Q3. Find the additive inverse and multiplicative inverse of each of the following:

i) $\frac{1}{3}$ ii) $\frac{23}{9}$ iii) -18 iv) $\frac{-17}{8}$ v) $\frac{5}{-14}$ vi) $\frac{-16}{5}$ vii) $\frac{-3}{11}$ viii) $\frac{-3}{11}$ ix) $\frac{19}{-6}$ x) $\frac{-8}{-7}$

Q4. Using commutativity and associativity of addition of rational numbers, express each of the following as a rational number:

i) $\frac{2}{5} + \frac{7}{3} + \frac{-4}{5} + \frac{-1}{3}$

ii) $\frac{3}{7} + \frac{-4}{9} + \frac{-11}{7} + \frac{7}{9}$

iii) $\frac{2}{5} + \frac{8}{3} + \frac{-11}{15} + \frac{4}{5} + \frac{-2}{3}$

iv) $\frac{4}{7} + 0 + \frac{-8}{9} + \frac{-13}{7} + \frac{17}{21}$

Q5. Rearrange suitably and find the sum in each of the following:

i) $\frac{11}{12} + \frac{-17}{3} + \frac{11}{2} + \frac{-25}{2}$

ii) $\frac{-6}{7} + \frac{-5}{6} + \frac{-4}{9} + \frac{-15}{7}$

iii) $\frac{3}{5} + \frac{7}{3} + \frac{9}{5} + \frac{-13}{15} + \frac{-7}{3}$

iv) $\frac{4}{13} + \frac{-5}{8} + \frac{-8}{13} + \frac{9}{13}$

v) $\frac{2}{3} + \frac{-4}{5} + \frac{1}{3} + \frac{2}{5}$

vi) $\frac{1}{8} + \frac{5}{12} + \frac{2}{7} + \frac{7}{12} + \frac{9}{7} + \frac{-5}{16}$

Q6. Find out three rational numbers lying between:

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

ii) 2 and 3

iii) $\frac{-1}{3}$ and $\frac{1}{2}$

iv) -3 and -2

v) $\frac{-4}{8}$ and $\frac{3}{8}$

vi) $\frac{7}{13}$ and $\frac{-4}{13}$

vii) 4 and 5

viii) $\frac{2}{3}$ and $\frac{3}{4}$

Q7. Represent the following on the number lines

i) $\frac{3}{4}$ ii) $\frac{4}{5}$ iii) $\frac{11}{4}$ iv) $\frac{7}{2}$ v) $-\frac{2}{3}$ vi) $\frac{-5}{6}$ vii) $-\frac{9}{5}$ viii) $-\frac{11}{3}$

Q8. Let a, b and c be the three rational numbers where $a=\frac{2}{3}$, $b=\frac{4}{5}$, $c=\frac{-5}{6}$

Verify:

i) $a + (b+c) = (a+b) + c$

ii) $a \times (b \times c) = (a \times b) \times c$

Q9. The product of two rational numbers is -7. If one of the numbers is -10, find the other.

Q10. Verify the property $x+y = y+x$ of rational numbers when:

i) $x=\frac{1}{2}, y=\frac{1}{2}$

ii) $x=\frac{-2}{3}, y=\frac{-5}{6}$

iii) $x=\frac{-3}{7}, y=\frac{20}{21}$

iv) $x=\frac{-2}{5}, y=\frac{-9}{10}$

Q11. Verify the property $x \times (y \times z) = (x \times y) \times z$ of rational numbers when:

i) $x=1, y=\frac{-1}{2}, z=\frac{1}{4}$

ii) $x=\frac{2}{3}, y=\frac{-3}{7}, z=\frac{1}{2}$

iii) $x=\frac{-2}{7}, y=\frac{-5}{6}, z=\frac{1}{4}$

iv) $x=0, y=\frac{1}{2}, z=\frac{1}{2}$

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Q12. Use the distributivity property of multiplication over addition to simplify:

i) $\frac{3}{5} \times \left[\frac{35}{24} + \frac{10}{1}\right]$

ii) $\frac{-5}{4} \times \left[\frac{8}{5} + \frac{16}{15}\right]$

iii) $\frac{2}{7} \times \left[\frac{7}{16} - \frac{21}{4}\right]$

iv) $\frac{3}{4} \times \left[\frac{8}{9} - 40\right]$

Q13. The cost of $\frac{19}{4}$ metres of wire is ₹ $\frac{171}{2}$. Find the cost of one metre of the wire.

Q14. $\frac{2}{5}$ of total number of students of a school come by car while $\frac{1}{4}^{th}$ of students come by bus to school. All the other students walk to school of which $\frac{1}{3}^{rd}$ walk on their own and the rest are escorted by their parent $\frac{3}{5}$. If 224 students come to school walking on their own, how many students study in that school?

Q15. Find:
i) The sum of additive inverse and multiplication inverse of 7.
ii) The product of additive inverse and multiplicative inverse of $\frac{1}{3}$.

ACTIVITY:

1. DATA HANDLING:
Make a single bar graph representing the number of COVID-19 patients in Maharashtra from 1st week of March '20 to 1st week of May '20 by choosing appropiate scale.

2. RATIONAL NUMBERS:
Make a model of any five examples of rational numbers on a number line using ribbon, strip of cloth and by stapling cut outs of papers to represent the rational numbers.

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PAWAR PUBLIC SCHOOL, NANDED CITY

STD: VIII, HOLIDAY H·W, 2020-21

DATE: 11 MAY/20

CHAPTER: 1 : RATIONAL NUMBERS

SUBJECT: MATHEMATICS

NOTE: Holiday H·W constitutes:

1. Worksheet
2. Activities : 2
3. The above two to be solved in notebook by May 30.

HOLIDAY H·W
CHAPTER 1· RATIONAL NUMBERS

Q1. Verify the following:

i) $-\frac{12}{5}+\frac{2}{7}=\frac{2}{7}+\left(-\frac{12}{7}\right)$

ii) $-\frac{5}{8}+\left(-\frac{9}{13}\right)=\left(-\frac{9}{13}\right)+\left(-\frac{5}{8}\right)$

iii) $3+\left(\frac{-7}{12}\right)=\left(\frac{-7}{12}\right)+3$

iv) $\frac{2}{-7}+\frac{12}{-35}=\frac{12}{-35}+\frac{2}{-7}$

Q2. Fill in the blanks:

i) $\frac{-3}{17}+\frac{-12}{5}=\frac{-12}{5}+\left(\frac{\square}{\square}\right)$

ii) $-9+\left(-\frac{21}{8}\right)=\left(\frac{\square}{\square}\right)+(-9)$

iii) $\left(\frac{-8}{13}+\frac{3}{7}\right)+\left(-\frac{13}{4}\right)=\left(\frac{\square}{\square}\right)+\left[\frac{3}{7}+\left(-\frac{13}{4}\right)\right]$

iv) $-12+\left(\frac{7}{12}+\frac{-9}{11}\right)=\left(-12+\frac{7}{12}\right)+\left(\frac{\square}{\square}\right)$

v) $\frac{19}{-5}+\left(\frac{-3}{11}+\frac{-7}{8}\right)=\left\{\frac{19}{-5}+\left(\frac{\square}{\square}\right)\right\}$

vi) $\frac{-16}{7}+\frac{\square}{\square}=\frac{\square}{\square}+\frac{-16}{7}=\frac{-16}{7}$

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