

**MATHEMATICS ASSIGNMENT No. 1**  
**CLASS VII**  
**TOPIC: RATIONAL NUMBERS**

**Q1.** On a number line, what is the length of the line segment joining  $\frac{-3}{2}$  and  $\frac{-5}{2}$ .

**Q2.** Express  $\frac{-64}{128}$  as a rational number with denominator 4.

**Q3.** Which of the following are pairs of equivalent rational numbers?

a)  $\frac{7}{15}, \frac{-28}{60}$

b)  $\frac{-13}{7}, \frac{39}{-21}$

**Q4.** Write the rational number  $\frac{114}{-57}$  in standard form.

**Q5.** Find the values of x and y, if  $\frac{-36}{-75} = \frac{x}{-25} = \frac{72}{y}$

**Q6.** Compare:  $\frac{-12}{-13}, \frac{2}{-5}$

**Q7.** Represent  $\frac{-6}{-7}$  on the number line.

**Q8.** Arrange the rational numbers  $\frac{1}{26}, \frac{-2}{39}, \frac{4}{-13}, \frac{-7}{-52}$  in descending order.

**Q9.** Compare the absolute values of rational numbers  $(-3/5)$  and  $6/7$ .

**Q10.** The average of the middle two rational numbers if  $\frac{4}{7}, \frac{1}{3}, \frac{2}{5}, \frac{5}{9}$  are arranged in ascending order is:

a)  $\frac{86}{90}$

b)  $\frac{86}{45}$

c)  $\frac{43}{45}$

d)  $\frac{43}{90}$

(NSTSE)

Comment [1]:

# RATIONAL NUMBERS

CONTINUED



# WORKSHEET-1

## INSTRUCTIONS

- ▶ Do questions 1 ,3,4 and 5 in book.
- ▶ Answers to these questions will be shared with you all tomorrow.

Worksheet 1

Q2 (i) part: To write a rational number with numerator and denominator  $(-5) \times 4$  and  $(-5) + 4$  respectively.

Solution: Numerator=  $(-5) \times 4 = (-20)$

Denominator=  $(-5) + 4 = (-1)$

Thus the rational number is  $\frac{-20}{-1} = \frac{20}{1} = 20$ .

Now, do (ii) part of Q2 in your homework notebook.



NOW LET US WATCH A VIDEO ON HOW TO FIND OUT EQUIVALENT RATIONAL NUMBERS:-  
IT'S URL IS : [https://youtu.be/zv\\_SnrqH1rk](https://youtu.be/zv_SnrqH1rk)



**Negative x Negative = Positive**

$$\frac{-2x - 5}{3x - 5} = \frac{10}{-15}$$

**Positive x Negative = Negative**



[https://youtu.be/zv\\_SnrqH1rk](https://youtu.be/zv_SnrqH1rk).URL



## WORKSHEET 2

Now we will do Questions of worksheet 2 based on properties of rational numbers.

Q1(III)-Show that  $-3/5$  &  $-12/20$  are equivalent rational numbers.

Solution:  $(-3) \times 20 = (-60)$

$$(-12) \times 5 = (-60)$$

Since  $(-3) \times 20 = (-12) \times 5$ ,

$\therefore (-3/5)$  and  $(-12/20)$  are equivalent rational numbers.



Q2. (II). Show that  $-100/3$  &  $300/9$  are not equivalent rational numbers.

Solution:  $(-100/3)$  and  $300/9$

$$(-100) \times 9 = -900$$

$$300 \times 3 = 900$$

Since  $-100 \times 9 \neq 300 \times 3$ , therefore  $-100/3$  and  $300/9$  are not equivalent rational numbers.



Q3. Write three rational numbers equivalent to the following:

(ii)  $\frac{36}{108}$

Sol:  $\frac{36 \div 2}{108 \div 2} = \frac{18}{54}$

$$\frac{36 \div 3}{108 \div 3} = \frac{12}{36}$$

$$\frac{36 \div 4}{108 \div 4} = \frac{9}{27}$$

Therefore  $\frac{18}{54}$ ,  $\frac{12}{36}$  and  $\frac{9}{27}$  are rational numbers equivalent to  $\frac{36}{108}$



Q3. Write three rational numbers equivalent to the following:

$$(iii) \frac{-5}{-7}$$

$$\begin{aligned} \text{Sol: } \frac{-5 \times 2}{-7 \times 2} &= \frac{-10}{-14} \\ \frac{-5 \times 3}{-7 \times 3} &= \frac{-15}{-21} \\ \frac{-5 \times 4}{-7 \times 4} &= \frac{-20}{-28} \end{aligned}$$

Therefore  $\frac{-10}{-14}$ ,  $\frac{-15}{-21}$  and  $\frac{-20}{-28}$  are rational numbers equivalent to  $\frac{-5}{-7}$





## Q4 (i) Express $\frac{3}{5}$ as a rational number with numerator (-21)

Given rational number is  $\frac{3}{5}$

To make the numerator -21 we must multiply 3 by (-7)

$$\text{So } 3 \times (-7) = (-21)$$

$$5 \times (-7) = (-35)$$

Thus  $\frac{-21}{-35}$  is the required rational number.



## Q5 (i) Express $(4/-7)$ as a rational number with denominator 84

Given rational number is  $(4/-7)$

to make the denominator 84 we must multiply  $(-7)$  by  $(-12)$

$$\text{So } 4 \times (-12) = (-48)$$

$$(-7) \times (-12) = (84)$$

Thus  $(-48)/(84)$  is the required rational number.



**Q6. Express  $90/216$  as a rational number with numerator 5.**

Given rational number is  $90/216$

To make the numerator 5 we must divide 90 by 18

So  $90 \div 18 = 5$

$216 \div 18 = 12$

Thus ,  $5/12$  is the required rational number.



# HOMEWORK

- ▶ Do the following questions in maths homework notebook.
- ▶ WORKSHEET 1--Q2(ii)
- ▶ WORKSHEET 2--Q1 (i)and (ii)  
Q2 (i)and (iii)  
Q3 (i)and (iv)  
Q4 (ii)  
Q5 (ii)

