

D.A.V. PUBLIC SCHOOL

ASHOK VIHAR, PH- IV, DELHI

HOLIDAY H.W.

CLASS - X

SESSION – 2019 -20 SUBJECT –ENGLISH

Make Mind Maps of chapters –

1. A Triumph of Surgery
2. The Thief's Story
3. The Midnight Visitor
4. A letter to God
5. Nelson Mandela
6. Two Stories about Flying
 - His First Flight
 - Black Aeroplane

Write the Following letters –

1. Your newly constructed school requires saplings for its garden and playground. You are Sameer/Sameera, Admin Officer of Lakshmi Public School, Pitampura, New Delhi. Write a letter to the manager, M/s Gulab Nursery, 34, Lakshmi Nagar, Delhi Placing order for the same.
2. You are Keerti/Krishna of 34, Kailash Colony, Delhi. Recently you availed a package of a 2 day trip to Agra with Akash Tours and Travels, but were disappointed by the services provided. Write a complaint letter to the manager of Akash tours and travels, 51, Raja Garden, New Delhi to express your disappointment.
3. You are Suha/Soham. You have been working as a chemist at Garga Medicos for 5 years. You purchased all the medicines from the wholesaler Satyam Medical stores. You have come across the stock that you ordered contains banned and expired medicines. Write a letter of complaint to express your dissatisfaction towards the store.
4. You are Rajat/Rajni, Activity Incharge of Rayan International School, Dwarka, New Delhi. Your school is planning to visit Shimla during summer vacations with 150 students and 7 teachers. Write a letter of inquiry to the Tour Manager, Balaji Tours and Travels, Karol Bagh, Delhi inquiring about the itinerary, charges, accommodation, food, and other travels.

SUBJECT –HINDI

ग्रीष्मवकाश कार्य (2019)

कक्षा 10

विषय- हिन्दी

अभ्यास प्रपत्र (WORKSHEET BOOKLET)

मुहावरे ,संवाद (1,2),अनुच्छेद (क ,ख),विज्ञापन (1,2), पत्र (1,2)

विषय अभ्यास पुस्तिका (WORKSHEET BOOKLET)से देखकर लिखे जाएँ ।

HOLIDAY HOMEWORK

Make Videos related to topics taught in the class (group/individual)

ASSIGNMENT : QUADRATIC EQUATIONS

Holiday's Home Work
Assignment : Quadratic Equations
CLASS : X

Very Short Answer Type Questions [1 Mark]

- For what value of k are the roots of the quadratic equation $kx^2 + 4x + 1 = 0$ equal and real.
- A quadratic equation $ax^2 + bx + c = 0$, $a \neq 0$ has equal roots. What is the value of D ?
- If quadratic equation $kx^2 + 2x + k = 0$ has two equal roots, then find the value of k .
- State whether the following quadratic equations have two distinct real roots. Justify your answer.
 - $2x^2 - 6x + \frac{9}{2} = 0$
 - $(x - \sqrt{2})^2 - 2(x + 1) = 0$
 - $\sqrt{2}x^2 - \frac{3}{\sqrt{2}}x + \frac{1}{\sqrt{2}} = 0$
 - $(x - 1)(x + 2) + 2 = 0$ [NCERT Exemplar]
- A quadratic equation with integral coefficient has integral roots. Justify your answer.
- Write the nature of the roots of quadratic equation $4x^2 - 2x - 5 = 0$
- Write the nature of the roots of quadratic equation $16x^2 - 24x + 9 = 0$
- Write the nature of the roots of quadratic equation $7x^2 - 4x + 3 = 0$
- If one root of the quadratic equation with rational coefficient is $\frac{3 - 2\sqrt{5}}{4}$ then what is the other root.
- If p, q and r are rational numbers and $p \neq q \neq r$, then find the roots of the equation $(p^2 - q^2)x^2 - (q^2 - r^2)x + r^2 - p^2 = 0$.
- If α, β are roots of the equation $x^2 + 5x + 5 = 0$ then write an quadratic equation whose roots are $\alpha + 1$ and $\beta + 1$.
- If arithmetic mean of two numbers α and β is A and $\alpha \cdot \beta = G^2$ then write a quadratic equation whose roots are α and β .
- The product of two consecutive even integers is 528. Represent the situation in the form of a quadratic equation.
- If $x = 2$ and $m = 3$, the equation is $3x^2 - 2kx + 2m = 0$, find k .
- Find the roots of the quadratic equation $x^2 - 3x = 0$.
- Find the value of $\sqrt{6 + \sqrt{6 + \sqrt{6 + \dots}}}$

