SUCCESS INSTITUTE   <u>Assignment - 13</u>   9th Class Expert

Q1. Write the following rational numbers in decimal form and what kind of decimal expansion each has :

(i) $\frac{36}{100}$ (ii) $\frac{42}{100}$ (iii) $4\frac{1}{8}$ (iv) $\frac{3}{13}$ (v) $\frac{2}{11}$ (vi) $\frac{329}{400}$ (vii) $\frac{10}{3}$ (viii) $\frac{7}{8}$ (ix) $\frac{1}{7}$

(x) $\frac{1}{11}$ (xi) $\frac{35}{16}$ (xii) $\frac{17}{8}$ (xiii) $\frac{8}{3}$ (xiv) $\frac{15}{4}$ (xv) $\frac{2}{3}$ (xvi) $\frac{2}{15}$

Ans. 1 (i) $0 \cdot 36$ (ii) $0 \cdot 42$ (iii) $4 \cdot 125$ (iv) $0 \cdot \overline{230769}$ (v) $0 \cdot \overline{18}$ (vi) $0 \cdot 8225$ (vii) $3 \cdot \overline{3}$

(viii) $0 \cdot 875$ (ix) $0 \cdot \overline{142857}$ (x) $0 \cdot \overline{09}$ (xi) $2 \cdot 1875$ (xii) $2 \cdot 125$ (xiii) $2 \cdot \overline{6}$ (xiv) $3 \cdot 75$

(xv) $0 \cdot \overline{6}$ (xvi) $0 \cdot 1\overline{3}$

Q2. What can the maximum number of digits be in the repeating block of digits in the decimal expansion of $\frac{1}{17}$?
Ans. 2   16 digits $0 \cdot \overline{0588235294117647}$

Q3. Which numbers have terminating decimal expansion ?   Ans. Rational numbers

Q4. Which numbers have non-terminating but repeating decimal expansion ?   Ans. Rational numbers

Q5. Which numbers have non-terminating and non-repeating decimal expansion ?   Ans. Irrational numbers

Q6. What is Rational number ?
Ans.6 A number which can be written in the form of $\frac{p}{q}$ and $q \neq 0$.

Q7. Express the following in the form of $\frac{p}{q}$, where p and q are integers and $q \neq 0$.

 (i) $0 \cdot 15$ (ii) $0 \cdot 675$ (iii) $15 \cdot 75$ (iv) $0 \cdot \overline{1}$ (v) $0 \cdot \overline{2}$ (vi) $0 \cdot \overline{3}$ (vii) $0 \cdot \overline{4}$ (viii) $0 \cdot \overline{5}$

(ix) $0 \cdot \overline{35}$ (x) $0 \cdot \overline{585}$ (xi) $1 \cdot \overline{27}$ (xii) $0 \cdot \overline{9}$ (xiii) $0 \cdot \overline{001}$ (xiv) $0 \cdot 3\overline{2}$ (xv) $0 \cdot 12\overline{3}$

(xvi) $0 \cdot 003\overline{52}$ (xvii) $0 \cdot 2\overline{35}$ (xviii) $0 \cdot 4\overline{7}$ (xix) $18 \cdot \overline{48}$

Ans. 7 (i) $\frac{3}{20}$ (ii) $\frac{27}{40}$ (iii) $\frac{63}{4}$ (iv) $\frac{1}{9}$ (v) $\frac{2}{9}$ (vi) $\frac{3}{9}$ (vii) $\frac{4}{9}$ (viii) $\frac{5}{9}$

(ix) $\frac{35}{99}$ (x) $\frac{585}{999}$ (xi) $\frac{14}{11}$ (xii) 1 (xiii) $\frac{1}{999}$ (xiv) $\frac{29}{90}$ (xv) $\frac{111}{900}$

(xvi) $\frac{349}{99000}$ (xvii) $\frac{233}{990}$ (xviii) $\frac{43}{90}$ (xix) $\frac{610}{33}$

Q8. What is irrational number ?
Ans.8 A number which cannot be written in the form of $\frac{p}{q}$ and $q \neq 0$.

Q9. What is Real number ?
Ans.9 It is a collection of rational and irrational numbers.