

Page-01. SITARAM DAV PUBLIC SCHOOL, PUPRI  
ASSIGNMENT FOR DEEPAWALI &  
CHHATH VACATION.  
STD - 8 SUB - MATHEMATICS.

1. What will be the least possible no of planks if three pieces of timber 42m, 49m and 63m long have to be divided into planks of the same length?
2. Can two nos have 18 as their HCF and 380 as their LCM?
3. Find the HCF of 65 & 117 and find a pair of integral values of  $m$  &  $n$  such that  
$$\text{HCF} = 65m + 117n.$$
4. Determine the values of  $p$  and  $q$  so that the prime factorization of 2520 is expressible as  $2^3 \times 3^p \times q \times 7$ .
5. Find the LCM of 2.5, 0.5 & 0.175.
6. Find pairs of natural numbers whose least common multiple is 78 and the greatest divisor is 13.
7. Find a rational no. between  $\sqrt{2}$  &  $\sqrt{3}$ .
8. Find the smallest no which when increased by 17 is exactly divisible by 520 & 468.

9. Four bells commence tolling together. They toll at intervals of 2,  $2\frac{1}{4}$ ,  $4\frac{1}{2}$  and  $2\frac{3}{4}$  seconds respectively. After what time will they toll together again?
10. Ravish runs a book shop at school of Math. Gurgaon. He received 480 Chemistry books, 192 Physics books & 672 Mathematics books of class X I. He wishes to average these books in minimum no. of stacks such that each stack consists of books on only one subject & the no. of books in each stack is the same.
- Find the no. of books in each stack.
  - Find the no. of stacks of Maths books.
  - Find the minimum no. of stacks of all the books.
  - Find the difference in no. of stacks of Maths books & sum of stacks of Physics & Chemistry books.
  - If thickness of each book of Physics is 2.5 cm. Then find height of each stack.
11. Check whether  $6^n$ ,  $7^n$  can never end with the digit 0.

Page-13. 12. Check whether  $7^n, n \in \mathbb{N}$  can never end with the digit 0.

13. Find the greatest no. of 5 digits, that will give us remainder of 5, when divided by 8 & 9 respectively.

14. Show that  $3 + 5\sqrt{2}$  is an irrational.

15. Prove that  $\frac{2\sqrt{3}}{5}$  is irrational.

16. Show that  $\sqrt[3]{6}$  is irrational.

17. If  $p(x) = ax^2 + bx + c$  and  $a + b + c = 0$  then find one zero.

18. Find the zeros of following polys. by factorization method & verify the relationship between zeros & coefficients.

(1)  $4x^2 + 5\sqrt{2}x - 3$ .

2)  $2s^2 - (1 + 2\sqrt{2})s + \sqrt{2}$ .

3)  $x^2 + 4\sqrt{3}x - 15$

4)  $7y^2 - \frac{11}{3}y - \frac{2}{3}$ .

19.  $\alpha, \beta$  are zeros of quadratic poly  $x^2 - (k+6)x + 2(2k-1)$ . Find the value of  $k$ .

if  $\alpha + \beta = \frac{\alpha\beta}{2}$ .

20. If  $\alpha, \beta, \gamma$  are zeros of cubic poly.  
 $x^3 - 12x^2 + 44x + c$  if  $2\beta = \alpha + \gamma$ . Find the value of  $c$ .

21.  $\alpha, \beta, \gamma$  are zeros of cubic poly.  $x^3 - 2x^2 + 9x - r$ .  
 If  $\alpha + \beta = 0$  then show that  $29 = r$ .

23. Solve the following linear eqns using  
 Substitution & Elimination method.

$$i) 7(y+3) - 2(x+2) = 14; 4(y-2) + 3(x-3) = 2.$$

$$ii) \sqrt{5}x - \sqrt{5}y = 0, \sqrt{3}y + \sqrt{13}x = 0.$$

$$iii) (a-b)x + (a+b)y = a^2 - 2ab - b^2$$

$$(a+b)(x+y) = a^2 + b^2.$$

$$iv) \frac{ax}{b} - \frac{by}{a} = a+b, ax - by = 2ab.$$

$$v) \frac{x}{a} - \frac{y}{b} = 0$$

$$ax + by = a^2 + b^2.$$

$$vi) px + qy = p - q$$

$$qx - py = p + q.$$

24. Determine graphically: the vertices of a triangle, the equations of whose sides are  $2y - x = 8$ ,  $5y - x = 14$ ,  $-2x + y = 1$ .

25. Draw the graphs of equations

$$x = 3, y = 5 \text{ \& } 2x - y + 4 = 0.$$

Also, find the area of quadrilateral formed by the lines &  $x$ - $y$  axis.

26 (A): i). For what value of  $k$  the following pair of linear eqns has unique soln?

$$Kx + 3y = 3.$$

$$12x + ky = 6.$$

ii) Find the value of  $k$  for which the system of eqns  $x + 2y = 5$  &  $3x + ky + 15 = 0$  has no soln.

iii) For what value of  $a$  the following pair of linear eqn has infinitely many solns

$$9x - 3y = 1$$

$$-12x + ay = 2.$$

27. The sum of the digits of a two-digit no is 12. The no. obtained by interchanging the two-digits exceeds the given no by 18. Find the no.

Page 16. 28. A car goes uphill at the rate of 30 km/h. and downhill at 50 km/h. After 15 hrs. it has covered 650 km. How long does it go downhill & uphill respectively.

29. A man wished to give ₹12 to each person & found that he fell short of ₹6 when he wanted to give to all the persons present. He, therefore, distributed ₹9 to each person & found that ₹9 were left over. How much money did he have & how many persons were there?

30. The sum of total of ages of father and son is 55 yrs. If father was to live till his son's age equals his present age, the total of their ages would be 93 yrs. Find their present ages.

W M S/S

Note: All students have to prepare this assignment in separate copy. (big size) & for rotation class. Test will be conducted in this copy. after vacation.