

KENDRIYA VIDYALAYA ,BHEL JAGDISHPUR
SUMMER VACATION ASSIGNMENT – 2016 -17

CLASS - X
MATHEMATICS

1. Given that $HCF(306, 657) = 9$. Find $LCM(306, 657)$.
2. State the Euclid's division algorithm.
3. Find the HCF and LCM of 60, 84 and 108 by using prime factorization method.
4. Write the zeroes of $100x^2 - 81$.
5. Is that $x = -3$, a solution of $2x^2 + 5x + 3 = 0$
6. For what value of k , (-4) is a zero of the polynomial $x^2 - x - (2k + 2)$?
7. If α and β are the zeroes of the quadratic polynomial $p(x) = 4x^2 - 5x - 1$, then find the value of $\alpha^2\beta + \beta^2\alpha$.
8. If one zero of the polynomial $(a^2 + 9)x^2 + 13x + 6a$ is reciprocal of the other, then find the value of a .
9. Without drawing them, find out whether the lines representing the following pairs of linear equations intersect at a point, or parallel, or coincide.
 - (a) $5x - 4y + 8 = 0$, $7x + 6y - 9 = 0$
 - (b) $6x - 3y + 10 = 0$, $2x - y + 9 = 0$
 - (c) $9x + 3y + 12 = 0$, $18x + 6y + 24 = 0$
 - (d) $2x - y = 2$, $2y - 4x = 2$
10. Find the HCF of 180, 252 & 324 by using Euclid's Division Lemma.
11. Show that the square of any positive integer cannot be of the form $5q + 2$ or $5q + 3$ for any integer q .
12. Prove that $\frac{4\sqrt{5}}{7}$ is an irrational.
13. Six bells commence tolling together and toll at intervals 2,4,6,8,10 and 12 min., respectively. After how many minutes they will toll together?
14. Prove that $\sqrt{7}$ is an irrational.
15. Find a cubic polynomial, whose zeroes are -2, -3 & -1.
16. Find the zeroes of the quadratic polynomial $x^2 + 5x + 6$ & verify the relation between the zeroes & the coefficients.
17. Find a quadratic polynomial with zeroes $3 + \sqrt{2}$ & $3 - \sqrt{2}$.
18. Find the quadratic polynomial, whose zeroes are in the ratio 2:3 & their sum is 15.
19. Find a quadratic polynomial, whose sum & product of the zeroes are $\frac{-8}{3}$ and $\frac{4}{3}$, respectively. Also find the zeroes of this polynomial by factorization.
20. It being given that 1 is one of the zeroes of the polynomial $7x - x^3 - 6$. Find its other zeroes.
21. Divide $x^4 - 3x^2 + 4x + 5$ by $x^2 - x + 1$ & find quotient & remainder.
22. Solve the following by graphical method-
 - (a) $X + 2Y = 11$, $2X + Y = 10$
 - (b) $Y = 4 - 2X$, $Y + 7X + 1 = 0$
23. Solve the following by substitution method-
 - (a) $3x + y = 4$, $2(y - 5) = -5x$
 - (b) $\frac{2}{3}X + \frac{1}{4}Y = 1$, $5X + Y = 1$
24. Solve the following by Elimination method-
 - (a) $3x - 4y = 11$, $7x - 5y = 4$
 - (b) $11x + 15y + 23 = 0$, $7x - 2y - 20 = 0$
25. Solve the following by Cross multiplication method-
 - (a) $2x - 21 = 5y$, $3 + 4y = -3x$
 - (b) $2x - 3y = -8$, $5x + 3y = 1$
26. Half of the sum of two numbers is equal to 42. One third of their difference is equal to 4. Find the two numbers.
27. A man, when asked how many hens & buffaloes he has, told that his animals have 120 eyes & 180 legs. How many hens & buffaloes has he?

28. The ratio of incomes of two friends Anjali & Abdul is 9:7 & the ratio of their expenditures is 4:3. If each of them saves rs 4000 per month, then find their monthly incomes. Also, if each of them donates 9% of her/his income to a charity working for old age destitutes, then find the resulting savings of each. What value is indicated from this action.
29. Magazines cost rs m each & newspaper cost rs n each. One magazine cost rs 2.55 more than one newspaper. The cost of two magazines is the same as the cost of five newspapers.
- (i) Write down two equation in m & n to show this information.
- (ii) Find the values of m & n.

