

**Number system**

**Class IX**

**Section A 1 mark each**

1. Define a rational number with example.
2. Find a rational number between  $\frac{-1}{4}$  and  $\frac{-1}{3}$
3. Is every integer is a rational number? Give reason.
4. Express  $0.\overline{53}$  as a vulgar fraction.
5. Simplify  $\left(\frac{9}{25}\right)^{-\frac{3}{2}}$
6. Write an irrational number between  $\sqrt{2}$  and  $\sqrt{3}$

**Section B 2 marks each**

7. Rationalise the denominator  $\frac{1}{\sqrt{3} + \sqrt{7}}$
8. Prove with help of two examples product of a rational and irrational number may be rational or irrational.
9. Rationalise the denominator  $\frac{3 + \sqrt{7}}{3 - 4\sqrt{7}}$
10. Represent  $0.9\overline{3}$  in  $\frac{p}{q}$  form.
11. Represent 1.492 on number line by successive magnification.

**Section C 3 marks each**

12. Represent  $1.\overline{23}$  on number line by successive magnification up to 4 places.
13. Represent  $\sqrt{9.3}$  on number line
14. Represent  $\sqrt{5}$  on number line beginning from  $\sqrt{2}$  by tree method.

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