

# Math's Assignment

## Class 10<sup>th</sup>

1. Find a cubic polynomial whose zeroes are 3, -2, -4
2. If one zero of the polynomial  $4x^2 + (2k+1)x - 9$  is negative of the other find the value of k.
3. If  $\alpha$  &  $\beta$  are the zeroes of  $x^2 + 2x - 35$  find a quadratic polynomial whose zeroes are  $\frac{1}{\alpha}$  &  $\frac{1}{\beta}$
4. If  $\alpha, \beta$  are the zero of a quadratic polynomial  $f(x) = 4x^2 - 6x + 2$  find value of  $\frac{\alpha^2}{\beta} + \frac{\beta^2}{\alpha}$
5. If polynomial  $6x^4 + 8x^3 + 17x^2 + 21x + 7$  is divide by another polynomial  $3x^2 + 4x + 1$  the remainder comes out be  $(ax+b)$  find a & b.
6. LCM of two numbers is 14 times of their HCF. The sum of LCM & HCF is 600. If one number is 80 find the other,
7. Find the least no which is divided by 35, 45, 55 leaves the remainder 18, 28, 38 respectively.
8. Prove that  $\sqrt{3} + \sqrt{5}$  is an irrational.
9. Find HCF of 4052, 2068 by Euclid's Division Algorithm.
10. Find simplest form of  $\frac{90}{144}$  and change in to decimal form.
11. Solve graphically the system of linear equations:  
$$4x-3y+4=0$$
$$4x+3y-20=0$$
12. Find the area bounded by these lines and axis
- 13 . A two digit number is 4 times the sum of its digits and twice the product of the digits, find the number.
14. Determine graphically the vertices of the triangle formed by the lines  $y=x$ ,  $3y=x$ ,  $x+y=8$
15. The larger of two supplementary angles exceeds thrice the smaller by 20 degree find them.
16. x takes 3 hours more than Y to walk 30 km But if x doubles his pace, he is ahead of y by  $1\frac{1}{2}$  hours. Find their speed of walking.
17. Find the four angles of cyclic quadrilateral ABCD in which  $A = (2x-1)^\circ$   $B = (y+5)^\circ$   
 $C = (2y+15)^\circ$ ,  $D = (4x-7)^\circ$ .
18. A number consist of a two digit number is 13. If the number is subtracted from the one obtained by interchanging the digits, the result is 45, what is the number
19. Solve  $3x - \frac{y+7}{11} - 8 = 0$   
 $2y + \frac{x+11}{7} = 10$
20. Find the values of a and b for which following part of eq<sup>n</sup> have infinitely many solutions  
 $2x+3y=7$ ,  $(a-b)x+(a+b)y=3a+b-2$
21. If  $3x+7y=-1$  and  $4y-5x+14=0$ ; find the values of  $3x-8y$  and  $\frac{y}{x}-2$

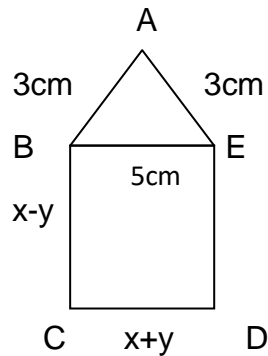
22. if  $\alpha, \beta$  are the zeroes of  $f(x)=3x^2-5x-2$ , then evaluate

(i)  $\alpha^2 + \beta^2$     (ii)  $\alpha^3 + \beta^3$     (iii)  $\frac{\alpha^2}{\beta} + \frac{\beta^2}{\alpha}$

23. If  $(x+a)$  is a factor of two polynomials  $x^2+px+q$  and  $x^2+mx+n$  then prove that  $a = \frac{n-q}{m-p}$

24. What must be subtractd from the polynomial  $8x^4+14x^3+x^2+7x+8$  so that the resulting polynomial is exactly divisible by  $4x^2-3x+2$

25. ABCDE is a pentagon with  $BE \parallel CD$  and  $BC \parallel DE$ ,  $BC$  is  $\perp$   $CD$ , If the parameter of ABCDE is 21cm find the value of  $x, y$



26. Solve by all three methods and graphic method  $3x-5y-4=0$  and  $9x=2y+7$ .

27. The marks of 50 students in a class test is given below. Find the mean and median of the following data

Marks of Students	5-15	15-25	25-35	35-45	45-55
No. of Students	8	7	17	13	5

28. Draw a less than 'Ogive' for the following data

Monthly Salary in Rs.	10000-20000	20000-30000	30000-40000	40000-50000	50000-60000
No of Workers	25	13	2	3	5

29. Find the Mean, Median and Mode for the following data

C.I	0-5	5-10	10-15	15-20	20-25	25-30	30-35
Frequency	3	5	7	2	4	6	1

30. Using Assuming mean method. Take  $A=350$ . Find the mean of daily wages of workers.

Daily Wages	0-100	100-200	200-300	300-400	400-500	500-600
No of workers	5	13	2	18	3	21

31. The mean of 35 observations is 46 and their median is 49. Find there modal size.

32. With the help of Ogive find the median of the following data

C.I	0-4	4-8	8-12	12-16	16-20	20-24	24-28
Frequency	3	5	3	8	7	4	6

Note- Do examples of Ch- 1, 2, 3, 14