



**DELHI PUBLIC SCHOOL, DAULATPUR**  
**CLASS- X**  
**SUMMER BREAK HOMEWORK**

**ENGLISH:**

✚ Read any one novel of your choice and write the review

**How to do:** The review is to be written in 250-300 words keeping in mind the given aspects:

- About the Writer
- Summary
- Favourite character
- Analysis

**Where to do:** A4 Size sheets

Parameters for Assessment Content, language and accuracy

✚ **ART INTEGRATED ACTIVITIES FROM CH-1 AND CH-2.**

**Ch-1, A letter to God**

Draw a flow chart depicting the process of corn cultivation in your region.

**Ch-2, Nelson Mandela: Long Walk to Freedom**

Prepare a collage showing famous Black Africans/ Americans who

Contributed to the fight against apartheid and racism.

**SCIENCE**

**PHYSICS-** NCERT Examples, Intext Questions and Exercise questions of chapter Light - Reflection and Refraction.

**BIOLOGY**

Project Work : Pick a topic from your NCERT textbook and make an investigatory project on it.

Format : Cover Page

1. Index
2. Acknowledgment
3. Certificate
4. Introduction of the topic
5. Theory (History, Present Significance)
6. Tool for investigation
7. Procedure
8. Observation
9. Conclusion
10. References (Mention at least three sources)

**SOCIAL SCIENCE**

(1) Every student has to compulsorily undertake any one project on the following topics:

(A) Consumer Awareness

**OR**

(B) Social Issues

**OR**

(C) Sustainable Development

Students are expected to apply the Social Science concepts that they have learnt over the years in order to prepare the project report. If required students may use data record and use different primary and secondary resources to prepare the project. If possible, different forms of art may be integrated in the project work. The Project Report should be handwritten by the student.

**HINDI**

1. सामाजिक जीवन में क्रोध की ज़रूरत बराबर पड़ती है। यदि क्रोध न हो तो मनुष्य दूसरे के द्वारा पहुँचाए जाने वाले बहुत से कष्टों की चिर-निवृत्ति का उपाय ही न कर सके।"

आचार्य रामचंद्र शुक्ल जी का यह कथन इस बात की पुष्टि करता है कि क्रोध हमेशा नकारात्मक भाव लिए नहीं होता

बल्कि कभी-कभी सकारात्मक भी होता है। इसके पक्ष या विपक्ष में अपने मत लिखिए।

2. आपके विद्यालय में शारीरिक रूप से चुनौतीपूर्ण विद्यार्थी हैं। उनके लिए विद्यालय परिसर और कक्षा-कक्ष में किस तरह के प्रावधान किए जाएँ, प्रशासन को इस संदर्भ में पत्र द्वारा सुझाव दीजिए।

3. हम अपने इलाके के शिल्पकार, संगीतकार, चित्रकार एवं दूसरे कलाकारों के काम को कैसे महत्व और प्रोत्साहन दे सकते हैं? लिखिए।

### Mathematics

Choose the correct answer from the given four options in question 1 to question 10:

- Q1. For some integer  $m$ , every even integer is of the form  
(A)  $m$  (B)  $m + 1$  (C)  $2m$  (D)  $2m + 1$
- Q2.  $n^2 - 1$  is divisible by 8, if  $n$  is  
(A) an integer (B) a natural number (C) an odd integer (D) an even integer
- Q3. The largest number which divides 70 and 125, leaving remainders 5 and 8, respectively, is  
(A) 13 (B) 65 (C) 875 (D) 1750
- Q4. If two positive integers  $a$  and  $b$  are written as  $a = x^3y^2$  and  $b = xy^3$ ;  $x, y$  are prime numbers, then HCF ( $a, b$ ) is  
(A)  $xy$  (B)  $xy^2$  (C)  $x^3y^3$  (D)  $x^2y^2$
- Q5. If the zeroes of the quadratic polynomial  $x^2 + (a + 1)x + b$  are 2 and  $-3$ , then  
(A)  $a = -7, b = -1$  (B)  $a = 5, b = -1$  (C)  $a = 2, b = -6$  (D)  $a = 0, b = -6$
- Q6. If one of the zeroes of the cubic polynomial  $x^3 + ax^2 + bx + c$  is  $-1$ , then the product of the other two zeroes is  
(A)  $b - a + 1$  (B)  $b - a - 1$  (C)  $a - b + 1$  (D)  $a - b - 1$
- Q7. The pair of equations  $x + 2y + 5 = 0$  and  $-3x - 6y + 1 = 0$  have  
(A) a unique solution (B) exactly two solutions  
(C) infinitely many solutions (D) no solution
- Q8. The pair of equations  $y = 0$  and  $y = -7$  has  
(A) one solution (B) two solutions  
(C) infinitely many solutions (D) no solution
- Q9. The value of  $c$  for which the pair of equations  $cx - y = 2$  and  $6x - 2y = 3$  will have infinitely many solutions is  
(A) 3 (B)  $-3$  (C)  $-12$  (D) no value
- Q10. One equation of a pair of dependent linear equations is  $-5x + 7y = 2$ . The second equation can be  
(A)  $10x + 14y + 4 = 0$  (B)  $-10x - 14y + 4 = 0$   
(C)  $-10x + 14y + 4 = 0$  (D)  $10x - 14y = -4$
- Q11. Write whether the square of any positive integer can be of the form  $3m + 2$ , where  $m$  is a natural number. Justify your answer.
- Q12. A positive integer is of the form  $3q + 1$ ,  $q$  being a natural number. Can you write its square in any form other than  $3m + 1$ , i.e.,  $3m$  or  $3m + 2$  for some integer  $m$ ? Justify your answer.
- Q13. Explain why  $3 \times 5 \times 7 + 7$  is a composite number.
- Q14. Can two numbers have 18 as their HCF and 380 as their LCM? Give reasons.
- Q15. Prove that  $\sqrt{2} + \sqrt{3}$  is irrational.
- Q16. Use Euclid's division algorithm to find the HCF of 441, 567, 693.
- Q17. Show that the cube of a positive integer of the form  $6q + r$ ,  $q$  is an integer and  $r = 0, 1, 2, 3, 4, 5$  is also of the form  $6m + r$ .
- Q18. Find the zeroes of the polynomial  $x^2 + \frac{1}{6}x - 2$ , and verify the relation between the coefficients and the zeroes of the polynomial.
- Q19. Find a quadratic polynomial, the sum and product of whose zeroes are  $\sqrt{2}$  and  $-\frac{3}{2}$ , respectively. Also find its zeroes.

