

North-Ex Public School (Recognized)

Class 7

Mathematics Worksheet (Rational numbers)

Note: Before attempting the worksheet you must check links given below which will help you in solving the sums;-

Links :- 1. <https://youtu.be/yHaMfhPAqUM>

2. <https://youtu.be/qp5EHeg9FdU>

3. <https://youtu.be/A6wf-lbnmlQ>

CH : 3 RATIONAL NUMBERS (SUMMARY)

- A number can be expressed in the form p/q , where p and q are integers and $q \neq 0$ is called a rational number.
- On multiplying the numerator and denominator of a rational number by same non-zero integer, we obtain equivalent rational numbers.
- If p and q both have same sign whether positive or negative it is called positive rational number.
- A rational number is said to be in the standard form if its denominator is a positive integer and the numerator and denominator have no common factor other than 1.
- To compare two rational numbers, reduce them to their standard form and then compare them as we compare the fraction.
- We can find infinite number of rational numbers between any two given rational numbers.
- The additive inverse of rational number is the number which when added to given number gives the sum as zero.
- To subtract the two rational numbers we add the additive inverse of the rational numbers that is being, subtracted, to the other rational number.
- Rational number * rational number = $\frac{\text{product of numerator}}{\text{product of denominator}}$
- To divide one rational number by the other rational number we multiply the rational number by the inverse of the other.

WORKSHEET 2

1. Represent the following rational numbers on the number line:-
(a) $-1/3$ (b) $-3/8$ (c) $4/5$.
2. To find 3 rational numbers between $1/3$ and $4/5$.
3. Add $-7/10$ and $5/14$.
4. Subtract $5/9$ from $10/3$.
5. The sum of two rational numbers is -4 . If one of them is $-11/5$. Find the other.
6. What should be added to $-3/5$ to get $-1/3$?
7. What should be subtracted from $-2/3$ to get $3/4$?
8. Evaluate: - (a) $-3/5 \times 10/7$ (b) $(-5/6 \times -2/3)$.
9. Find the product : $-2/11$ and $-6/5$.
10. Divide (a) $8/9$ by $4/5$. (b) $5/11$ by $-15/22$
11. The price of 13 key chain is Rs. $403/2$. Find the cost of one key Chain.
12. Divide the sum of $4/5$ and $6/11$ by their difference.
13. Find the area of square field with side $13/4$ m.

14. $8\frac{1}{4}$ liters of milk was poured equally into 9 small containers. How much milk will be there in each container?
15. The product of two rational numbers is $-\frac{3}{2}$. One of the number is $-\frac{5}{13}$. Find the other rational number.
16. The speed of the car is 70 km / hr. Find the distance covered in $\frac{7}{2}$ hrs. of journey.
17. By what rational number should $-\frac{8}{9}$ be divided to get $-\frac{5}{8}$?
18. Divide the sum of $\frac{1}{2}$ and $\frac{1}{3}$ by $\frac{15}{12}$.
19. Find the product of multiplicative inverse of -2 and additive inverse of -4.
20. CROSSWORD PUZZLE

CROSSWORD PUZZLE

Across

1. A number in the form of $\frac{p}{q}$ is which type of number?
8. If $\frac{p}{q} \times \frac{r}{s} = 1$ then $\frac{r}{s}$ is which type of inverse of $\frac{p}{q}$?
9. It is a rational number that is neither positive nor negative.

Down

2. How many rational numbers can be determined between 1 and 1.1?
3. Denominator of a rational number whose prime factors are $2 \times 2 \times 2 \times 5$ is which type of decimal?
4. What is $-\frac{5}{8}$ of $-\frac{8}{5}$?
5. Which type of a rational number is obtained by multiplying the numerator and denominator by same non-zero number?
6. Rational numbers include all integers and
7. What type of rational number is $\frac{a}{-b}$?
10. The product of a number and its reciprocal is always

SOLUTIONS (Worksheet 1)

Page No. _____
Date: _____

Solution of worksheet 1
class VII
Ch. 3 Rational numbers

1. Reduce $\frac{24}{46}$ in standard form
$$\frac{24 \div 2}{46 \div 2} = \frac{12}{23}$$

2. Which is Greater
 $\frac{5}{7}$ or $\frac{2}{5}$

$\frac{5}{7} \times \frac{2}{5}$ cross multiplication
 5×5 2×7
 25 14
 $\frac{5}{7}$ is Greater.

3. Which is smaller.
 $\frac{4}{9}$ or $\frac{6}{7}$

$\frac{4}{9} \times \frac{6}{7}$ cross multiplication
 4×7 6×9
 28 < 54
 $\frac{4}{9}$ is smaller.

4. write in ascending order.
 $\frac{1}{3}, \frac{2}{5}, \frac{14}{3}, \frac{2}{15}$

$5, 6, 20, 2$
 15

L.C.M
 $3 \overline{) 3, 5, 3, 15}$
 $5 \overline{) 1, 5, 1, 5}$
 $\frac{1}{3} \times 5 = 15$

Ascending order $2 < 5 < 6 < 20$

$$\frac{2}{15} < \frac{1}{3} < \frac{2}{5} < \frac{4}{3}$$

5. 4 Rational numbers equivalent to :-

$$\frac{3}{8} = \frac{3 \times 2}{8 \times 2} = \frac{6}{16}$$

$$\frac{3}{8} \times \frac{3}{3} = \frac{9}{24}$$

$$\frac{3}{8} \times \frac{4}{4} = \frac{12}{32}$$

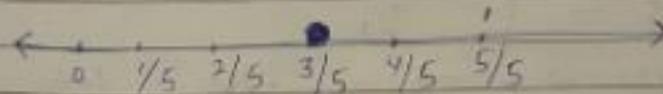
$$\frac{-7}{5} = \frac{-7 \times 2}{5 \times 2} = \frac{-14}{10}$$

$$\frac{-7}{5} = \frac{-7 \times 3}{5 \times 3} = \frac{-21}{15}$$

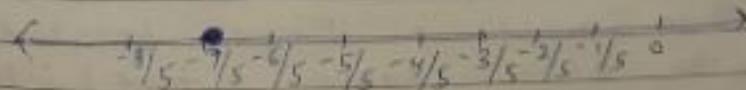
$$\frac{-7}{5} \times \frac{4}{4} = \frac{-28}{20}$$

6. Represent rational numbers on Number line

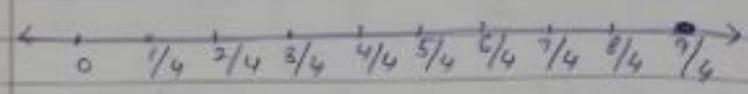
a) $\frac{3}{5}$



b) $-\frac{7}{5}$



c) $\frac{9}{4}$



∴ True / False.

a) The rational number $\frac{4}{7}$ lies between 0 and 1 → True

b) $-\frac{9}{7}$ and $-\frac{7}{9}$ are equivalent rational numbers.

$$\begin{array}{r} \frac{-9}{7} \neq \frac{-7}{9} \\ -9 \times 9 \quad -7 \times 7 \\ -81 \quad -49 \end{array}$$

false.

c) Rational number is a natural, whole number and integer. → True

Natural → $\frac{5}{1}, 8/1$

Whole → $\frac{0}{1}, 9/1$

Integer → $-\frac{5}{1}, -3/1, 4/1$

d) $\frac{5}{8}$ is a positive rational number → True because both have same (+ve) sign

e) $-\frac{7}{6}$ is a negative rational number. false. both have same sign.