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(Affiliated to CBSE up to +2 Level)

CLASS: VIII

SUB.: MATHS

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2. Add the following rational numbers :

(a) $\frac{-7}{5}$ and $\frac{2}{7}$ (b) $\frac{-9}{13}$ and $\frac{-8}{5}$ (c) $\frac{3}{4}$ and $\frac{-2}{5}$

(d) $\frac{2}{-7}$ and $\frac{4}{-21}$ (e) 0 and $\frac{-4}{5}$.

3. Verify that $a + b = b + a$ by taking

(a) $a = 6$ and $b = \frac{3}{5}$ (b) $a = \frac{2}{3}$ and $b = \frac{-3}{7}$

(c) $a = \frac{-3}{11}$ and $b = \frac{-4}{7}$ (d) $a = -3$, $b = \frac{-7}{12}$.

4. Verify that $(a + b) + c = a + (b + c)$ by taking

(a) $a = \frac{-2}{3}$, $b = \frac{5}{6}$ and $c = \frac{-5}{8}$

(b) $a = \frac{-9}{11}$, $b = \frac{3}{-5}$ and $c = \frac{-9}{22}$

(c) $a = -1$, $b = \left(\frac{-2}{3}\right)$ and $c = \frac{-3}{4}$.

5. Find the additive inverse of each of the following:

(a) $\frac{-1}{3}$ (b) $\frac{-23}{9}$ (c) 18

(d) $\frac{17}{8}$ (e) $\frac{15}{4}$ (f) $\frac{-3}{-5}$

(g) $\frac{-3}{8}$ (h) $\frac{-42}{-7}$ (i) -8

(j) $\frac{5}{26}$.

6. Subtract :

(a) $\frac{3}{7}$ from $\frac{2}{3}$ (b) 6 from $\frac{3}{5}$ (c) $\frac{-4}{7}$ from $\frac{-3}{11}$.

7. Subtract :

(a) 0 from $\frac{4}{7}$ (b) $\frac{4}{7}$ from 0

Are the two results same?

8. Add the following using the rearrangement property:

(a) $\frac{2}{3} + \frac{-4}{5} + \frac{-2}{3} + 1 + \frac{-11}{15}$

(b) $\frac{5}{8} + \frac{-8}{9} + 0 + \frac{-13}{3} + \frac{17}{24}$

(c) $\frac{-13}{20} + \frac{11}{14} + \frac{-5}{7} + 1$

(d) $\frac{4}{7} + \frac{-8}{9} + \frac{-5}{21} + \frac{1}{3}$.

9. The sum of two rational numbers is $\frac{2}{3}$. If one of the numbers is $\frac{-1}{6}$, find the other.

10. The sum of two rational numbers is $\frac{3}{20}$. If one of the numbers is $\frac{3}{4}$, find the other.

11. What number should be added to $\frac{-7}{12}$ to get $\frac{1}{24}$?

12. What number should be added to $\frac{3}{4}$ to get $\frac{-1}{4}$?

13. What number should be subtracted from $\frac{3}{20}$ to get $\frac{3}{4}$?

14. State, yes or no.

(a) Is the sum of any two rational numbers also a rational number ?

(b) Is addition of rational numbers associative ?

(c) Is addition of rational numbers commutative?

(d) Is negative of a negative rational number positive ?

(e) Is subtraction of rational numbers commutative ?

(f) Rational number 0 is its own additive inverse ?

(g) Rational number 0 is additive identity of rational numbers ?

(h) Is the difference of 0 and a rational number, the rational number itself ?