STD - VIII · MATHS

CHPT-1 (RATIONAL NUMBERS)

A rational numbers are numbers which can be expressed in the form $\frac{a}{b}$, where a and b are integers and $b \neq 0$.

eg. $\frac{5}{7}, \frac{-8}{9}, 6$

Properties of Addition of Rational Numbers

1) Commutative Property $\frac{a}{b} + \frac{c}{d} = \frac{c}{d} + \frac{a}{b}$.

2) Associative Property $\left(\frac{a}{b} + \frac{c}{d}\right) + \frac{e}{f} = \frac{a}{b} + \left(\frac{c}{d} + \frac{e}{f}\right)$

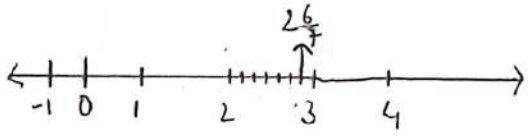
Properties of Substraction of Rational Numbers

1) Commutative Property $\frac{a}{b} - \frac{c}{d} \neq \frac{c}{d} - \frac{a}{b}$

2) Associative Property $\frac{a}{b} - \left(\frac{c}{d} - \frac{e}{f}\right) \neq \left(\frac{a}{b} - \frac{c}{d}\right) - \frac{e}{f}$

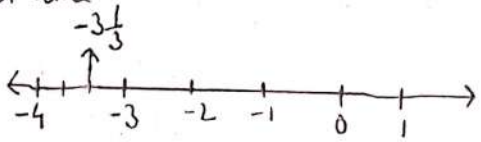
Q) Represent $\frac{20}{7}$ on number line.

Sol. $\frac{20}{7} = 2 + \frac{6}{7}$



Q) Represent $-\frac{10}{3}$ on number line.

Sol. $-\frac{10}{3} = -\left(3 + \frac{1}{3}\right)$



Q) Find a rational number between $\frac{1}{3}$ and $\frac{1}{4}$

Sol. $\frac{1}{2}\left(\frac{1}{3} + \frac{1}{4}\right) = \frac{1}{2}\left(\frac{4+3}{12}\right) = \frac{1}{2} \times \frac{7}{12} = \frac{7}{24}$

Therefore $\frac{1}{3} < \frac{7}{24} < \frac{1}{4}$. Ans

Home work (In School Copy)

Ex 1.1 → Q 1(vi)(vii)(viii), 2(iv), 3(i), 4(i) 5(ii), 7(iii)(v), 9.

Ex 1.2 → Q. 1(v)(vi), 2(v)(vi), 5(v)(vi).

Ex 1.3 → Q 1(v)(vi), 2(iii)(iv), 6(ii)(iv), 8(ii)(iv), 10(iii)

Ex 1.4 → Q 1(vi), 2(v)(vi), 3(iii)(v)

Ex 1.5 → Q 4, 5, 6 Ex 1.6 → Q 2, 3, 6. Ex 1.7 → Q 3, 6, 9, 12, 15, 17.

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