make it a perfect square is 2

5)Without adding the sum of 1+3+5+7+9+11 =36

6)Is (3,46) is a Pythagorean triplet? No

7)The smallest number by which 12 must be multiplied to get a perfect square is 3

8)The digit which cannot be in unit place of a perfect square are 2,3,7,8

9)The least number which must be added to 89 to get a perfect square is 11.

10)The smallest 3- digit number which is a perfect square is 961.

Chapter – 7

1)In the following number, which is perfect cube 8, 81, 25 ,100 8.

2)In the following, which is the cube of odd natural number 8,64,216,343 343.

3) In the following, which is the cube of even natural number 27,125,343,512,729? 512

4)The cube root of $\sqrt{}$-27/125 is -3/5

5)The value of $\sqrt[3]{-512} \times \sqrt[3]{8}$ is -16

6)The cube root of $\sqrt[3]{-1}$ is -1

7) The cubes of all even numbers between 1 and 5 are 8,64

8)The smallest natural number by which 36 must be multiplied to get a perfect cube is 6.

9) The smallest natural number by which 2401 must be divided to get a perfect cube is 7

10) The numbers whose cube and cube root both are equal is /are -1,1.

Chapter 8

1)When C.P. is greater than the S.P., then there is always a loss.

2)Compound interest is always greater and equal to simple interest.

3)In case of compound interest the principal every year increases.

4)How many quarters are there in $2\frac{1}{2}$ years? 10

5) $P[\{1+\frac{R}{100}\}^2 -1]$ is equal to C.I.

6) The relationship among amount, principal and C.I is C.I.=A-P

7)The difference between the C.I. and S.I on Rs. 1 lakh at 10% p.a. for 1 year is Zero

8)Discount is always calculated on M.P

9)A city contains 50% males, 30% females and rest are children. The % of children is 20%

10) The value of x will be, if 50% of x is 50 100.

True /False

1)A number of the form p/q where p and q are integers and q=0 are called rational numbers .

2)Additive inverse of 0 is 0.

3)1 is the multiplicative inverse of itself.

4)The product of two negative rational numbers is positive.

5)The product of two numbers is 1, then they are not multiplicative inverse of each other.

6)The number 4/7 and 12/21 are equal.

7)-12/5 is the additive inverse of 5/12.

8)1/2(4/5+3/2) =1/2 x 4/5 + ½ x 3/2

9)Subtraction of a rational numbers is closed.

10)Addition of a rational number is closed.

Chapter – 2

1)If 2y+3 =0, then y = -2/3

2)3x+y = 2 is a linear equation.

3)An equation always contains an equality sign.

4)The expression on the left side of the equality is called right hand side.

5)The value of the variable which does not satisfy the equation is called the solution of the equation.

6) Variables can be transposed from one side to other.

7) The highest power of the variable in a linear equation is 1.

8) The solution of a linear equation is always an integer.

9) The solution of the equation x+1/2x+ 3 = 3/8 is ½.

10) The equation 4x+3 = 7 has 2 solutions.

Chapter – 3

1)A triangle is not a polygon.

2)A polygon has five sides.

3)Every polygon is a quadrilateral.

4)A quadrilateral region is convex.

5)The sum of the angles of a quadrilateral is 180.

6)Every ‖gram is a trapezium.

7)Every square is a rhombus.

8)Every ‖gram is a rhombus.

9) Every square is a quadrilateral.

10)Every rhombus is a square.

Chapter – 5

1)Data available in unorganised form is called raw data.

2)Number of times a particular entry occurs is called class size.

3)In a histogram there is a gap between the bars.

4)The class mark of the class interval 10- 20 is 15.

5)The probability of getting a number more than 7 in the throw of a die is 0.

6)The probability on an event is always 1.

7)The probability of getting a head in a throw of coin is 1/3.

8)The difference between upper class limit and lower -class limit is called class size.

9)The value of probability lies between 0 and 1.

10) The probability of sure event is 0.

Chapter – 6

1)A number always exceeds its square.

2)The square of a prime number is prime.

3)(8,15,17) is a Pythagorean triplet.

4) The value of $\sqrt{0.04}$ is 0.002.

