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Teaching Learning Material

Class – 7th   Subject – Mathematics

Section – All   Subject teacher –Bandana Kumari

Rational number

Subtraction Of Rational Numbers

EXAMPLES:-

1. Subtract $\frac{5}{7}$ from $\frac{18}{7}$.

Sol. $\frac{18}{7} - \frac{5}{7} = \frac{18}{7} + \left(\frac{-5}{7}\right)$

$$= \frac{18+(-5)}{7} = \frac{13}{7} = 1\frac{6}{7} \underline{Ans.}$$

2. Subtract $\frac{-3}{8}$ from $\frac{-5}{4}$.

Sol. $\frac{-5}{4} - \left(\frac{-3}{8}\right) = \frac{-5}{4} + \left(\frac{3}{8}\right)$

$$\left\{\frac{3}{8} \text{ is the additive inverse of } \frac{-3}{8}\right\}$$

$$= \frac{(-5)\times2+3\times1}{8} = \frac{-10+3}{8} = \frac{-7}{8}\underline{Ans.}$$

3. Simplify $\frac{3}{8} + \frac{-5}{6} - \left(\frac{-3}{4}\right)$

Sol. $\frac{3}{8} + \frac{-5}{6} - \left(\frac{-3}{4}\right) = \frac{3\times3 + (-5)\times4 + 3\times6}{24}$

$$= \frac{9 +(-20) + 18}{24} = \frac{7}{24} \underline{Ans.}$$

4. The sum of two rational numbers is $\frac{2}{5}$. If one of the rational number is $\frac{-3}{7}$, find the other.

Sol. sum of two rational numbers $= \frac{2}{5}$

One rational number $= \frac{-3}{7}$

Other rational number $=$ sum $-$ given rational number

$$= \frac{2}{5} - \left(\frac{-3}{7}\right) = \frac{2}{5} + \frac{3}{7}$$

$$= \frac{(2 \times 7) + (3 \times 5)}{35}$$

$$= \frac{14 + 15}{35} = \frac{29}{35} \underline{\underline{Ans.}}$$

We can check the result

$$\frac{-3}{7} + \frac{29}{35} = \frac{(-3) \times 5 + 29}{35}$$

$$= \frac{-15 + 29}{35} = \frac{14}{35} = \frac{2}{5}$$

5. What number should be added to $\frac{-3}{5}$ to get $\frac{4}{3}$?

Sol. we have the sum of two rational numbers $= \frac{4}{3}$

One of the numbers is $= \frac{-3}{5}$

So, Other rational number $=$ sum $-$ given rational number

$$= \frac{4}{3} - \left(\frac{-3}{5}\right) = \frac{4}{3} + \frac{3}{5}$$

$$= \frac{(4 \times 5) + (3 \times 3)}{15} = \frac{20 + 9}{15} = \frac{29}{15} \underline{\underline{Ans.}}$$

Check the result

$$\frac{29}{15} + \left(\frac{-3}{5}\right) = \frac{29 + (-3) \times 3}{15} = \frac{29 + (-9)}{15} = \frac{20}{15} = \frac{4}{3}$$

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