

INTERNATIONAL INDIAN SCHOOL , RIYADH
NUMBER SYSTEM
Class IX

1. Simplify: $\frac{\sqrt{25}}{\sqrt[3]{64}} + \left(\frac{256}{625}\right)^{-\frac{1}{4}} + \frac{1}{\left(\frac{64}{125}\right)^{\frac{2}{3}}}$. {Ans. $\frac{65}{16}$ }

2. Simplify: $\frac{4-\sqrt{5}}{4+\sqrt{5}} + \frac{4+\sqrt{5}}{4-\sqrt{5}}$. {Ans. $\frac{42}{11}$ }

3. If $x = 3 + \sqrt{8}$, then find the value of $\left(x^2 + \frac{1}{x^2}\right)$. {Ans. 34}

4. Find the sum of 0.0333..... and 0.444.... and express in $\frac{p}{q}$ form. {Ans. $\frac{43}{90}$ }

5. If "a" and "b" are rational numbers and $\frac{\sqrt{11}-\sqrt{7}}{\sqrt{11}+\sqrt{7}} = a - b\sqrt{77}$, then find the value of "a" and "b".
{Ans. $a = \frac{9}{2}, b = \frac{1}{2}$ }

6. If $x = (5 + 2\sqrt{6})$, then show that $\sqrt{x} + \frac{1}{\sqrt{x}} = \pm 2\sqrt{3}$.

7. Simplify the following: $\frac{2}{\sqrt{5}+\sqrt{3}} + \frac{1}{\sqrt{3}+\sqrt{2}} - \frac{3}{\sqrt{5}+\sqrt{2}}$. {Ans. 0}

8. If $(5)^{x-3} * (3)^{2x-8} = 225$, then find the value of x. {Ans. 5}

9. Represent the following on number line.

i) $\sqrt{2}$ ii) $\sqrt{3}$ iii) $\sqrt{5}$ iv) $\sqrt{50}$ v) $\sqrt{13}$ vi) $\sqrt{10.5}$

10. i) Write a rational number between rational numbers $\frac{1}{9}$ and $\frac{2}{9}$.

ii) Write two irrational numbers between $\frac{1}{7}$ and $\frac{2}{7}$.

11. If $125^x = \frac{25}{5^x}$, then find x. {Ans. $\frac{1}{2}$ }

12. i) Divide $5^3\sqrt[3]{14}$ by $15^4\sqrt[4]{12}$.

ii) Write $\sqrt[3]{4}, \sqrt{3}, \sqrt[4]{16}$ in ascending order.

13. Simplify $\left\{5 \left(8^{\frac{1}{3}} + 27^{\frac{1}{3}}\right)^3\right\}^{\frac{1}{4}}$. {Ans. 5}

PREPARED BY

IX - X GIRLS