5)The digit which cannot be in the unit's place of a perfect square are 2,3,7,8.

6)$75^2 - 74^2 = 149$

7)Number of square lying between the squares of 90 and 91 are 180.

8) The area of the square field is 256 m^2. The side of the field is 16 m.

9)The number of digits in the square root of is 2.

10) The least number by which 128 must be multiplied to make it a perfect of squar2.

Chapter – 7

1) 512 is cube of even number.

2) 1331 is not cube of odd number.

3)The cube of 3 ends in 7.

4)The cube of 7 does not ends in (3).

5)If the number ends in one zero then its cube in three zeroes.

6)The cube of (-1) is 1.

7)The cube of 3 ends in 7 and cube of 7 ends in 3.

8)The cube of negative number is negative.

9)The cube root of negative number is negative.

10)The cube of 2 ends in 8 and the cube of 8 ends in 2.

Chapter – 8

1)Discount is always calculated on C.P of article.

2)The relationship among amount, principal and C.I is C.I = Amount – Principal.

3)The difference between C.I and S, I on Rs 1000 for one year is Rs 100.

4)There is a loss if C.P. of an article is less than S.P.

5)Profit % is calculated on S.P. of article.

6)Loss % is calculated on C.P. of article.

7)C.I. for two years on an article is greater than its S.I. for the same time.

8)The interest on Rs 100 for 1 year is known as the rate %per annum.

9) Unitary method can not be used to compare quantities.

10)Ratio is the comparison by division of any kind of quantities.

Section – B

Chapter 1, 2

1)Solve each of the following equations

(a) x+2=−11x+2=−11
(b) 2x−16=32x−16=3
(c) 7x−7=217x−7=21
(d) −7x=84−7x=84
(e) 18+7x=−318+7x=−3
(f) 3(x−4)=213(x−4)=21
(g)3x2−2x3=83x2−2x3=8
(h) 3x−9=4x−33x−9=4x−3
(i) 3(2x−3)=4(2x+4)3(2x−3)=4(2x+4)

2)Solve each of the following equations and check your solution by substituting in the equation.

(a) x2−10=12x2−10=12
(b) x3−x2=6x3−x2=6
(c) 6x−9−2(1+x)=x−96x−9−2(1+x)=x−9
(d) 2(x+2)+5(x+5)=4(x−8)+2(x−2)2(x+2)+5(x+5)=4(x−8)+2(x−2)
(e) 3+yy+7)=353+yy+7)=35
(f) 3x−22x−3=−123x−22x−3=−12
(g) (x - 7)/3 = (x - 1)/5

3)Using appropriate properties find:

(i) $-\frac{2}{3}\times\frac{3}{5}+\frac{5}{2}-\frac{3}{5}\times\frac{1}{6}$

(ii) $\frac{2}{5}\times\left(-\frac{3}{7}\right)-\frac{1}{6}\times\frac{3}{2}+\frac{1}{14}\times\frac{2}{5}$

4)Write the additive inverse of each of the following:

(i) $\frac{2}{8}$ (ii) $\frac{-5}{9}$ (iii) $\frac{-6}{-5}$ (iv) $\frac{2}{-9}$ (v) $\frac{19}{-6}$

5)Verify that −(−*x*) = *x* for.

(i) $x=\frac{11}{15}$ (ii) $x=-\frac{13}{17}$

6)Find the multiplicative inverse of the following.

(i) -13 (ii) $\frac{-13}{19}$ (iii) $\frac{1}{5}$

(iv) $\frac{-5}{8}\times\frac{-3}{7}$ (v) $-1\times\frac{-2}{5}$ (vi) -1

7)Name the property under multiplication used in each of the following:

(i) $\frac{-4}{5}\times 1=1\times\frac{-4}{5}=-\frac{4}{5}$

(ii) $-\frac{13}{17}\times\frac{-2}{7}=\frac{-2}{7}\times\frac{-13}{17}$

(iii) $\frac{-19}{29}\times\frac{29}{-19}=1$

7)Multiply $\frac{6}{13}$ by the reciprocal of $\frac{-7}{16}$.

8)Tell what property allows you to compute $\frac{1}{3}\times\left(6\times\frac{4}{3}\right)$ as $\left(\frac{1}{3}\times 6\right)\times\frac{4}{3}$.