- Q20. For which values of  $a$  and  $b$ , are the zeroes of  $q(x) = x^3 + 2x^2 + a$  also the zeroes of the polynomial  $p(x) = x^5 - x^4 - 4x^3 + 3x^2 + 3x + b$ ? Which zeroes of  $p(x)$  are not the zeroes of  $q(x)$ ?
- Q21. The line represented by  $x = 7$  is parallel to the  $x$ -axis. Justify whether the statement is true or not.
- Q22. For which values of  $a$  and  $b$ , will the following pair of linear equations have infinitely many solutions?  
 $x + 2y = 1$   
 $(a - b)x + (a + b)y = a + b - 2$
- Q23. Draw the graph of the pair of equations  $2x + y = 4$  and  $2x - y = 4$ . Write the vertices of the triangle formed by these lines and the  $y$ -axis. Also find the area of this triangle.
- Q24. The angles of a triangle are  $x$ ,  $y$  and  $40^\circ$ . The difference between the two angles  $x$  and  $y$  is  $30^\circ$ . Find  $x$  and  $y$ .
- Q25. 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.
- Q26. 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 Rs 22 for a book kept for six days, while Anand paid Rs 16 for the book kept for four days. Find the fixed charges and the charge for each extra day.
- Q27. Jamila sold a table and a chair for Rs 1050, thereby making a profit of 10% on the table and 25% on the chair. If she had taken a profit of 25% on the table and 10% on the chair she would have got Rs 1065. Find the cost price of each.
- Q28. A motor boat can travel 30 km upstream and 28 km downstream in 7 hours. It can travel 21 km upstream and return in 5 hours. Find the speed of the boat in still water and the speed of the stream.
- Q29. A two-digit number is obtained by either multiplying the sum of the digits by 8 and then subtracting 5 or by multiplying the difference of the digits by 16 and then adding 3. Find the number.
- Q30. Vijay had some bananas, and he divided them into two lots A and B. He sold the first lot at the rate of Rs 2 for 3 bananas and the second lot at the rate of Re 1 per banana, and got a total of Rs 400. If he had sold the first lot at the rate of Re 1 per banana, and the second lot at the rate of Rs 4 for 5 bananas, his total collection would have been Rs 460. Find the total number of bananas he had.

**Draw any one project from the list given below:**

**LIST OF PROJECTS**

1. To develop Heron's formulae for area of a triangle.
2. Story of  $\pi$ .
3. Development of Number Systems with their needs.
4. Chronology of Indian Mathematicians with their contributions.
5. Chronological development of solution of a quadratic equations.
6. Development of Formula for the area of a cyclic quadrilateral.
7. Pythagoras Theorem-Proofs other than given in the present textbook.
8. Extensions of Pythagoras Theorem.
9. With rectangle of given perimeter finding the one with a maximum area and with rectangle of given area, finding the one with least perimeter.
10. Knowledge and classification of solid figures with respect to surface areas and volumes.
11. Sum of the exterior angles of a polygon taken in an order.
12. Generation of Pythagorean triplets.
13. Magic squares.
14. With cuboids of given surface area, finding the one with maximum volume and with cuboids of given volumes finding one with least surface area.
15. Mathematical designs and patterns.
16. Indian Mathematicians and their contributions.
17. To prepare a list of quotations on mathematics.
18. Ramanujan number (1729)
19. Mathematical Crosswords
20. Application of Geometry in day-to-day life
21. Application of Algebra in day-to-day life.
22. Application of Mensuration in day-to-day life.

**\* Project is compulsory for all, each student has to make at least one project and make a separate project file. Special consideration to working modals.**

## **ART AND CRAFT**

Glass Painting/Stone Painting/Bottle Art/Canvas Painting

Make any one out from these things