Worksheet-4   Subject: - Mathematics   Class: - VIII   Teacher: - Ms. Neeru

Name: _____ Class & Sec: _____ Roll No. _____ Date: 14.03.2020

Topic: Rational Numbers: Notes & Ex 1.1 H.W

Examples:

Q-1 Find $\frac{3}{7} + \left(\frac{-6}{11}\right) + \left(\frac{-8}{21}\right) + \frac{5}{22}$

Sol. $\left(\frac{3}{7} + \frac{(-8)}{21}\right) + \left(\frac{-6}{11} + \frac{5}{22}\right)$ using commutative property

$= \left(\frac{9-8}{21}\right) + \left(\frac{-12+5}{22}\right)$

$= \frac{1}{21} + \frac{(-12)(-7)}{22}$

$= \frac{1}{21} - \frac{7}{22}$

$= \left(\frac{1 \times 22}{21 \times 22}\right) - \left(\frac{7 \times 21}{22 \times 21}\right)$

$= \frac{22 - 147}{462}$

$= \frac{-126}{22} \quad \frac{-125}{462}$

Ex -2 Find

$$\frac{-4}{5} \times \frac{3}{7} \times \frac{15}{16} \times \frac{-14}{9}$$

$$= \left(\frac{-4}{5} \times \frac{\overset{3}{15}}{\underset{4}{16}}\right) \times \left(\frac{3}{7} \times \frac{-14}{39}\right)$$

$$= \frac{-3}{4} \times \frac{(-2)}{3}$$

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

Ex 3 Write the additive inverse of the following:

i) $\frac{-7}{19}$

$$\frac{-7}{19} + \frac{7}{19} = 0$$

additive inverse of $\frac{7}{19}$ is $\frac{7}{19}$

ii) $\frac{21}{112}$

$$\frac{21}{112} - \frac{21}{112} = 0$$

$\frac{-21}{112}$ is the additive inverse of $\frac{21}{112}$.

Q4 Verify that $-(-x)$ is the same as x for:

i) $x = \dfrac{13}{17}$

<u>LHS</u>

$= -(-x)$

$= -\left(-\dfrac{13}{17}\right)$

$= x = \dfrac{13}{17}$

<u>RHS</u>

x

$x = \dfrac{13}{7}$

Hence, verified.

ii) $x = \dfrac{-21}{31}$

<u>LHS</u>

$= -(-x)$

$= +\left(+\left(\dfrac{-21}{31}\right)\right)$

$= x = \dfrac{-21}{31}$

<u>RHS</u>

$= x$

$x = \dfrac{-21}{31}$

Hence, verified

Q.5 Find $\dfrac{2}{5} \times \dfrac{-3}{7} - \dfrac{1}{14} - \dfrac{3}{7} \times \dfrac{3}{5}$

$= \dfrac{2}{5} \times \dfrac{-3}{7} - \dfrac{1}{14} - \dfrac{3}{7} \times \dfrac{3}{5}$

$= \dfrac{-3}{7} \times \left(\dfrac{2}{5} + \dfrac{3}{5} \right) - \dfrac{1}{14}$ using associative property

$= \dfrac{-3}{7} \times \dfrac{5}{5} - \dfrac{1}{14}$

$= \dfrac{-15}{36} - \dfrac{1}{14}$

$= \dfrac{-30}{70} - \dfrac{5}{70}$

$= \dfrac{-35}{70} = \dfrac{-1}{2}$