D.A.V. PUBLIC SCHOOL, NEW PANVEL
2025-2026
SUMMER HOLIDAY ASSIGNMENT
WORKSHEET

SUB: MATHEMATICS   **STD: X**

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Real number and polynomials

1. What is the HCF of the smallest composite number and smallest prime number?

2. If HCF (336, 54) =6, find LCM (336, 54)

3. Explain why 3×5×7+7 is a composite number?

5. find HCF of 4052 and 420.

6. Prove that $\sqrt{5}$ is an irrational number.

7. Can 12^n end with the digit 0, for any natural number n? Justify your answer.

8. Find HCF of 612 and 1314 using prime factorization.

9. Show that $2\sqrt{3} - 5$ is irrational.

10. Three bells toll at intervals of 12 min, 15 min and 18 min respectively. If they start tolling together, after what time will they next toll together?

11. Find the LCM and HCF of 336 and 54 and verify that HCF ×LCM= product of two numbers.

12. Two alarm clocks ring their alarms at regular intervals of 50 sec and 48 sec. If they first beep together at 12 noon.at what time will beep again for the first time?

13. Show the reciprocal of $3+2\sqrt{2}$ is an irrational number.

14. Show that $(\sqrt{3}+\sqrt{5})^2$ is an irrational number.

15. Prove that $(\sqrt{2}+ \frac{1}{\sqrt{2}})^2$ is rational.

16. Prove that $\sqrt{2} + \sqrt{3}$ is an irrational number.

17. An army contingent of 616 members is to march behind an army band of 32 members in a parade. The two groups are in same in numbers of columns. What is the maximum no. of columns in which they can march?

18. There is a circular path around a sports field. Sonia takes 15 minutes to drive a round of the field, while Ravi takes 12 minutes for the same. Suppose they start at the same point and the same time and go in the same direction. After how many minutes will they meet again at the starting point?

19. Write whether $\frac{(2\sqrt{45} + 3\sqrt{20})}{(2\sqrt{5})}$ on simplification gives a rational or an irrational number.

20. For what values of k, 3 is a zero of the polynomial $2x^2 + x + k$?

21. Find the zeros of quadratic polynomial $p(x) = 4x^2 + 17x + 18$ and verify the relationship between the zeros and their coefficient.

22. Find the quadratic polynomial whose zeros are +3 and -3

23. If α ,β are zero of quadratic polynomial $5x^2 + 9x + 4$,find quadratic polynomial whose zeroes are 4α and 4β.

24 If α ,β are zero of quadratic polynomial $kx^2 + 4x + 4$,find the values of k such that

$(α + β)^2 - 2αβ = 24$.

25. If α, β are zero of quadratic polynomial $2y^2 + 7y + 5$,write the values of α + β+ αβ.

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