Chapter 1.

1. Write the prime factor of the following
(i) 3825 (ii) 5005

2. Explain $7 \times 11 \times 13 + 13$ are Composite no's.
and $7 \times 6 \times 5 \times 4 \times 3 \times 2 + 5$

3. Check 6^n Can end with the digit 0 for any natural no n.

4. Find LCM and HCF of 72, 120 Using prime factorisation method

5. Given HCF(306, 657) = 9 find LCM(306, 657)

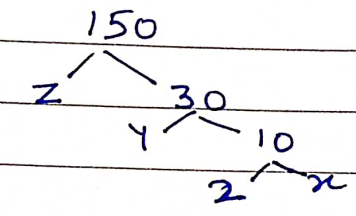
6. Prove that $\sqrt{2}$ is an irrational no.

7. Given $\sqrt{3}$ is an irrational no, prove that $2+\sqrt{3}$ is an irrational no.

8. Assertion (A): The HCF of two no's is 16 and their product is 3072. Then their LCM 162.
Reason (R) If a and b are two positive integers, then HCF × LCM = a × b

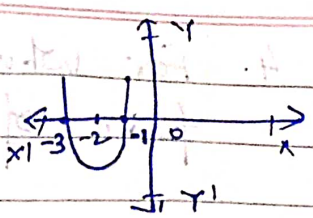
9. Find the greatest no that will divide 382, 509 and 636 leaving remainders 4, 5 and 6 respectively.

10. Write the value of x, y, z.



Ch-2

1. In the fig. the graph $y = p(x)$, where $p(x)$ is a poly. given. Find the zeros of $p(x)$.



2. Find the zeros of the following poly. and verify the relationship b/w zeros and Coeff.
(i) $3x^2+4x-4$ (ii) $5y^2+12y+7$

3. Write a Quadratic poly. each of the given no is sum and product of zeros. $-2\sqrt{3}, -9$

4. Write a Quadratic poly. whose zeros are $3+\sqrt{3}$ and $3-\sqrt{3}$

5. If α and β are zeros of poly. $p(x) = 2x^2-3x+1$ Find $\alpha^2+\beta^2$

Ch-3

1. Solve the following system of linear equations graphically and shade the region b/w the lines and x axis $2x+3y=12$, and $x-y=1$

2. If $2x+y=23$, $4x-y=19$ find the value of $5y-2x$ and $\frac{y}{x}=2$ by using the method of substitution.

3. For what value of K for which each of the following pairs of linear equation has a unique sol"
$Kx+2y=3$, $2x-3y=1$

4. For what value of a and b will the following pair of Linear equations have infinite many soln?

$x+2y=1$, $(a-b)x+(a+b)y=a+b-2$

5. Assertion (A). The sum and product of zeros of a Q.P are -5 and 2 respectively, then the Q.P is x^2+5x+2

Reason (R) The Q.P whose Sum(s) and Product(p) of zeros is given as x^2-Sx+P

6. Assertion (A) If $Kx-y-2=0$ and $6x-2y-3=0$ are inconsistent, then $K=3$

Reason (R) $a_1x+b_1y+c_1=0$ and $a_2x+b_2y+c_2=0$ are inconsistent if $\frac{a_1}{a_2}=\frac{b_1}{b_2}\neq\frac{c_1}{c_2}$

7. The ratio of incomes of two persons is 9:7 and the ratio of their expenditure is 4:3. If each of them manages to save ₹2000 per month, find their monthly incomes.

8. Sum of two no's is 35 and their difference is 13. Find the no's.

Ch-5

1. For what value of P, $2P-1$, 7 and $3P$ are three consecutive terms of an AP.

2. Check $\sqrt{2}, \sqrt{8}, \sqrt{18}, \sqrt{32}, \ldots$ are in AP or not?

3. Find a and b so that the nos $a, 7, b, 23$ are in AP.

4. Find 3rd term of an AP whose 11th term is 38 and 16th term is 73.

5. Which term of the AP $3, 15, 27, \ldots$ will be 120 more than its 21st term?

6. Find the 12th term from the end of the AP $-2, -4, -6, \ldots, -100$

7. How many three digit natural nos are divisible by 7?

8. Find the value of the middle term of the AP: $-6, -2, 2, \ldots 58$.

9. Find the sum: $1 + (-2) + (-5) + (-8) + \ldots + (-236)$

10. In an AP, given $a = 5$, $d = 3$, $a_n = 50$ find n and S_n

11. The sum of n terms of an AP is $5n^2 - 3n$. Find AP

12. How many terms of the AP $3, 5, 7, 9, \ldots$ must be added to get the sum 120?

Ch: 7

1. Find the point on the x axis which is equidistant from A(2, -5) and B(-2, 9).

2. Find the value of y for which the distance b/w the pts P(2, -3) and Q(10, y) is 10 units.

3. Find a relation b/w x and y such that the point (x, y) is equidistant from the point (3, 6) and (-3, 4)

4. Find the coordinate of the point which divides the join of (-1, 7) and (4, -3) in the ratio 2:3.

5. Find the coordinate of a point A where AB is the diameter of a circle whose centre is (2, -3) and B(1, 4).

6. In what ratio does the point (-4, 6) divide the line segment joining the point A(-6, 10) and B(3, -8)

7. Find the ratio in which the y axis divides the line segment joining the points (5, -6) and (-1, -4). Also find the point of intersection

