

KENDRIYA VIDYALAYA IIT MADRAS

Summer Holiday Home work IX APRIL 2018-19

NOTE: ALL THE HOLIDAY HOME WORK SHOULD BE SUBMITTED ON A4 SHEETS ONLY

A.

1. Find the value of x , if $3^4 \times 3^5 = (3^3)^x$.

2. Express $0.\overline{588}$ in the form of $\frac{p}{q}$.

3. Find five rational numbers between $\frac{3}{5}$ and $\frac{4}{5}$

4. Locate $\sqrt{10}$ on number line.

5. Represent $\sqrt{4.5}$ on number line.

6. Multiply : $5\sqrt[3]{4}$ by $\sqrt{3}$.

7. Rationalise the denominator of $\frac{5 + \sqrt{3}}{7 + 4\sqrt{3}}$

8. Find the values of 'a' and 'b' in the following: i) $\frac{5 + 2\sqrt{3}}{7 + 4\sqrt{3}} = a - b\sqrt{3}$ ii) $\frac{\sqrt{3} - 1}{\sqrt{3} + 1} = a + b\sqrt{3}$

9. Show that $\frac{x^{a(b-c)}}{x^{b(c-a)}} \div \left(\frac{x^b}{x^a}\right)^c = 1$

10. Express $0.6 + 0.\overline{7} + 0.\overline{47}$ in the form $\frac{p}{q}$, where p and q are integers and $q \neq 0$.

11. Insert a rational number between the following: i) 6 and 7 ii) $\frac{2}{3}$ and $\frac{7}{8}$ iii) 1 and 1.1 iv) 0.25 and

0.26 v) 3.413 and 4.314 vi) 4.13692 and 4.4568.

12. Visualize the representation of $5.\overline{37}$ on the number line upto 5 decimal places, that is, up to 5.37777.

13. Express : $2.0\overline{15}$ in the $\frac{p}{q}$ form, where p and q are integers and $q \neq 0$.

14. Write the coefficient of x^2 in the expansion of $(x - 2)^3$

15. Find the zero of the polynomial $p(x) = 2x + 3$.

16. Is $x^2 + \frac{4x^{3/2}}{\sqrt{x}}$ a polynomial? Justify your answer.

17. Find the remainder when $f(x) = 4x^3 - 12x^2 + 14x - 3$ is divided by $g(x) = (2x - 1)$.

18. Factorise: $5\sqrt{5}x^2 + 30x + 8\sqrt{5}$ by splitting the middle term.

19. If $a+b+c = 0$, then evaluate $a^3 + b^3 + c^3$.

20. Find $y^2 + \frac{1}{y^2}$ and $y^4 + \frac{1}{y^4}$ if $y - \frac{1}{y} = 9$.

B.

Prepare from the chapters Number system and Polynomials at least 10 extra questions and solve them.

C.

Learn, practice and write all the Algebraic Identities and Laws of Exponents.

D.

Write multiplication tables from 6 to 20 and conversion tables at least twice.

E.

Write history and contributions of your favourite Mathematician.