9)Is $\frac{8}{9}$ the multiplicative inverse of $-1\frac{1}{8}$? Why or why not?

10)Is 0.3 the multiplicative inverse of $3\frac{1}{3}$? Why or why not?

11)Represent these numbers on the number line.

(i) $\frac{7}{4}$ (ii) $\frac{-5}{6}$

12)Represent $\frac{-2}{11}, \frac{-5}{11}, \frac{-9}{11}$ on the number line.

13)1Write five rational numbers which are smaller than 2.

14)Find ten rational numbers between $\frac{-2}{5}$ and $\frac{1}{2}$.

15)Write five rational numbers greater than − 2.

16)Find ten rational numbers between $\frac{3}{5}$ and $\frac{3}{4}$.

17)**Solve:**

a)x-2=7 **b) y+3=10**

18)Two numbers are in the ratio 5:3. If they differ by 18, what are the numbers?

19)**Solve:**

a) 6=z+2 b) 6x=12 c) 7x-9=16 d)14y-8=13 e)17+6p=9

20) If you subtract ½ from a number and multiply the result by 1/2, you get 1/8. What is the number?

21) Sum of two numbers is 95. If one exceeds the other by 15, find the numbers.

22) Fifteen years from now Ravi's age will be four times his present age. What is Ravi's present age?

23) A rational number is such that when you multiply it by 5/2 and add 2/3 to the product, you get -7/12. What is the number?

24) Solve and check result: 3x=2x+183x=2x+18

25) Solve and check result: 5t−3=3t−55t−3=3t−5

26) Solve and check result

a) 5x+9=5+3

b) 4z+3=6+2z

c) 2x−1=14−x

d) 8x+4=3(x−1)+7

e) $x = \frac{4}{5}(x + 10)$

f) $\frac{2x}{3} + 1 = \frac{7x}{15} + 3$

$$2y + \frac{5}{3} = \frac{26}{3} - y$$

h) $$3m = 5m - \frac{8}{5}$$

27) Amina thinks of a number and subtracts 5/2 from it. She multiplies the result by 8. The result now obtained is 3 times the same number she thought of. What is the number?

28) A grandfather is ten times older than his granddaughter. He is also 54 years older than her. Find their present ages

29) Aman's age is three times his son's age. Ten years ago he was five times his son's age. Find their present ages.

30)

a) Solve the linear equation $\frac{x}{2} - \frac{1}{5} = \frac{x}{3} + \frac{1}{4}$

b) Solve the linear equation $\frac{n}{2} - \frac{3n}{4} + \frac{5n}{6} = 21$

c) Solve the linear equation $x + 7 - \frac{8x}{3} = \frac{17}{6} - \frac{5x}{2}$

d) Solve the linear equation $\frac{x-5}{3} = \frac{x-3}{5}$

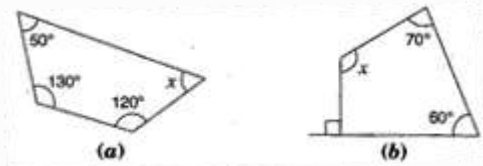
31)Simplify and solve the linear equation

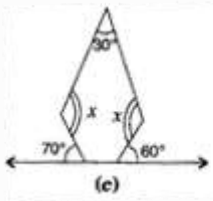
15(y−4)−2 (y−9)+5(y+6)=0

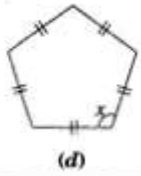
Chapter – 3

1) How many diagonals does each of the following have?
(a) A convex quadrilateral
(b) A regular hexagon
(c) A triangle
2) What is a regular polygon? State the name of a regular polygon of:
(a) 3 sides
(b) 4 sides
(c) 6 sides

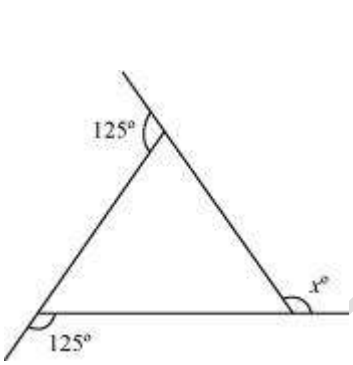
3) Find the angle measures x in the following figures:



