Calculation

&

simplification

One sheet ✓

250 question ✓

10 classes ✓

Recurring decimal :-

पुनरावृत्ति दशमलव

non-terminating but Repeating decimal :-

$0.55555\ldots\ldots\ldots = \cdot\overline{5} = \frac{5}{9}$

$0.727272\ldots\ldots\ldots = \cdot\overline{72} = \frac{72}{99} = \frac{8}{11}$ ✓

माना $x = 0.7777\ldots\ldots$

$10x = 7.777\ldots\ldots$

$-$

$9x = 7$

$x = \frac{7}{9}$

माना $x = 0.6575757\ldots\ldots\ldots$

$10x = 6.575757\ldots\ldots\ldots$

$1000x = 657.5757\ldots\ldots\ldots$

$990x = 657 - 6$

$$x = \frac{657-6}{990}$$

$0.777777\ldots\ldots = \cdot\overline{7} = \frac{7}{9}$

$0.565656\ldots\ldots = \cdot\overline{56} = \frac{56}{99}$

$0.413413\ldots\ldots = \cdot\overline{413} = \frac{413}{999}$

$7.\overline{51865186}\ldots\ldots = 7\cdot\overline{5186} = 7\frac{5186}{9999}$

$5\frac{2}{9} = (5+\frac{2}{9})$

$0.53153153\ldots = 0.\overline{531} = \frac{531}{999} = \frac{59}{111}$

$0.85555\ldots = 0.8\overline{5} = \frac{85-8}{90} = \frac{77}{90}$ ✓

$0.732323232\ldots = 0.7\overline{32} = \frac{732-7}{990} = \frac{725}{990} = \frac{145}{198}$ ✓

0.866666.....= $0.\overset{x}{8}\overline{6} = \frac{86-8}{90} = \frac{78}{90}$

0.5313131.....= $0.\overset{x}{5}\overline{31} = \frac{531-5}{990} = \frac{526}{990}$

0.4377777.....= $0.\overset{xx}{43}\overline{7} = \frac{437-43}{900} = \frac{394}{900}$

$0.8169169\ldots\ldots = 0.\overset{x}{8}\overline{169} = \frac{8169-8}{9990} = \frac{8161}{9990}$ ✓

$0.753434\ldots\ldots = .\overset{xx}{75}\overline{34} = \frac{7534-75}{9900} = \frac{7459}{9900}$ ✓

$$2.\overline{4} = 2 + .\overline{4} = 2 + \frac{4}{9} = \frac{22}{9}$$

$$2.\overline{4} = \frac{24-2}{9} = \frac{22}{9}$$

$$8.5\overline{6} = \frac{856-85}{90} = \frac{771}{90}$$

$$2.\overline{3} = 2+.\overline{3} = 2 + \frac{3}{9} = 2\frac{1}{3} = \frac{7}{3}$$

$$2.\overline{3} = \frac{23-2}{9} = \frac{21}{9} = \frac{7}{3}$$

$$5.\overline{67} = \frac{567-56}{90} = \frac{511}{90}$$

$$+\begin{array}{r} 0.8\overline{6} \\ 0.4\overline{7} \\ \hline \end{array}$$

$$+\begin{array}{r} 0.8666\ \ldots\ldots\ldots\ldots\ldots 6666 \\ 0.4777\ldots\ldots\ldots\ldots\ldots\ldots 7777 \\ \hline \end{array}$$

1.3444……4443

$= 1.3\overline{4}$

1. **Convert these into fraction?**

इन्हें भिन्न में बदलें?

a) $0.\overline{7}$

b) $0.\overline{69}$

c) $0.\overline{813}$

d) $0.7\overline{4}$

e) $0.6\overline{87}$

f) $0.51\overline{7}$

g) $8.67\overline{41} = \frac{8674 - 867}{9900} = \frac{8567}{9900}$

2. **Express $0.4\overline{1}$ as a vulgar fraction.**

$0.4\overline{1}$ को साधारण भिन्न के रूप में व्यक्त करें।

[A] 37/90 ✓

[B] 41/90

[C] 47/90

[D] 31/90

$0.\overline{41} = \frac{41-4}{90}$

Test RanKING

3. **Convert it into vulgar fraction**

इसे साधारण भिन्न (वल्गर फैक्शन) में परिवर्तित करें।

$0.\dot{5}\overline{87}$

(CISF HCM 2023)

[A] $\frac{91}{165}$

[B] $\frac{97}{165}$

[C] $\frac{95}{167}$

[D] $\frac{93}{167}$

$\frac{587-5}{990} = \frac{582}{990} = \frac{97}{165}$

Test RanKING

4. Find the fraction of 0.4686868.....

0.4686868..... का भिन्न ज्ञात कीजिए

UP S.I. 13/11/2021 (Morning)

[A] $\frac{462}{990}$

[B] $\frac{463}{990}$

[C] $\frac{464}{990}$

[D] $\frac{465}{990}$

$0.\overline{4\times68} = \frac{468-4}{990}$

Test RanKING

5. **What is the value of $0.51\overline{345}$ in vulgar fraction?**

$0.51\underline{345}$ का मान साधारण भिन्न में कितना है?