Short Answer Type Questions I [2 Marks]

- Solve the quadratic equation $2x^2 + ax - a^2 = 0$ for x . [Delhi 2014]

- Find the values of p for which the quadratic equation $4x^2 + px + 3 = 0$ has equal roots. [AI 2014]
- Solve the following quadratic equation for x : $4x^2 - 4a^2x + (a^4 - b^4) = 0$ [Delhi 2015]
- Solve for x : $x^2 - (\sqrt{3} + 1)x + \sqrt{3} = 0$ [Foreign 2015]
- Solve for x : $\sqrt{2x + 9} + x = 13$. [AI 2016]
- A two-digit number is four times the sum of its digits. It is also equal to 3 times the product of digits. Find the number. [Foreign 2016]
- If $x = \frac{2}{3}$ and $x = 3$ are roots of the quadratic equation $ax^2 + 7x + b = 0$, find the values of a and b . [Delhi 2016]
- Solve for x : $(a + b)^2x^2 + 8(a^2 - b^2)x + 16(a - b)^2 = 0$
- Rewrite the following as a quadratic equation in x and then solve for x .
$$\frac{4}{x} - 3 = \frac{5}{2x + 3}, x \neq 0, -\frac{3}{2}$$
- Find the value of k for which the quadratic equation $(k + 4)x^2 + (k + 1)x + 1 = 0$ has equal roots.
- Solve for x : $x^2 - (\sqrt{2} + 1)x + \sqrt{2} = 0$ [Foreign 2013]
- Using quadratic formula, solve the following quadratic equation for x : $x^2 - 4ax + 4a^2 - b^2 = 0$.
- Solve for x : $9x^2 - 6a^2x + (a^4 - b^4) = 0$.
- If one root of the quadratic equation $2x^2 - 3x + p = 0$ is 3, find the other root of the quadratic equation. Also find the value of p .
- One root of the equation $2x^2 - 8x - m = 0$ is $5/2$. Find the other root and the value of m .
- The sum of a number and its positive square root is $6/25$. Find the number.
- For what values of p the equation $(1 + p)x^2 + 2(1 + 2p)x + (1 + p) = 0$ has coincident roots?
- In each of the following determine whether the given values are solutions of the equations or not:
 - $3x^2 - 2x - 1 = 0$; $x = 1$
 - $6x^2 - x - 2 = 0$; $x = -1/2$; $x = 2/3$
 - $x^2 + \sqrt{2}x - 4 = 0$, $x = \sqrt{2}$, $x = -2\sqrt{2}$
 - $x^2 + x + 1 = 0$; $x = 1$, $x = -1$.

Short Answer Type Questions II [3 Marks]

- Solve the equation $\frac{4}{x} - 3 = \frac{5}{2x + 3}$; $x \neq 0, -\frac{3}{2}$ for x . [Delhi 2014]

