

# H.D. SR. SEC. PUBLIC SCHOOL, KHERI (MEHAM)

## Class – 10<sup>th</sup> (A+B) Holiday Homework

### हिंदी:-

- नेताजी का चश्मा, बाल गोबिन भगत, लखनवी अंदाज, सूरदास के पद,
- राम लक्ष्मण परशुराम संवाद
- कविता एवं पाठों के प्रश्न उत्तर लिखिए व याद करो।
- वाक्य एवं अलंकार की यूनिट का चार्ट बनाइए।
- विज्ञापन एवं संदेश से संबंधित असाइनमेंट तैयार करो, जिसमें पांच विज्ञापन और संदेश हों।
- पांच पत्र लिखिए जिनमें दो औपचारिक और तीन अनौपचारिक हों।

### Social Science:-

#### Democratic Politics:

L – 1 Power Sharing

L – 2 Federalism in India History

#### History

L – 2 Nationalism in India Economics

#### Economics

L – 1 Development

Learn these lessons and find out extra question answer.

Make a working model.

Write down any five development agencies which give ranking to different country & also write down the parameters taken by the these agencies

### Science:-

- Explain types of chemical reactions with examples.
- Write preparation and uses of salts (Ch-2).
- Explain the extraction of metal from its ore (Hg, Cu, Na, Zn).
- Explain the homologous series of Alkane, Alkene, Alkyne, Alcohol, Aldehyde, Keton and Carboxylic acid.
- Make a chart on given topics :  
Biology (Heart, Digestive system, excretory system, Respiratory System)  
Chemistry (Types of chemical reactions, Ores, Preparation of Salts electrolytic, refining of metal etc.)
- Learn Ch – 1, 2, 3 and 4
- Make a working Model on Electric Motor, Electric generator.

### English:-

1. Find out answers of given questions after reading the comprehension on page 350 to 354 in new book and on page 322 to 326 in old book of grammar.
2. Write a descriptive paragraph about a famous leader. Include the following points in.  
Your description.  
➤ Interesting introduction to the person

- His/her education and family
  - What made the person famous
  - Why do you like. The person
  - Things to learn from him/her
3. Today you went for the morning walk at a near by park with your father. You observed the ill maintained park and decided to write a descriptive paragraph on that park.
  4. Write a letter to the municipal commissioner on the necessity of public parks in a crowded city like Mumbai.
  5. Fill exercise of subject verb agreement given on page 224 in old book and on page 243 in new book.
  6. Revise unit test syllabus.

First flight : Lesson 3 Two stories about flying

Poem : A tiger in the zoo

Footprints without feet : The thief story

The midnight visitor

Grammar : Subject verb agreement

Note: Do given work in separate notebook.

### **Computer:-**

- ❖ Write the Questions / Answer in Fair Notebook:
  - Part – B
    - Unit – 2 (Session 1, 2, 3 and 4)
- ❖ Assignment
  - Part – A
    - Unit – 1 (Session 2, 3)
    - Unit – 2 (Session 1, 3 and 4)

# H.D SR. SEC. PUBLIC SCHOOL

## STD 10 Maths

### Holiday Home work Assignment

Date : 25-05-2023

Time : 40 Minute

Total Marks : 221

**\* Answer the following questions in one sentence. [1 Marks Each] [1]**

1. Classify the following number as rational or irrational:

$$3\sqrt{7}$$

**\* Given section consists of questions of 2 marks each. [2]**

2. Find the greatest possible length which can be used to measure exactly the length 7m, 3m 85cm and 12m 95cm.

**\* Given section consists of questions of 3 marks each. [123]**

3. If  $\alpha, \beta$  are the zeros of a polynomial such that  $\alpha + \beta = -6$  and  $\alpha\beta = -4$ , then write the polynomial.

4. If  $\alpha$  and  $\beta$  are the zeros of the quadratic polynomial  $f(x) = 6x^2 + x - 2$ , find the value of  $\frac{\alpha}{\beta} + \frac{\beta}{\alpha}$

5. Find the zeros of the following quadratic polynomial and verify the relationship between the zeros and their coefficients:

$$p(x) = x^2 + 2\sqrt{2}x - 6$$

6. If the zeros of the polynomial  $f(x) = x^3 - 12x^2 + 39x + k$  are in A.P., find the value of  $k$ .

7. The sum of the numerator and denominator of a fraction is 4 more than twice the numerator. If the numerator and denominator are increased by 3, they are in the ratio 2 : 3. Determine the fraction.

