

Subject	Home Work	Instructions
English	<p>I. Speaking skill topic for the month of July. 'Gender Equality – the way ahead. (Please prepare)</p> <p>II. Read the novel – "The story of my life – by Helen Keller" and answer the following</p> <p>Q1. Helen Keller's experiences of real life. What difficulties did she face there?</p> <p>Q2. Discuss the role of Anne Sullivan in helping Helen to achieve her aim?</p> <p>Q3. Discuss the character of Mr. Gilman.</p>	Please attempt the assignment in your literature note book.
Hindi	<p>1) वाचन कौशल (जुलाई) - 'दिखावा और दिग्भ्रमित युवा' विषय पर अनुच्छेद लिखकर याद करो।</p> <p>2) दिये गये विषयों पर निबंध (लगभग 200 शब्दों) लिखिए।</p> <p>3) ग्रीष्मकाल का सदुपयोग, बुजुर्गों हमारी धरोहर, मेरे प्रेरक-मेरे पिता, बिखरते परिवारिक मूल्य</p>	अपनी नोट बुक (कॉपी) में करें
Science	<p><u>Physics</u> : Ch-12 : Write intext questions of NCERT and also write any 20 extra question with answers and also write exercise questions.</p> <p><u>Chemistry</u> : Ch-1 : All questions to be done in Note Book Exercise and Intext.</p>	<p>Write and learn the questions that are given to you.</p> <p>Write in the Note Book. Learn Valencies and symbols of Anions and Cations also compounds.</p> <p>A – 4 size sheet</p>
Maths	<p><u>Biology</u> : Make an assignment on the topic given to you and also write questions related to your topic. <u>Biomagnification or Ozone Depletion.</u></p> <p>Assignment – Chap [Statistics (uploaded already)</p> <p>Assignment – Chap (Polynomials), } uploaded on school website</p> <p>Chap (Quadratic Equations) –</p>	Do in Assignment register. (Also paste the assignment sheet)
S.ST	Eco – Sheet enclosed.	
Art & Craft	History & Civics – Assignment consisting of question & map work given in class to be done in note book.	
Geography	Make a collage in your art and craft files. (Refer Pg No: 101 & 102)	
	<p>1) On the river map of India mark the multipurpose river projects. (Pg. 28), software technology parks (Pg. 77).</p> <p>2) On the physical map of India mark the major soil types (Pg.9), International airports & Sea ports (Pg.89)</p> <p>3) On the political map of India mark major coal fields oil fields (Pg. 59), Nuclear power plants (Pg.61). Iron & steel industries (Pg.72)</p>	Need to be done in your Holiday Homework note book

- Find the zeroes of the quadratic polynomial $6x^2 - 3 - 7x$ and verify the relationship between the zeroes and the coefficients of the polynomial. [Delhi 2008]
- Find the quadratic polynomial sum of whose zeroes is 8 and their product is 12. Hence, find the zeroes of polynomial. [AI 2008]
- If one zero of the polynomial $(a^2 + 9)x^2 + 13x + 6a$ is reciprocal of the other. Find the value of a . [AI 2008]
- If the product of zeroes of the polynomial $ax^2 - 6x - 6$ is 4. Find the value of a . [AI 2008]
- Find all the zeroes of the polynomial $x^4 + x^3 - 34x^2 - 4x + 120$, if two of its zeroes are 2 and -2. [Foreign 2008]
- Find all the zeroes of the polynomial $2x^4 + 7x^3 - 19x^2 - 14x + 30$, if two of its zeroes are $\sqrt{2}$ and $-\sqrt{2}$. [Foreign 2008]
- Find a quadratic polynomial whose zeroes are 1 and -3. Verify the relation between the coefficients and zeroes of polynomial. [Delhi 2008 C]
- Find the zeroes of the quadratic polynomial $\sqrt{3}x^2 - 8x + 4\sqrt{3}$. [AI 2008 C]
- Using division algorithm, find the quotient and remainder

on dividing $f(x)$ by $g(x)$ where

$$f(x) = 6x^3 + 13x^2 + x - 2 \text{ and } g(x) = 2x + 1$$

[AI 2008 C]

