

Assignment-2

(Homework)

Ques-1 Insert five number between :-

1.) 2 and 3

$$2 = \frac{2}{1} \times \frac{6}{6} = \frac{12}{6}$$

$$3 = \frac{3}{1} \times \frac{6}{6} = \frac{18}{6}$$

Five rational numbers = $\frac{13}{6}, \frac{14}{3}, \frac{15}{2}, \frac{16}{3}, \frac{17}{6}$
 between 2 and 3 are

OR = $\frac{13}{6}, \frac{7}{3}, \frac{5}{2}, \frac{8}{3}, \frac{17}{6}$

2.) 3 and 9

$$3 = \frac{3}{1}$$

$$9 = \frac{9}{1}$$

Five rational numbers = $\frac{4}{1}, \frac{5}{1}, \frac{6}{1}, \frac{7}{1}, \frac{8}{1}$
 between 3 and 9 are

OR

4, 5, 6, 7, 8

3.) $\frac{1}{3}$ and $\frac{3}{4}$

$$\frac{1}{3} = \frac{1}{3} \times \frac{4}{4} = \frac{4}{12} \times \frac{2}{2} = \frac{8}{24}$$

$$\frac{3}{4} = \frac{3}{4} \times \frac{3}{3} = \frac{9}{12} \times \frac{2}{2} = \frac{18}{24}$$

$$\begin{array}{r} \text{LCM} \\ 2 \overline{) 3, 4} \\ 2 \overline{) 3, 2} \\ 3 \overline{) 3, 1} \\ \downarrow \downarrow \\ \text{LCM} = 12 \end{array}$$

Five rational numbers between $\frac{1}{3}$ and $\frac{3}{4}$ are $\frac{9}{24}, \frac{5}{12}, \frac{10}{24}, \frac{11}{24}, \frac{12}{24}$

$$\frac{3}{8}, \frac{5}{12}, \frac{11}{24}, \frac{1}{2}, \frac{13}{24}$$

Ques-2 Insert seven numbers between:-

i) $\frac{1}{7}$ and $\frac{2}{8}$

$$\frac{1}{7} = \frac{1}{7} \times \frac{8}{8} = \frac{8}{56} \times \frac{2}{2} = \frac{16}{112}$$

$$\frac{2}{8} = \frac{2}{8} \times \frac{7}{7} = \frac{14}{56} \times \frac{2}{2} = \frac{28}{112}$$

$$\begin{array}{r} 2 \overline{) 7, 8} \\ 2 \overline{) 7, 4} \\ 2 \overline{) 7, 2} \\ 2 \overline{) 7, 1} \\ \downarrow \downarrow \\ \text{LCM} = 56 \end{array}$$

Seven rational numbers between $\frac{1}{7}$ and $\frac{2}{8}$ are $\frac{17}{112}, \frac{18}{112}, \frac{19}{112}, \frac{20}{112}, \frac{21}{112}, \frac{22}{112}, \frac{23}{112}$

$$\frac{17}{112}, \frac{9}{56}, \frac{19}{112}, \frac{5}{28}, \frac{3}{16}$$

ii.) $\frac{1}{9}$ and $\frac{1}{11}$

$$\frac{1}{9} \times \frac{11}{11} = \frac{11}{99} \times \frac{6}{6} = \frac{66}{594}$$

$$\frac{1}{11} \times \frac{9}{9} = \frac{9}{99} \times \frac{6}{6} = \frac{54}{594}$$

LCM

$$\begin{array}{r} 3 \overline{) 99} \\ \underline{33} \\ 66 \\ \underline{66} \\ 00 \end{array}$$

$$\begin{array}{r} 3 \overline{) 33} \\ \underline{33} \\ 00 \end{array}$$

$$\begin{array}{r} 11 \overline{) 11} \\ \underline{11} \\ 00 \end{array}$$
 LCM = 99

Seven rational numbers = $\frac{55}{594}$, $\frac{56^{28}}{594}$, $\frac{57^{19}}{594}$, $\frac{58^{29}}{594}$, $\frac{59}{594}$
 between $\frac{1}{9}$ and $\frac{1}{11}$ are $\frac{594}{297}$, $\frac{594}{198}$, $\frac{594}{297}$

OR

$$\frac{55}{594}, \frac{28}{297}, \frac{19}{198}, \frac{29}{297}, \frac{59}{594}$$