8. Find the value of  $k$  for which each of the following system of equations have infinitely many solutions:

$$4x + 5y = 3$$

$$kx + 15y = 9$$

9. Find the value of  $k$  for which the following system of equations has a unique solution:

$$4x + ky + 8 = 0$$

$$2x + 2y + 2 = 0$$

10. The car hire charges in a city comprise of a fixed charges together with the charge for the distance covered. For a journey of 12km, the charge paid is Rs. 89 and the journey of 20km, the charge paid is Rs. 145. What will a person have to pay for travelling a distance of 30km?

11. Find the value of  $k$  for which each of the following system of equations have infinitely many solutions:

$$kx + 3y = 2k + 1$$

$$2(k + 1)x + 9y = 7k + 1$$

12. A shopkeeper gives books on rent for reading. She takes a fixed charge for the first two days, and an additional charge for each day thereafter. Latika paid ₹ 22 for a book kept for 6 days, while Anand paid ₹ 16 for the book kept for four days. Find the fixed charges and charge for each extra.
13. The sum of digits 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?
14. Five years ago, Nuri was thrice as old as Sonu. Ten years later, Nuri will be twice as old as Sonu. How old are Nuri and Sonu?
15. There are two examination rooms A and B. If 10 candidates are sent from A to B, the number of students in each room is same. If 20 candidates are sent from B to A, the number of students in A is double the number of students in B. Find the number of students in each room.
16. Six years hence a man's age will be three times the age of his son and three years ago he was nine times as old as his son. Find their present ages.
17. Find the value of k for which the following system of equations has no solution:  
 $2x - ky + 3 = 0$   
 $3x + 2y - 1 = 0$
18. Find the value of k for which the following system of equations has no solution:  
 $3x - 4y + 7 = 0$   
 $kx + 3y - 5 = 0$
19. In a competitive examination, one mark is awarded for each correct answer while  $\frac{1}{2}$  mark is deducted for every wrong answer. Jayanti answered 120 questions and got 90 marks. How many questions did she answer correctly?
20. For what value of k, the following pair of linear equation has infinitely many solutions?  
 $10x + 5y - (k - 5) = 0$   
 $20x + 10y - k = 0$
21. Two numbers are in the ratio 5 : 6. If 8 is subtracted from each of the numbers, the ratio becomes 4 : 5. Find the numbers.
22. Determine the nature of the root of following quadratic equation:  
 $2(a^2 + b^2)x^2 + 2(a + b)x + 1 = 0$
23. Find the roots of the following quadratic equation (if they exist) by the method of completing the square.  
 $x^2 - 4ax + 4a^2 - b^2 = 0$
24. Solve the following quadratic equations by factorization:  
 $16x - \frac{10}{x} = 27$
25. The difference of two numbers is 4. If the difference of their reciprocal is  $\frac{4}{21}$ , find the numbers.
26. Find the value of k for which the roots are real and equal in the following equations:  
 $3x^2 - 5x + 2k = 0$
27. A car moves a distance of 2592km with uniform speed. The number of hours taken for the journey is one-half the number representing the speed, in km/hour. Find the time taken to cover the distance.

28. The product of two consecutive positive integers is 306. Form the quadratic equation to find the integers, if  $x$  denotes the smaller integer.
29. A passenger train takes one hour less for a journey of 150km if its speed is increased by 5km/hr from its usual speed. Find the usual speed of the train.
30. In the following, determine whether the given quadratic equation have real root and if so, find the root:  
 $16x^2 = 24x + 1$
31. Determine the nature of the root of following quadratic equation:  
 $9a^2b^2x^2 - 24abcdx + 16c^2d^2 = 0, a \neq 0, b \neq 0$
32. The product of two successive integral multiples of 5 is 300. Determine the multiples.
33. Solve the following quadratic equations by factorization:  
 $\frac{x-1}{x-2} + \frac{x-3}{x-4} = 3\frac{1}{3}, x \neq 2, 4$
34. In the following, determine whether the given quadratic equation have real root and if so, find the root:  
 $2x^2 + 5\sqrt{3}x + 6 = 0$
35. Find the smallest number which when increased by 17 is exactly divisible by both 468 and 520.
36. The HCF of two numbers is 27 and their LCM is 162. If one of the number is 81, find the other.
37. Find the least number which when divided by 20, 25, 35 and 40 leaves remainders 14, 19, 29 and 34 respectively.
38. Using prime factorization, find the HCF and LCM of:  
 1152, 1664
39. Find the least number which when divided by 35, 56 and 91 leaves the same remainder 7 in each case.
40. Find the HCF of 1008 and 1080 by prime factorization method.
41. The HCF of two numbers is 145 and their LCM is 2175. If one of the numbers is 725, find the other.
42. Find the smallest number which when divided by 28 and 32 leaves remainders 8 and 12 respectively.
43. Three sets of English, Mathematics and Science books containing 336, 240 and 96 books respectively have to be stacked in such a way that all the books are stored subject wise and the higher of each stack is the same. How many stacks will be there?

