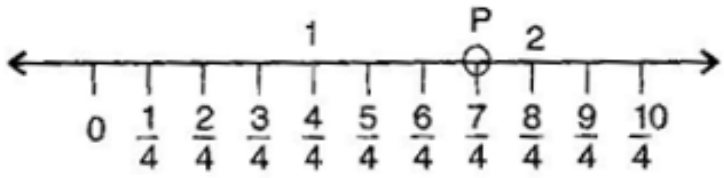
NCERT SOLUTIONS FOR CLASS 8 MATHS RATIONAL NUMBERS EX-1.2

Q1. Represent these numbers on the number line:

(i) $\frac{7}{4}$

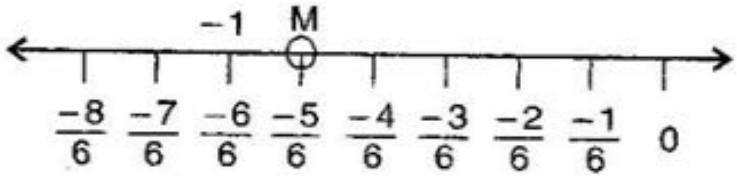
(ii) $\frac{-5}{6}$

Ans: (i) $\frac{7}{4} = 1\frac{3}{4}$



Here, P = $1\frac{3}{4} = \frac{7}{4}$

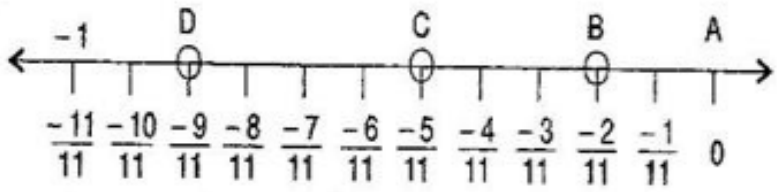
(ii) $\frac{-5}{6}$



Here, M = $\frac{-5}{6}$

Q2. Represent $\frac{-2}{11}, \frac{-5}{11}, \frac{-9}{11}$ on the number line.

Ans: Here, B = $\frac{-2}{11}$, C = $\frac{-5}{11}$ and D = $\frac{-9}{11}$



Q3. Write five rational numbers which are smaller than 2.

Ans: $\frac{1}{3}, \frac{1}{4}, \frac{1}{2}, \frac{-1}{2}, \frac{-1}{5}$ and so on.

Q4. Find ten rational numbers between $\frac{-2}{5}$ and $\frac{1}{2}$.

Ans: $\frac{-2}{5}$ and $\frac{1}{2}$

Here, L.C.M. of 5 and 2 is 10.

$\therefore \frac{-2}{5}\times\frac{2}{2}=\frac{-4}{10}$ and $\frac{1}{2}\times\frac{5}{5}=\frac{5}{10}$

Again, $\frac{-4}{10}\times\frac{2}{2}=\frac{-8}{20}$ and $\frac{5}{10}\times\frac{2}{2}=\frac{10}{20}$

$\therefore$ Ten rational number between $\frac{-2}{5}$ and $\frac{1}{2}$ are

$\frac{-7}{20}, \frac{-6}{20}, \frac{-5}{20}, \frac{-4}{20}, \frac{-3}{20}, \frac{-2}{20}, \frac{-1}{20}, 0, \frac{1}{20}, \frac{2}{20}$.

Q5. Find five rational numbers between:

(i) $\frac{2}{3}$ and $\frac{4}{5}$

(ii) $\frac{-3}{2}$ and $\frac{5}{3}$

(iii) $\frac{1}{4}$ and $\frac{1}{2}$

Ans: (i) $\frac{2}{3}$ and $\frac{4}{5}$

L.C.M. of 3 and 5 is 15.

$\therefore \frac{2}{3}\times\frac{5}{5}=\frac{10}{15}$ and $\frac{4}{5}\times\frac{3}{3}=\frac{12}{15}$

Again $\frac{10}{15}\times\frac{4}{4}=\frac{40}{60}$ and $\frac{12}{15}\times\frac{4}{4}=\frac{48}{60}$

$\therefore$ Five rational numbers between $\frac{2}{3}$ and $\frac{4}{5}$ are

$\frac{41}{60}, \frac{42}{60}, \frac{43}{60}, \frac{44}{60}, \frac{45}{60}$.

(ii) $\frac{-3}{2}$ and $\frac{5}{3}$

L.C.M. of 2 and 3 is 6.

$\therefore \frac{-3}{2} \times \frac{3}{3} = \frac{-9}{6}$ and $\frac{5}{3} \times \frac{2}{2} = \frac{10}{6}$

$\therefore$ Five rational numbers between $\frac{-3}{2}$ and $\frac{5}{3}$ are

$\frac{-8}{6}, \frac{-7}{6}, 0, \frac{1}{6}, \frac{2}{6}$.

(iii) $\frac{1}{4}$ and $\frac{1}{2}$

L.C.M. of 4 and 2 is 4.

$\therefore \frac{1}{4} \times \frac{1}{1} = \frac{1}{4}$ and $\frac{1}{2} \times \frac{2}{2} = \frac{2}{4}$

Again $\frac{1}{4}\times\frac{8}{8}=\frac{8}{32}$ and $\frac{2}{4}\times\frac{8}{8}=\frac{16}{32}$

$\therefore$ Five rational numbers between $\frac{1}{4}$ and $\frac{1}{2}$ are

$\frac{9}{32},\frac{10}{32},\frac{11}{32},\frac{12}{32},\frac{13}{32}$.

Q6. Write 5 rational numbers greater than -2.

Ans: Five rational numbers greater than -2 are:

$\frac{-3}{2},-1,\frac{-1}{2},0,\frac{1}{2}$

[Other rational numbers may also be possible]

Q7. Find ten rational numbers between $\frac{3}{5}$ and $\frac{3}{4}$.

Ans: $\frac{3}{5}$ and $\frac{3}{4}$

L.C.M. of 5 and 4 is 20.

$\therefore \frac{3}{5}\times\frac{4}{4}=\frac{12}{20}$ and $\frac{3}{4}\times\frac{5}{5}=\frac{15}{20}$

Again $\frac{12}{20}\times\frac{8}{8}=\frac{96}{160}$ and $\frac{15}{20}\times\frac{8}{8}=\frac{120}{160}$

$\therefore$ Five rational numbers between $\frac{3}{5}$ and $\frac{3}{4}$ are:

$\frac{97}{160},\frac{98}{160},\frac{99}{160},\frac{100}{160},\frac{101}{160},\frac{102}{160},\frac{103}{160},\frac{104}{160},\frac{105}{160},\frac{106}{160}$.

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