- If the polynomial $6x^4 + 8x^3 + 17x^2 + 21x + 7$ is divided by another polynomial $3x^2 + 4x + 1$, the remainder comes out to be $(ax + b)$, find a and b . [Delhi 2009]
- Find all the zeroes of the polynomial $2x^3 + x^2 - 6x - 3$, if two of its zeroes are $-\sqrt{3}$ and $\sqrt{3}$. [AI 2009]
- For what value of k , is 3 a zero of the polynomial $2x^2 + x + k$? [AI 2010]
- If -1 and 2 are two zeroes of the polynomial $2x^3 - x^2 - 5x - 2$, find its third zero. [Foreign 2010]
- Divide $x^4 - 3x^2 + 4x + 5$ by $x^2 - x + 1$, find quotient and remainder. [CBSE (CCE) 2011]
- If 2 and -3 are the zeroes of the quadratic polynomial $x^2 + (a + 1)x + b$; then find the values of a . [CBSE (CCE) 2011]
- It being given that 1 is one of the zeroes of the polynomial $7x - x^3 - 6$. Find its other zeroes. [CBSE (CCE) 2011]
- If the zeroes of the polynomial $x^2 + px + q$ are double in value to the zeroes of $2x^2 - 5x - 3$, find the value of p and q . [CBSE (CCE) 2012]

Find the zeroes of following quadratic polynomials and verify the relationship between the zeroes and their coefficients. (Q 18 to 22)

- $p(x) = x^2 - 7x + 12$
- $p(x) = 100x^2 - 81$
- $p(y) = 4\sqrt{3}y^2 + 5y - 2\sqrt{3}$
- Find a quadratic polynomial whose zeroes are 3 and -5.
- Find a quadratic polynomial whose zeroes are -9 and $-\frac{1}{9}$.
- Sum and product of zeroes of quadratic polynomial are 5 and 17 respectively. Find the polynomial.
- Sum and product of zeroes of a quadratic polynomial are 0 and $\sqrt{15}$ respectively. Find the quadratic polynomial.
- Find a quadratic polynomial whose one zero is 5 and product of zeroes is 30.
- Find a quadratic polynomial whose one zero is 7 and sum of zeroes is -18.
- Find a quadratic polynomial whose zeroes are $3 + \sqrt{5}$ and $3 - \sqrt{5}$.
- Find a quadratic polynomial whose one zero is -8 and sum of zeroes is 0.
- Find a quadratic polynomial whose one zero is -5 and product of zeroes is 0.
- $p(x) = 4x^2 + 24x + 36$
- $p(x) = 25x^2 + 5x$

- Verify that $\frac{1}{2}, 3$ are zeroes of cubic polynomial $2x^3 - 17x^2 + 38x - 15$.
- On dividing $x^3 + x^2 + x - 2$ by a polynomial $g(x)$, the quotient and remainder were $x^2 + 2x + 1$ and $2x - 1$ respectively. Find $g(x)$.
- Using division show that $3y^2 + 5$ is a factor of $6y^5 + 15y^4 + 16y^3 + 4y^2 + 10y - 35$.
- Divide $24x^3y + 20x^2y^2 - 4xy$ by $2xy$.
- Divide $10x^4 + 17x^3 - 62x^2 + 30x - 3$ by $2x^2 + 7x - 1$.
- Divide $ax^2 + (b + ac)x + bc$ by $x + c$.
- Divide $64y^3 - 1000$ by $8y - 20$.
- Divide $15y^4 - 16y^3 + 9y^2 - \frac{10}{3}y$ by $3y - 2$.
- Using division state whether $2y - 5$ is a factor of $4y^4 - 10y^3 - 10y^2 + 30y - 15$?
- Form a quadratic polynomial, one of whose zero is $2 + \sqrt{5}$ and the sum of zeroes is 4.
- Form a quadratic polynomial, one of whose zero is $\sqrt{5}$ and the product of the zeroes is $-2\sqrt{5}$.
- Determine is 3 a zero of the polynomial