**\* Given section consists of questions of 5 marks each.**

**[95]**

44. Solve the given pair of linear equation by the elimination method and the substitution method:  
 $3x + 4y = 10$  and  $2x - 2y = 2$
45. The sum of two number  $a$  and  $b$  is 15, and the sum of their reciprocals  $\frac{1}{a}$  and  $\frac{1}{b}$  is  $\frac{3}{10}$ . Find the numbers  $a$  and  $b$ .
46. In the following, determine whether the given values are solution of the given equation or not:  
 $a^2x^2 - 3abx + 2b^2 = 0, x = \frac{a}{b}, x = \frac{b}{a}$

47. To fill a swimming pool two pipes are used. If the pipe of larger diameter used for 4 hours and the pipe of smaller diameter for 9 hours, only half of the pool can be filled. Find, how long it would take for each pipe to fill the pool separately, if the pipe of smaller diameter takes 10 hours more than the pipe of larger diameter to fill the pool?
48. The speed of a boat in still water is 8km/hr. It can go 15km upstream and 22km downstream in 5 hours. Find the speed of the stream.
49. Solve the following quadratic equations by factorization:  

$$3\sqrt{5}x^2 + 25x - 10\sqrt{5} = 0$$
50. The area of a rectangular plot is 528 m<sup>2</sup>. The length of the plot(in metres) is one metre more than twice its breadth. Find the length and the breadth of the plot.
51. Two squares have sides x cm and (x + 4)cm. The sum of their areas is 656cm<sup>2</sup>. Find the sides of the squares.
52. An airplane take 1 hour less for a journey of 1200km if its speed is increased by 100km/hr from its usual speed. Find its usual speed.
53. In a class test, the sum of the marks obtained by P in Mathematics and science is 28. Had he got 3 marks more in mathematics and 4 marks less in Science. The product of his marks would have been 180. Find his marks in two subjects.
54. A piece of cloth costs Rs. 35. If the piece were 4m longer and each meter costs Rs. one less, the cost would remain unchanged. How long is the piece?
55. A passenger train takes 2 hours less for a journey of 300km if its speed is increased by 5km/hr from its usual speed. Find the usual speed of the train.
56. The time taken by a person to cover 150km was 2.5 hrs more than the time taken in the return journey. If he returned at a speed of 10km/hr more than the speed of going, what was the speed per hour in each direction?
57. If the roots of the equation  $(a^2 + b^2)x^2 - 2(ac + bd)x + (c^2 + d^2) = 0$  are equal, prove that  $\frac{a}{b} = \frac{c}{d}$
58. Some students planned a picnic. The budget for food was Rs. 500. But, 5 of them failed to go and thus the cost of food for each member increased by Rs. 5. How many students attended the picnic?
59. If Zeba were younger by 5 years than what she really is, then the square of her age (in years) would have been 11 more than 5 times her actual age. What is her age now?
60. Find the value of k for which the root are real and equal in the following equations:  

$$(k + 1)x^2 - 2(3k + 1)x + 8k + 1 = 0$$
61. A dealer sells an article for Rs. 24 and gains as much percent as the cost price of the article. Find the cost price of the article.
62. Find the value of k for which the quadratic equation  $(3k + 1)x^2 + 2(k + 1)x + 1 = 0$  has equal roots. Also, find the roots.

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Also prepare ch 1,2,3,4 from MTG Book