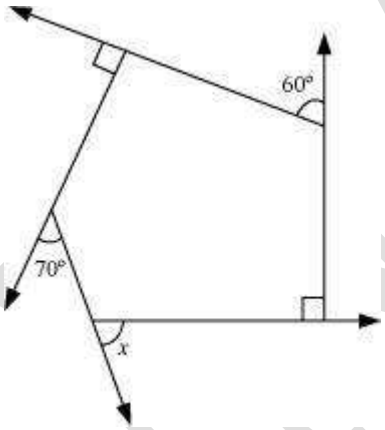




4)Find *x* in the following figures.



(a)



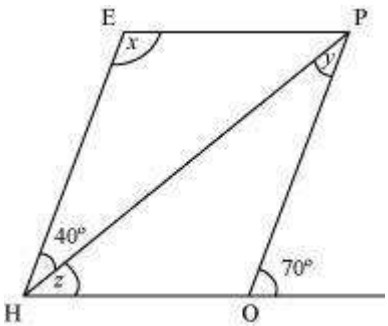
(b)

5) How many sides does a regular polygon have if the measure of an exterior angle is 24°?

6)How many sides does a regular polygon have if each of its interior angles is 165°?

7)Two adjacent angles of a parallelogram have equal measure. Find the measure of each of the angles of the parallelogram.

8)The adjacent figure HOPE is a parallelogram. Find the angle measures *x, y* and *z*. State the properties you use to find them.



9)Explain how a square is.

(i) a quadrilateral

(ii) a parallelogram

(iii) a rhombus

(iv) a rectangle

10)Draw the following:

The square READ with RE = 5.1 cm

11)Draw the following:

A rhombus whose diagonals are 5.2 cm and 6.4 cm long.

12)Draw the following:

A rectangle with adjacent sides of length 5 cm and 4 cm.

13)Draw the following:

A p1arallelogram OKAY where OK = 5.5 cm and KA = 4.2 cm.

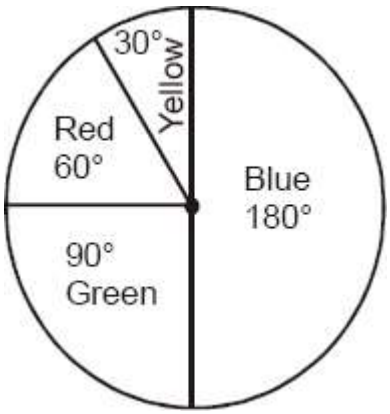
Chapter – 5

1)For which of these would you use a histogram to show the data?
(a) The number of letters for different areas in a postman's bag.
(b) The height of competitors in an athletics meet.
(c) The number of cassettes produced by 5 companies.
(d) The number of passengers boarding trains from 7:00 a.m. to 7:00 pan. at a station.
Give reasons for each.
2)The shoppers who come to a departmental store are marked as: man (M), woman (W), boy (B) or Girl (G). The following list gives the shoppers who came during the first hour in the morning. W W W G B W W M G G M M W W W W G B M W B G G M W W M M W W W M W B W G M W W W W G W M M W W M W G W M G W M M B G G W
Make a frequency distribution table using tally marks. Draw a bar graph to illustrate it.
3)Draw a histogram for the frequency table made for the data in question 3, and answer the following questions.
(i) Which group has the maximum number of workers?
(ii) How many workers earn? 850 and more?
(iii) How many workers earn less than? 850?
4) A group of 360 people were asked to vote for their favourite season from the three seasons-Rainy, winter and summer.

Season	No. of votes
Summer	90
Rainy	120
Water	150

(i) Which season got the most votes?
(ii) Find the central angle of each sector.
(iii) Draw a pie chart to show this information.

5) Draw a pie chart showing the following information, table shows the colours preferred by a group of people.



6) When a die is thrown, list the outcomes of an event of getting.
(i) (a) A prime number, (b) Not a prime number
(ii)(a) A number greater than 5, (b) A number not greater than 5.

