CLASS - IX MATHEMATICS (Number System)

1. Which of the following rational numbers have terminating decimal representation [1]

   $(i)\ \frac{3}{5}$ $(ii)\ \frac{2}{13}$

   $(iii)\ \frac{40}{27}$ $(iv)\ \frac{23}{7}$

2. How many rational numbers can be found between two distinct rational numbers? [1]

   (i)Two (ii) Ten (iii) Zero (iv) Infinite

3. The value of $\left(2+\sqrt{3}\right)\left(2-\sqrt{3}\right)$ in [1]

   (i)1 (ii)-1

   (iii) 2 (iv) none of these

4. $(27)^{-2/3}$ is equal to [1]

   (i) 9 (ii) 1/9

   (iii) 3 (iv) none of these

5. Simplify: $\sqrt[3]{2}\times\sqrt[4]{3}$ [2]

6. Find the two rational numbers between ½ and 1/3. [2]

7. Find two irrational numbers between 2 and 3. [2]

8. Multiply $\left(3-\sqrt{5}\right)$ $by\left(6+\sqrt{2}\right)$ [2]

9. Express 0.8888... in the form p/q. [3]

10. Simply by rationalizing denominator $\frac{7+3\sqrt{5}}{7-3\sqrt{5}}$ [3]

11. Simplify $\left\{\left[625^{\frac{-1}{2}}\right]^{-\frac{1}{4}}\right\}^{2}$ [3]

12. Visualize 3.76 on the number line using successive magnification. [3]

13. Prove that $\frac{1}{1+x^{b-a}+x^{c-a}}+\frac{1}{1+x^{a-b}+x^{c-b}}+\frac{1}{1+x^{a-c}+x^{b-c}}=1$