$$p(x) = \sqrt{x^2 - 4x + 3} + \sqrt{x^2 - 9} - \sqrt{4x^2 - 14x + 6}$$

1. A passenger train takes 2 hours less for a journey of 300 km if its speed is increased by 5 km/hour from its usual speed. Find the usual speed of the train. [Delhi 2005 C, 2006]
2. A speed of a boat in still water is 11 km/hour. It can go 12 km upstream and return downstream to the original point in 2 hours 45 minutes. Find the speed of the stream. [AI 2006]
3. A fast train takes 3 hours less than a slow train for a journey of 600 km. If the speed of the slow train is 10 km/hr less than that of the fast train, find the speeds of the two trains. [Foreign 2006]
4. Seven years ago Varun's age was five times the square of Swati's age. Three years hence Swati's age will be two-fifth of Varun's age. Find their present ages. [Delhi 2006C]
5. A 2-digit number is such that product of its digits is 18. When 63 is subtracted from the number, the digits interchange their places. Find the number.

Or

A train covers a distance of 90 km at a uniform speed. Had the speed been 15 km/hour more, it would have taken 30 minutes less for the journey. Find the original speed of the train. [AI 2006C]

6. The difference of two numbers is 5 and the difference of their reciprocals is $\frac{1}{10}$. Find the numbers.

12. ₹ 9,000 were divided equally among a certain number of persons. Had there been 20 more persons, each would have got ₹ 160 less. Find the original no. of persons.
13. A two digit number is 4 times the sum of its digits and twice the product of its digits. Find the number.
14. If the price of a book is reduced by ₹ 5, a person can buy 5 more books for ₹ 300. Find the original list price of the book.
15. 300 apples are distributed equally among a certain number of students. Had there been 10 more students, each would have received one apple less. Find the number of students.
16. An aeroplane takes one hour less for a journey of 1200 km if its speed is increased by 100 km/hour from its usual speed. Find its usual speed.
17. A two-digit number is four times the sum of its digits and is also equal to twice the product of its digits. Find the number.
18. A two-digit number is seven times the sum of its digits and is also equal to 12 less than three times the product of its digits. Find the number.

Or

By increasing the list price of a book by ₹ 10 a person can buy 10 less books for ₹ 1,200. Find the original list price of the book. [Delhi 2007]

7. The numerator of a fraction is one less than its denominator. If three is added to each of the numerator and denominator, the fraction is increased by $\frac{3}{28}$. Find the fraction.

Or

The difference of squares of two natural numbers is 45. The square of the smaller number is four times the larger number. Find the numbers. [AI 2007]

8. Find the roots of the following equation.

$$\frac{1}{x+4} - \frac{1}{x-7} = \frac{11}{30}, x \neq -4, 7. \quad [\text{Delhi 2008}]$$

9. Find the roots of the following quadratic equation :

$$2\sqrt{3}x^2 - 5x + \sqrt{3} = 0 \quad [\text{Delhi 2011}]$$

10. Solve the following quadratic equation for x :

$$x^2 - 4ax - b^2 + 4a^2 = 0$$

Or

If the sum of two natural numbers is 8 and their product is 15, find the numbers. [AI 2012]

11. For what value of k, are the roots of the quadratic equation $(k-4)x^2 + (k-4)x + 4 = 0$ equal? [Foreign 2013]

19. A two-digit number is 5 times the sum of its digits and is also equal to 5 more than twice the product of its digits. Find the number.
20. A two digit number is such that the product of its digits is 15. If 18 is added to the number, the digits interchange their places. Find the number.
21. The sum of the squares of two natural numbers is 34. If the first number is one less than twice the second number, find the numbers.
22. Solve for x :
$$\frac{x+1}{x-1} + \frac{x-2}{x+2} = 3 : (x \neq 1, -2)$$
23. Aeroplane left 30 minutes later than its scheduled time and in order to reach destination 1500 km away in time, it has to increase its speed by 250 km/h from its usual speed. Determine its usual speed.
24. Divide 29 into two parts so that the sum of the squares of the parts is 425.
25. The sum of the squares of two consecutive natural numbers is 313. Find the numbers.