7) Numbers 1 to 10 are written on ten separate slips (one number on one slip), kept in a box and mixed well. One slip is chosen from the box without looking into it. What is the probability of
(i) Getting a number 6?
(ii) Getting a number less than 6?
(ii) Getting a number greater than 6?
(iv) Getting a 1-digit number?

8) If you have a spinning wheel with 3 green sectors, 1 blue sector and 1 red sector, what is the probability of getting a green sector? What is the probability of getting a non-blue sector?
Ans. Out of 5 sectors, the pointer can stop

Chapter – 6

1)Find the square of the following numbers

(i) 32 (ii) 35 (iii) 86

(iv) 93 (v) 71 (vi) 46

2)Write a Pythagorean triplet whose one member is

(i) 6 (ii) 14 (iii) 16

(iv) 18

3)Find the square roots of 100 and 169 by the method of repeated subtraction.

4)Find the square roots of the following numbers by the Prime Factorisation Method.

(i) 729 (ii) 400 (iii) 1764

(iv) 4096 (v) 7744 (vi) 9604

(vii) 5929 (viii) 9216 (ix) 529 (x) 8100

5)The students of Class VIII of a school donated Rs 2401 in all, for Prime Minister's National Relief Fund. Each student donated as many rupees as the number of students in the class. Find the number of students in the class.

6)2025 plants are to be planted in a garden in such a way that each row contains as many plants as the number of rows. Find the number of rows and the number of plants in each row.

7)Find the square root of each of the following numbers by division method.

(i) 2304 (ii) 4489 (iii) 3481

(iv) 529 (v) 3249 (vi) 1369

(vii) 5776 (viii) 7921 (ix) 576

(x) 1024 (xi) 3136 (xii) 900

8)Find the number of digits in the square root of each of the following numbers (without any calculation).

(i) 64 (ii) 144 (iii) 4489

(iv) 27225 (v) 390625

9)Find the least number which must be added to each of the following numbers so as to get a perfect square. Also find the square root of the perfect square so obtained.

(i) 525 (ii) 1750 (iii) 252

(iv) 1825 (v) 6412

10) Find the length of the side of a square whose area is 441 m^2.

Chapter – 7

1) Which of the following numbers are not perfect cubes:
(i)216
(ii)128
(iii)1000
(iv)100
(v)46656
2) Find the smallest number by which each of the following numbers must be multiplied to obtain a perfect cube:
(i)243
(ii)256
(iii)72
(iv)675
(v)100
3) Find the smallest number by which each of the following numbers must be divided to obtain a perfect cube:
(i)81
(ii)128
(iii)135
(iv)192
(v)704
4) Find the cube root of each of the following numbers by prime factorization method:
(i) 64
(ii) 512
(iii) 10648
(iv) 27000
(v) 15625
(vi) 13824
(vii) 110592
(viii) 46656
(ix) 175616
(x) 91125

Chapter – 8

1)Find the ratio of the following:

(a) Speed of a cycle 15 km per hour to the speed of scooter 30 km per hour.

(b) 5 m to 10 km

(c) 50 paisa to Rs 5

2)Convert the following ratios to percentages.

(a) 3:4 (b) 2:3

3)72% of 25 students are good in mathematics. How many are not good in mathematics?

4)A football team won 10 matches out of the total number of matches they played. If their win percentage was 40, then how many matches did they play in all?

5)If Chameli had Rs 600 left after spending 75% of her money, how much did she have in the beginning?

6)If 60% people in city like cricket, 30% like football and the remaining like other games, then what per cent of the people like other games? If the total number of people are 50 lakh, find the exact number who like each type of game.

7)A man got a 10% increase in his salary. If his new salary is Rs 1,54,000, find his original salary.

8)On Sunday 845 people went to the Zoo. On Monday only 169 people went. What is the per cent decrease in the people visiting the zoo on Monday?

9)A shopkeeper buys 80 articles for Rs 2,400 and sells them for a profit of 16%. Find the selling price of one article.

10)A VCR and TV were bought for Rs 8,000 each. The shopkeeper made a loss of 4% on the VCR and a profit of 8% on the TV. Find the gain or loss percent on the whole transaction

ional number is always---------

26666)The quotient of two positive rational number is always ----------ad

66666666666666120-120

skilling

Section – C

Chapter – 2

1)The perimeter of a rectangular swimming pool is 154 m. Its length is 2 m more than twice its breadth. What are the length and the breadth of the pool?