[A] $\frac{51294}{99900}$

[B] $\frac{51294}{90000}$

[C] $\frac{51294}{90990}$

[D] $\frac{52194}{99000}$

Test RanKING

6. **Express the number $6.19\overline{5}$ as a vulgar fraction.**

संख्या $6.19\overline{5}$ को एक साधारण भिन्न के रूप में व्यक्त कीजिए।

[A] $6\frac{44}{225}$

[B] $6\frac{14}{221}$

[C] $6\frac{40}{225}$

[D] $6\frac{44}{221}$

$6+\frac{176}{900}$

7. **Find the value of $\sqrt{2.\overline{77}}$?**

$\sqrt{2.\overline{77}}$ का मान ज्ञात कीजिए ?

[A] 1.6

[B] 1.8

[C] 1.55

[D] $1.\overline{6}$

$$\sqrt{2.\overline{7}} = \sqrt{2+\frac{7}{9}} = \sqrt{\frac{25}{9}} = \frac{5}{3} = 1.666\ldots$$

Test RanKING

8. Simplify/ सरलीकरण

$$\sqrt[3]{0.\overline{037}}$$

$$= \sqrt[3]{\frac{37}{999}}$$

$$= \sqrt[3]{\frac{1}{27}} = \frac{1}{3} = .333\ldots$$

$$= .\overline{3}$$

$37 \times 3 = 111$

Test RanKING

1. If $0.3\overline{72} = \frac{x}{y}$, where x and y are co-prime, then $(x+y)$ what will be the value of $(x+y)$?

यदि $0.3\overline{72} = \frac{x}{y}$ है जहाँ x और y सह-अभाज्य हैं तो $(x+y)$ का मान क्या होगा?

RRB Group D-2022

[A] 151 ✓
[B] 134
[C] 186
[D] 143

$$= 41 + 110$$

$$\cdot 3\overline{72} = \frac{372-3}{990} = \frac{369}{990} = \frac{41}{110}$$

2. a, b and c are three single digit numbers such that 0.abcabcabc..... = 26/37. Find the value of a+b+c?

a, b और c तीन एकल अंक वाली संख्याएं हैं जैसे कि 0.abcabcabc..... = $\frac{26}{37}$, a + b + c का मान ज्ञात कीजिये?

7 0 2

[A] 9
[B] 11
[C] 8
[D] 7

$0.\overline{abc} = \frac{26}{37}$

$\frac{abc}{999} = \frac{26}{37}$

$abc = 702$

Test RanKING

37X3=111

11X13=143

11X17=187

11X19=209

13X17=221

16X14=224

11X12=132

24X25=600

125X8=1000

625X8=5000

3. **M and N are such integers that $0 \leq N \leq 9$ and $\frac{M}{810} = 0.\overline{9N5}$ then the value of $M + N$ is equal to ?**

M और N ऐसे पूर्णांक हैं जो $0 \leq N \leq 9$ और $\frac{M}{810} = 0.\overline{9N5}$ हैं तो M + N का मान बराबर है?

[A] 752 [B] 789

[C] 853 [D] 527

$=75+2$

$\frac{M}{810} = \frac{9N5}{999}$ $N=2$

$999 = 27 \times 37$

$M = 30 \times \frac{925}{37}$

$M = 750$

4. If N = 0.369369369369..... and M = 0.531531531531531..... then what is the value of $\frac{1}{N} + \frac{1}{M}$?

यदि N = 0.369369369369..... और M = 0.531531531531531..... तो $\frac{1}{N} + \frac{1}{M}$ का मान क्या है?

[A] $\frac{11100}{2419} \approx 5$

[B] $\frac{111}{100} = 1.11$

[C] $\frac{1897}{3162}$

[D] $\frac{2419}{11100}$

$N \approx .4$, $M \approx .5$

$\approx \frac{1}{.4} + \frac{1}{.5}$

$\approx 2.5 + 2$

≈ 4.5