Quadratic Equations

7. Find the values of h and k for which $x = -2$ and $x = 3/4$ are solution of the equation $hx^2 + kx - 6 = 0$.
8. Determine the set of values of p for which the given quadratic equation has real roots:
(i) $4x^2 + 8x - p = 0$ (ii) $4x^2 - 3px + 9 = 0$.
9. 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.
10. 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.
11. A two digit number is 4 times the sum of its digits and twice the product of its digits. Find the number.
12. 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.
13. 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.
14. 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.
15. 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.
16. Divide 29 into two parts so that the sum of the squares of the parts is 425.
17. A person on tour has ₹ 360 for his daily expenses. If he exceeds his tour programme by 4 days, he must cut down his daily expenses by ₹ 3 per day. Find the number of days of his tour programme.
18. An express train makes a run of 240 km at a certain speed. Another train whose speed is 12 km/hr less takes an hour longer to cover the same distance. Find the speed of the express train in km/hr.
19. The side of a square exceeds the side of another square by 4 cm and the sum of the areas of the two squares is 400 sq. cm. Find the dimensions of the squares.
20. The denominator of a fraction exceeds its numerator by 3. If one is added to both numerator and denominator, the difference between the new and the original fractions is $1/24$. Find the original fraction.
21. The difference of mother's age and her daughter's age is 21 years and the twelfth part of the product of their ages is less than the mother's age by 18 years. Find their ages.
22. One side of a rectangle is 21 cm longer than the other. The diagonal is longer than bigger side by 6 cm. Find the area of the rectangle.
23. The sides (in cm) of a right triangle containing the right angle are $5x$ and $3x - 1$. If the area of the triangle is 60 cm^2 , find the sides of the triangle.
24. Divide 16 into two parts such that twice the square of the longer part exceeds the square of the smaller part by 164.
25. The hypotenuse of a right triangle is 1 m more than twice the shortest side. If the third side is 7 m more than the shortest side, find the sides of the triangle.
26. A person on tour has ₹ 4200 for his expenses. If he extends his tour for 3 days he has to cut down his daily expenses by ₹ 70. Find the duration of the tour.
27. A motor boat whose speed is 20 km/h in still water, takes 1 hour more to go 48 km upstream than to return downstream to the same spot. Find the speed of the stream.
28. The numerator of a fraction is 3 less than its denominator. If 1 is added to the denominator, the fraction is decreased by $\frac{1}{15}$. Find the fraction. [AI 2012]
29. Two pipes running together can fill a cistern in 6 minutes. If one pipe takes 5 minutes more than the other to fill the cistern, find the time in which each pipe would fill the cistern.
30. If the roots of the equation $(c^2 - ab)x^2 - 2(a^2 - bc)x + (b^2 - ac) = 0$ are equal, prove that either $a = 0$ or $a^3 + b^3 + c^3 = 3abc$. [HOTS]
31. 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 $\frac{a}{b} = \frac{c}{d}$. [HOTS]
32. Solve the equation $2x^2 + 14x + 9 = 0$ where x is rational.
33. By a reduction of ₹ 1 per kg in the price of sugar Mohan can buy one kg sugar more for ₹ 56. Find the original price of sugar per kilogram.
34. If α, β are roots of $x^2 + 5x + a = 0$ and $2\alpha + 5\beta = -1$, then find the value of a .
35. Find the non-integral value of x so that $2^{2x^2 - 7x + 5} = 1$.
36. Solve for x : $x = \frac{1}{2 - \frac{1}{2 - \frac{1}{2 - x}}}$, $x \neq 2$.
37. Solve for x : $6\sqrt{\frac{x}{x+4}} - 2\sqrt{\frac{x+4}{x}} = 11$, $x \neq 0, -4$.
38. One fourth of a group of people claim they are creative, twice the square root of the group claims to be caring and the remaining 15 claims they are optimistic
(i) Find the total number of people in the group.
(ii) How many persons in the group are creative?
(iii) According to you, which one of the above three values is more important for development of a society.
39. If $kx^2 + (5 + k)x + 5 = 0$, $k \neq 0$ find the roots of the equation.

36. Find that non-zero value of k , for which the quadratic equation $kx^2 + 1 - 2(k-1)x + x^2 = 0$ has equal roots. Hence find the roots of the equation. [Delhi 2015]
37. Solve for x : $x^2 + 5x - (a^2 + a - 6) = 0$ [Foreign 2015]
38. 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.
39. The area of a right-angled triangle is 600 sq cm. If the base of the triangle exceeds the altitude by 10 cm, find the dimensions of the triangle.
40. The cost price of an article is ₹ x and is sold at a profit of $(x + 10)\%$. Find the cost price of the article, if its selling price is ₹ $(2x - 20)$.
41. The product of two successive integral multiples of 5 is 300. Determine the multiples.
42. Solve the equation: $\frac{4x}{x-2} - \frac{3x}{x-1} = 7\frac{1}{2}$.
43. Solve the equation:
 $2(x-3)^2 + 3(x-2)(2x-3) = 8(x+4)(x-4) - 1$.
44. The age of father is equal to the square of the age of his son. The sum of the age of father and five times the age of the son is 66 years. Find their ages.

Long Answer Type Questions [4 Marks]

45. Solve for x $\frac{x-2}{x-3} + \frac{x-4}{x-5} = \frac{10}{3}$, $x \neq 3, 5$. [AI 2014]
46. The sum of the squares of two consecutive odd numbers is 394. Find the numbers. [Foreign 2014]
47. Solve for x : $\frac{2}{x+1} + \frac{3}{2(x-2)} = \frac{23}{5x}$, $x \neq 0, -1, 2$ [Delhi 2015]
48. A train travels at a certain average speed for a distance of 54 km and then travels a distance of 63 km at an average speed of 6 km/h more than the first speed. If it takes 3 hours to complete the total journey, what is its first speed? [AI 2015]
49. If $x = -2$ is a root of the equation $3x^2 + 7x + p = 0$, find the values of k so that the roots of the equation $x^2 + k(4x + k - 1) + p = 0$ are equal. [Foreign 2015]
50. A motor boat whose speed is 24 km/h in still water takes 1 hour more to go 32 km upstream than to

return downstream to the same spot. Find the speed of the steam.