2)The base of an isosceles triangle is 4/3 cm. The perimeter of the triangle is 42154215 cm. What is the length of either of the remaining equal sides?

3) Three consecutive integers add up to 51. What are these integers?

4)The sum of three consecutive multiples of 8 is 888. Find the multiples.

5) Three consecutive integers are such that when they are taken in increasing order and multiplied by 2, 3 and 4 respectively, they add up to 74. Find these numbers.

6)The ages of Rahul and Haroon are in the ratio 5:7. Four years later the sum of their ages will be 56 years. What are their present ages?
7) The number of boys and girls in a class are in the ratio 7:5. The number of boys is 8 more than the number of girls. What is the total class strength?
8) Baichung's father is 26 years younger than Baichung's grandfather and 29 years older than Baichung. The sum of the ages of all the three is 135 years. What is the age of each one of them?
9) A positive number is 5 times another number. If 21 is added to both the numbers, then one of the new numbers becomes twice the other new number. What are the numbers?
10) Sum of the digits of a two-digit number is 9. When we interchange the digit it is found that the resulting new number is greater than the original number by 27. What is the two-digit number?
11) Shobo's mother's present age is six times Shobo's present age. Shobo's age five years from now will be one third of this mother's present age. What are their present ages?
12)

Solve the linear equation $\frac{3t-2}{4}-\frac{2t+3}{3}=\frac{2}{3}-t$

13)

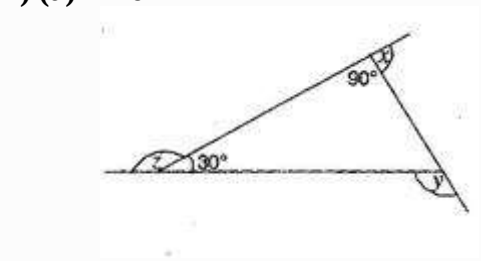
Solve the linear equation $m-\frac{m-1}{2}=1-\frac{m-2}{3}$

14) Simplify and solve the linear equation $3(t-3)=5(2t+1)3(t-3)=5(2t+1)$

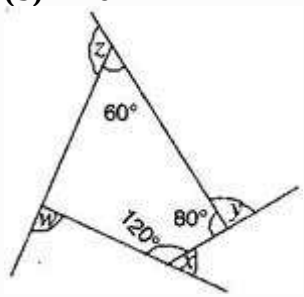
15) Simplify and solve the linear equation
$3(5z-7)-2(9z-11)=4(8z-13)-173(5z-7)-2(9z-11)$

Chapter - 3

1) (a) Find $x+y+z$



(b) Find $x+y+z+w$



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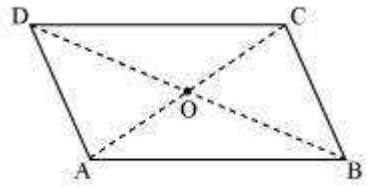
2)Find the measure of each exterior angle of a regular polygon of

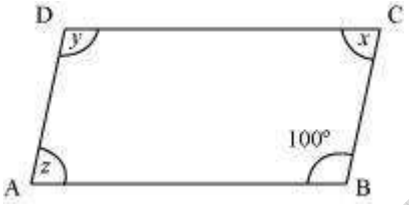
(i) 9 sides (ii) 15 sides:

3)Given a parallelogram ABCD. Complete each statement along with the definition or property used.