8. If (1, 2), (4, y), (x, 6) and (3, 5) are the vertices of a ||gram taken in order find x and y.

9. Find the cordinates of the points of trisection of the line segment joining the pts A(2, -2) and B(-7, 4)

Ch - 13

1. Find the mean of the following data.

CI	100-200	200-300	300-400	400-500	500-600	600-700
f	11	12	10	13	20	14

2. If mean is 49. Find p

CI	0-20	20-40	40-60	60-80	80-100
f	2	6	p	5	2

3. Find mode of the following data

Marks	10-20	20-30	30-40	40-50	50-60
No of students	12	35	45	25	13

4. Find mean and mode for the following data

Class	10-20	20-30	30-40	40-50	50-60	60-70	70-80
freq.	4	8	10	12	10	4	2

5. Find the median of the following data

Marks obt.	20	25	35	40	50
No of stu.	5	11	24	16	5

6. Find the median of the following data

CI	65-85	85-105	105-125	125-145	145-165	165-185	185-205
f	4	5	13	20	14	8	4

7. If Median is 28.5 find x and y

CI	0-10	10-20	20-30	30-40	40-50	50-60	Total
f	5	x	20	15	y	5	60

8. A survey regarding the height of 51 girls of class 10 of a school was conducted and the following data was obt.

Height (cm)	Less than 140	— 145	— 150	— 155	— 160	— 165
No of girls	4	11	29	40	46	51

ch-14

1 Find the probability of getting a head when a coin is tossed once.

2. Two coins are tossed toy. thus.. find the probability of getting (i) exactly one head (ii) at least one head. (iii) two head

3. A die is thrown once. Find the probability of getting (i) a no less than 3
(ii) a composite no
(iii) Even prime no
(iv) prime no
(v) no greater than 4.

4. A coin is tossed 3 times. List the possible out comes. Find the probability of getting
(i) all head (ii) at Least 2 head
(iii) at most 2 head
(iv) at most 1 head.

5. A die is thrown twice. Find the probability that (i) 5 will come up at least once?
(ii) 5 will not come up either time?
(iii) Same no will come up.

6. A card is drawn from a well-shuffled deck of 52 playing cards. Find the probability that
(i) Real face card
(ii) not face card
(iii) King or Spade
(iv) King or Red
(v) black and King
(vi) neither red nor King.
(vii) neither an ace nor a King

7. If $P(E) = 0.05$ find $P(\text{not } E)$.

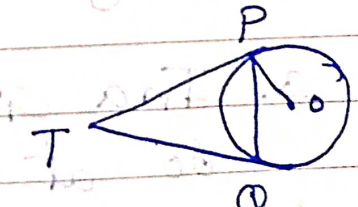
8. A box contain 80 discs which are numbered from 1 to 80. If one disc is drawn at random from the box. find the probability that it bears a perfect sq no.

Ch: 10

1. Prove that the tangent at any point of a circle is ⊥ to the radius through the point of Contact:

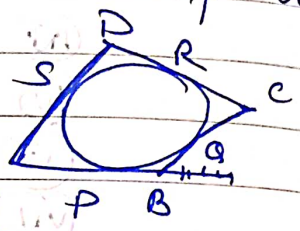
2. Prove that length of tangent drawn from an external point to a circle are equal in length.

3. Two tangents TP and TQ are drawn to a circle with Centre O from an external point T. Prove that $\angle PTQ = 2\angle OPQ$.



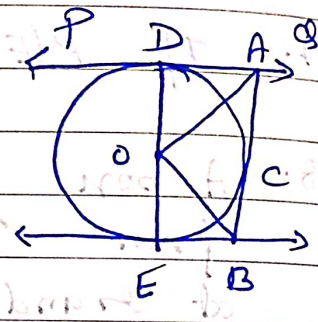
4. PQ is a chord of length 8cm of a circle of radius 5cm. The tangent at P and Q intersect at a point T. Find the length of TP.

5. A circle touches all the four sides of a quadrilateral ABCD.
Prove that AB+CD = AD+BC



6. Prove that a ||gram circumscribing a circle is a rhombus.

7. In fig. PQ and RS are two parallel tangents to a circle with centre O. and another tangent AB with point of Contact C interect PQ at A and RS at B Prove that ∠AOB = 90°



Ch-11

1. Find the area of a sector of a circle with radius 6cm and central angle 60°

2. Find the area of the minor segment of a circle of radius 14cm when the angle of the corresponding sector 60°

3. In a circle of radius 21cm an arc subtend 60° at the centre. Find (i) arc length (ii) area of sector (iii) area of the segment formed by the corresponding

4. A chord AB of a circle of radius 14cm makes a right angle at the centre of the circle. Find the area of major and minor segment ($\pi = 3.14$)

5. Ch-6

1. State and prove BPT.

2. Ex 6.2 Q 3, 6, 9, 10

3. Example 7, 8.

4 Ex 6.3 Q 4, 5, 8, 11, 12, 13, 16