WEBSITE - www.kvbhel.org

विषय -हिंदी

- पांच अपठित गद्यांश पर प्रश्नोत्तर।
- पांच अपठित पद्यांश पर प्रश्नोत्तर।
- आपका एक मित्र विदेश में रहता है \उसे ग्रीष्मावकाश के दौरान भारत के किसी पर्वतीय क्षेत्र में भ्रमण हेतु आमंत्रित करते हुए पत्र लिखिए।
- क्षात्रावास में रहने वाले अपने छोटे भाई को पत्र लिख कर नियमित रूप से योग एवं प्राणायाम हेतु प्रेरित कीजिये।
- अपने विद्यालय के प्राचार्य को पत्र लिखिए जिसमें पुस्तकालय में अधिक से अधिक हिंदी पुस्तिके एवं हिंदी पत्रिकाएं मंगवाने हेतु प्रार्थना हो ।
- अपने नगर के विद्युत् अधिकारी को बिजली कटौती के कारन पढाई में आने वाली कठिनाइयों की चर्चा करते हुए इसमें सुधार हेतु पत्र लिखिए।
- निबंध लिखिए (क) बालमजदूरी (ख)जीवन में अनुशासन का महत्व (ग)मोबाइल फोन वरदान या अभिशाप (घ)हमारा प्यारा भारत वर्ष (ङ)बढती महंगाई
- सरल,संयुक्त,एवं मिश्र वाक्य के 10-10 उदाहरण लिखिए ।
- उद्देश्य एवं विधेय किसे कहते है ?उदाहरण लिखिए।
- उपवाक्य -संज्ञा ,विशेषण एवं क्रिया विशेषण की परिभाषा एवं उदाहरण ।
- क्षितिज भाग -2 के आधार पर प्रश्नों के उत्तर लिखिए :-
बालगोविन भगत ,लखनवी अंदाज ,देव एवं आत्म कथ्य के प्रश्नोत्तर
कृतिका भाग -2 माता का आँचल ,जार्ज पंचम की नाक के प्रश्नोत्तर ।

ENGLISH

- Solve three sample papers or Previous Years' Board Papers
- Write an article showing your concern on Population Explosion suggesting measures how to control it.
- Write a letter to The Editor, The Times of India showing your anguish over road rage which is taking many lives every year. Suggest some safety measures.
- All anti- smoking campaigns have gone futile. Smoking has become a fashion. Smoking harms both the smoker and the non- smoker. We ourselves remain mute spectators. No voice is raised against it. Write a speech on 'Hazards of smoking' for your school morning assembly.
- Education places a vital role in molding one's personality. Write an article on the topic 'Importance of Education' to be published in your school magazine.
- Read first five chapters of the Novel 'The Story of My Life'.

SCIENCE

- 1 Describe the structure & function of nephron.
- 2 Explain the three pathways of break down of glucose.
- 3 Draw the symbols of components of circuit.
- 4 Study the factors on which resistance of conductors depend.
- 5 What are advantages of connecting electrical devices in parallel ?
- 6 Deduce the expression for the equivalent resistance of the parallel combination of three resistors R₁,R₂ &R₃

Social Science

Assignment

1. Write the impact of industrialisation on the city London.
2. “Bombay is the city of dream”, explain in reference with the development of cinema world.
3. Write the categories of species according the IUCN. Give the brief details of each.
4. How the forest laws help to protect the deforestation.
5. What is the Tiger Project? Why this project was taken?
6. Write the role of communities to protect the forests and wild life.
7. Write an essay on the central- state relation.
8. Why the central government adopt the linguistic policy base to restructure the states.
9. What were changes made by the 72th amendment in Panchayati Raj system.

Projects

Theme – Environmental Protection

Choose **any one** topic

1. Water conservation
2. Forest conservation
3. Soil conservation
4. Wild life conservation
5. Energy conservation