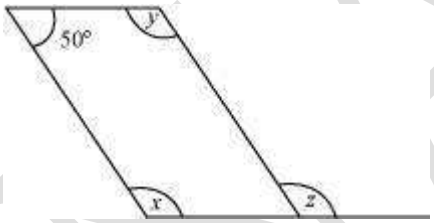


(i) AD = … (ii) ∠DCB = … (iii) OC = … (iv) $m\angle DAB + m\angle CDA$ = …

4)Consider the following parallelograms. Find the values of the unknowns *x, y, z.*



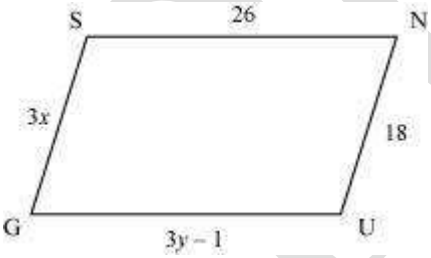
(i)



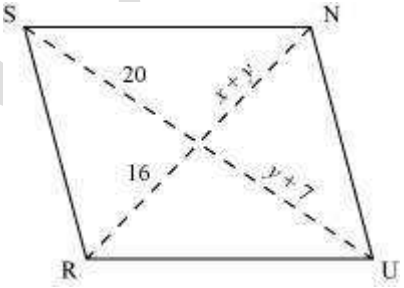
(ii)

5)The measures of two adjacent angles of a parallelogram are in the ratio 3:2. Find the measure of each of the angles of the parallelogram.

6)The following figures GUNS and RUNS are parallelograms. Find x *and* y. *(Lengths are in cm)*



(i)



(ii)

7)Construct the following quadrilaterals.

Quadrilateral ABCD

AB = 4.5 cm , BC = 5.5 cm , CD = 4 cm , AD= 6 cm, AC = 7 cm

8) Quadrilateral JUMP

JU = 3.5 cm, UM = 4 cm, MP = 5 cm, PJ = 4.5 cm, PU = 6.5 cm

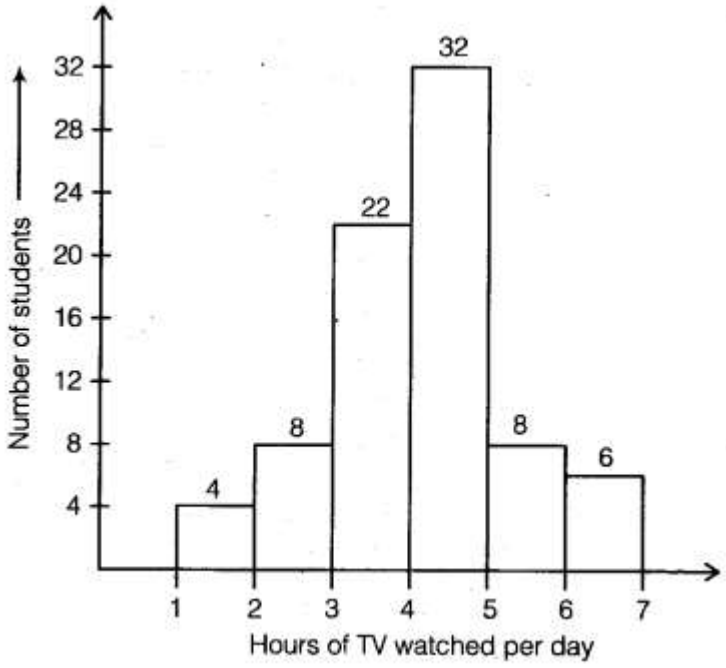
9) Parallelogram MORE

OR = 6 cm, RE = 4.5 cm, EO = 7.5 cm

10)The interior angle of a regular polygon is 156 find the number of the sides of the polygon.

CHAPTER - 5

1)

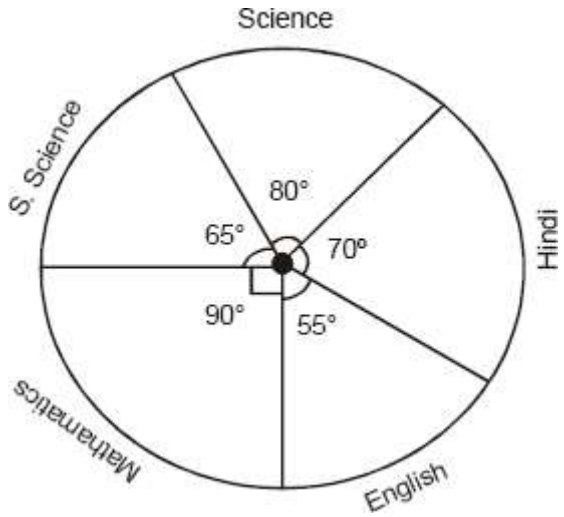


The number of hours for which students of a particular class watched television during holidays is shown through the given graph (on previous page). Make the tally marks table .

