DELHI PUBLIC SCHOOL, JAMMU
FOUNDATION WORKSHEET
Session (2022-23)

CLASS: IX   SUBJECT:
MATHEMATICS
Month: April
Topics: 1. Number System.

1. Find 5 rational and 5 irrational numbers between (i) $\frac{1}{2}$ and $\frac{-1}{3}$ (ii) $\sqrt{2}$ and $\sqrt{3}$

2. Represent $\sqrt{3}$ and $\sqrt{5}$ on number line.

3. Express as p/q (i) 2.346 (ii) $2.3\overline{56}$

4. Represent $\sqrt{6.5}$ on number line.

5. Find a and b if $\frac{\sqrt{2}+\sqrt{3}}{\sqrt{2}-\sqrt{3}} = a + b\sqrt{6}$

6. If $a = 9 - 4\sqrt{5}$, find value of $a^2 + \frac{1}{a^2}$.

7. Simplify $\left[5\left(8^{\frac{1}{3}}+27^{\frac{2}{3}}\right)^3\right]^{\frac{1}{4}}$

8. Prove that $\left(\frac{x^a}{x^b}\right)^{\frac{1}{ab}}\left(\frac{x^b}{x^c}\right)^{\frac{1}{bc}}\left(\frac{x^c}{x^a}\right)^{\frac{1}{ca}} = 1$

9. Evaluate the following :- (i) 97^2 ii) 185x185-115x115   iii) $\frac{7.83X\ 7.33-1.17X1.17}{6.66}$

10. If $x + \frac{1}{X} = 11$, find the value of (i) $X^2 + \frac{1}{x^2}$ (ii) $x^4 + \frac{1}{x^4}$ (iii) $x^3 + \frac{1}{x^3}$