51. A girl is twice as old as her sister. Four years hence, the product of their ages (in years) will be 160. Find their present ages. [AI 2010]
52. Solve for x : $\left(\frac{4x-3}{2x+1}\right) - 10\left(\frac{2x+1}{4x-3}\right) = 3$; $x \neq \frac{-1}{2}$; $x \neq \frac{3}{4}$.
53. Solve for x : $2\left(\frac{x+2}{2x-3}\right) - 9\left(\frac{2x-3}{x+2}\right) = 3$; given that $x \neq -2$, $x \neq \frac{3}{2}$
54. The time taken by a person to cover 150 km was $2\frac{1}{2}$ hrs. more than the time taken in the return journey. If he returned at a speed of 10 km/h more than the speed of going, what was the speed per hour in each direction?
55. The perimeter of right-angled triangle is five times the length of its shortest side. The numerical value of the area of the triangle is 15 times the numerical value of the length of the shortest side. Find the lengths of the three sides of the triangle. [HOTS]
56. At present Asha's age (in years) is 2 more than the square of her daughter Nisha's age. When Nisha grows to her mother's present age, Asha's age would be one year less than 10 times the present age of Nisha. Find the present ages of both Asha and Nisha. [NCERT Exemplar]
57. At t minutes past 2 p.m. the time needed by the minutes hand of a clock to show 3 p.m. was found to be 3 minutes less than $\frac{t^2}{4}$ minutes. Find t . [NCERT Exemplar]
58. Vikram wishes to fit three rods together in the shape of a right triangle. The hypotenuse is to be 2 cm longer than the base and 4 cm longer than the altitude. What should be the lengths of the rods? [HOTS]
59. If a boy's age and his father's age amount together to 24 years. Fourth part of the product of their ages exceeds the boy's age by 9 years. Find how old they are.

ASSESS YOURSELF

- Show that $x = -3$ is a solution of equation $x^2 + 6x + 9 = 0$.
- Find the discriminant of the quadratic equation $2x^2 - 4x + 3 = 0$.
- Find quadratic equation, if p and q are the roots of the equation $x^2 - px + q = 0$ when $p = 1$ and $q = -2$.
- For what value of k does the quadratic equation $(k-5)x^2 + 2(k-5)x + 2 = 0$ have equal roots? [Foreign 2011]
- Solve for x : $36x^2 - 12ax + (a^2 - b^2) = 0$.
- Determine the value of k for which the quadratic equation $kx^2 - 5x + k = 0$ has equal roots.

SUBJECT –SCIENCE

:

- 1 Make a project on topic -Energy Conservation.
- 2 Prepare activities based on topic –electricity
- 3 Do the assignments from assignments booklet of chapters done in class.
- 4 Prepare all the diagrams of chapter life processes.
- 5 Revise all the three chapters done in the class.

SUBJECT –S.ST.

POLITICAL SCIENCE

10A (1-24)

10B(1-25)

10C (1-25)

Make a project on any two popular movements like #ME TOO movement by using surveys, interviews, cartoons, posters and news clippings for upgrading the project.

ECONOMICS

10 A(25-48)

10B (26-49)

10C (26-50)

Write information about all the five consumer rights. Paste events, happenings, images, cases along with the explanation of each right.

ROAD SAFETY PROGRAMME

Its mandatory for all students, they have to divide themselves into 8 groups and prepare a short movie on traffic rules.

SUBJECT –SANSKRIT

(1)समाचार पत्र स पाच चित्रानकालकर चपकाकर पाच-पाच वाक्य सस्कृत म लख ।

(2)पाच पत्र लखकर पूरा करा ।

(3) पाच अपाठत गद्याश लखकर पूरा करा ।

SUBJECT –COMPUTER

1. Create a blog on www.wordpress.com on “Cyber Safety”. Write a paragraph on the topic. Publish the blog and share the link at davhhw@gmail.com. **Mention your name and Class in the subject.**
2. Create a brochure on the topic “Cyber Safety” in MS WORD (Add 3 columns , page colour , header, footer ,relevant images and other features of Ms Word to make it creative). Bring coloured print out and submit.

SUBJECT –ART

HOLIDAYS HOMEWORK

To make any two composition with poster colour on A3 size ivory paper –

HISTORICAL SITES (DELHI)