2) The adjoining pie chart gives the marks scored in an examination of the student in Hindi, English, Mathematics, Social Science and Science. If the total marks obtained by the students were 540 answer the following questions.

a) In which subject did the student score 105 marks?

b) How many more marks were obtained by the student in Mathematics than in Hindi?
c) Examine whether the sum of the marks obtained in Social Science and Mathematics is more than that in Science and Hindi. (Hint: Just study the central angles.)



3) The number of students in a hostel1), speaking different languages is given below. Display the data in a pie chart.

Language	Number of students
Hindi	40
English	12
Marathi	9
Tamil	7
Bengali	4
Total	72

Chapter – 6

1)For each of the following numbers, find the smallest whole number by which it should be multiplied so as to get a perfect square number. Also find the square root of the square number so obtained.

a) 252 b) 180 c) 1008

d) 2028 e) 1458 f) 768

2)For each of the following numbers, find the smallest whole number by which it should be divided so as to get a perfect square number. Also find the square root of the square number so obtained.

a) 252 b) 2925 c) 396

d) 2645 e) 2800 f) 1620

3)Find the smallest square number that is divisible by each of the numbers 4, 9, and 10.

4)Find the smallest square number that is divisible by each of the numbers 8, 15,and 20.

5)Find the square root of the following decimal numbers.

a) 2.56 b) 7.29 c) 51.84

d) 42.25 e) 31.36

6)Find the least number which must be subtracted from each of the following numbers so as to get a perfect square. Also find the square root of the perfect square so obtained.

a) 402 b) 1989 c) 3250

d) 825 e) 4000

7)A gardener has 1000 plants. He wants to plant these in such a way that the number of rows and the number of columns remain same. Find the minimum number of plants he needs more for this.

8)These are 500 children in a school. For a P.T. drill they have to stand in such a manner that the number of rows is equal to number of columns. How many children would be left out in this arrangement?

Chapter – 7

1)Parikshit makes a cuboid of plasticine of sides 5 cm, 2 cm, 5 cm. How many such cuboids will he need to form a cube?

2)What is an edge of a cube whose volume is 91125 m cube?

3)A hall is a hollow cube and holds 74088 m cube of air. Find the length of the hall.

Chapter – 8

1)The cost of an article was Rs 15,500. Rs 450 were spent on its repairs. If it is sold for a profit of 15%, find the selling price of the article.

2)During a sale, a shop offered a discount of 10% on the marked prices of all the items. What would a customer have to pay for a pair of jeans marked at Rs 1450 and two shirts marked at Rs 850 each?

3)A milkman sold two of his buffaloes for Rs 20,000 each. On one he made a gain of 5% and on the other a loss of 10%. Find his overall gain or loss.(**Hint:** Find CP of each)

4)The price of a TV is Rs 13,000. The sales tax charged on it is at the rate of 12%. Find the amount that Vinod will have to pay if he buys it,

5)Arun bought a pair of skates at a sale where the discount given was 20%. If the amount he pays is Rs 1,600, find the marked price.

6)I purchased a hair-dryer for Rs 5,400 including 8% VAT. Find the price before VAT was added.

6)Calculate the amount and compound interest on

(a) Rs 10800 for 3 years at $12\frac{1}{2}\%$ per annum compounded annually.

(b) Rs 18000 for $2\frac{1}{2}$ years at 10% per annum compounded annually.

(c) Rs 62500 for $1\frac{1}{2}$ years at 8% per annum compounded half yearly.

(d) Rs 8000 for 1 year at 9% per annum compound half yearly.

(You could use the year by year calculation using SI formula to verify)

(e) Rs 10000 for 1 year at 8% per annum compounded half yearly.

7)Kamala borrowed Rs 26400 from a Bank to buy a scooter at a rate of 15% p.a. compounded yearly. What amount will she pay at the end of 2 years and 4 months to clear the loan?(Hint: Find A for 2 years with interest is compounded yearly and then find SI on the 2^{nd} year amount for $\frac{4}{12}$ years.)