

CLASS NOTES

Class: VIII

Topic: CH – 1. RATIONAL NUMBERS

Subject: MATHEMATICS

CH – 2. LINEAR EQUATION IN ONE VARIABLE

Q1. CHOOSE THE CORRECT OPTION FOR(Q I to v):

(i) A rational number between 3 and 4 is :

- (a) $\frac{3}{4}$
- (b) $\frac{2}{4}$
- (c) $\frac{2}{7}$
- (d) $\frac{7}{2}$

(ii) In a two digit number, the unit digit is x and the ten's digit is y. Then, the number is written as:

- (a) $10y + x$
- (b) $10x + y$
- (c) $10y - x$
- (d) $10x - y$

(iii) $\frac{3}{4}$ part of a number is 5 more than its $\frac{2}{3}$ part. This statement in the form of equation is:

- (a) $\frac{2}{3}x - \frac{3}{4}x = 5$
- (b) $\frac{2}{3}x - 5 = \frac{3}{4}x$
- (c) $\frac{3}{4}x = \frac{2}{3}x + 5$
- (d) $\frac{3}{4}x - 5 = \frac{-2}{3}x$

(iv) What property, does the following expression shows? $\frac{2}{3} + \frac{4}{5} = \frac{4}{5} + \frac{2}{3}$

- (a) commutative property of multiplication
- (b) associative property of multiplication
- (c) commutative property of addition
- (d) associative property of addition

(v) The additive inverse of $\frac{-6}{7}$ is :

- (a) 0
- (b) 1
- (c) $\frac{6}{7}$
- (d) $-\frac{7}{6}$

Q2. Very short answer type questions:

- a) Write the multiplicative and additive identities of rational numbers.
- b) Write the three consecutive multiples of 8 using the variable x.
- c) Write two such rational numbers whose multiplicative inverse is same as they are.
- d) Find the root of the equation $9z - 15 = 9 - 3z$.
- e) What is the equivalent rational number of $7/9$, whose denominator is 45.
- f) Two angles are supplementary. One angle is double the other, then find the larger angle.
- g) Evaluate: $(\frac{7}{5} \times \frac{-3}{12}) + (\frac{7}{5} \times \frac{-9}{12})$ —
- h) Find the value of m in the equation: $m = \frac{3}{4} (m + 2)$

Q3. Long answer type questions:

- a) Let a, b, c be the three rational numbers where $a = 2/3$, $b = 4/5$ and $c = -5/6$
Verify:
(i) $a + (b + c) = (a + b) + c$ (Associative property of addition)
(ii) $a \times (b \times c) = (a \times b) \times c$ (Associative property of multiplication)
- b) Find for x : $15(x - 4) - 3(x - 9) + 5(x + 6) = 0$
- c) A father is three times as old as his son. After twelve years, his age will be twice that of his son. Find their present ages.
- d) Divide the sum of $\frac{7}{8}$ and $\frac{15}{24}$ by the reciprocal of their difference.
- e) Evaluate using suitable properties: $\frac{2}{5} \times \frac{-3}{7} - \frac{1}{6} \times \frac{3}{2} + \frac{1}{14} \times \frac{2}{5}$
- f) Perimeter of a rectangle is 13cm. If its width is $11/4$ cm, find its length.
- g) Find for x : (i) $\frac{4x+7}{9-3x} = \frac{1}{4}$ (ii) $\frac{2x+7}{5} - \frac{3x+11}{2} = \frac{2x+8}{3} - 5$

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NOTE: THE STUDENTS ARE ADVISED TO SOLVE THESE QUESTIONS AS THEIR DRILL ACTIVITY.

LEARNING OUTCOMES:

- *The student is able to apply the properties of addition, subtraction, multiplication and division of rational numbers.
- *The student is able to observe situations that lead to simple equations and solve them using suitable processes.

