# RATIONAL NUMBERS

WORK SHEET-6

VALUE BASED QUESTIONS

BRAINTEASER

ASSIGNMENT

DAY - 6

# WORKSHEET-6

**Q4. Arrange the following in ascending order:**

(ii) $\frac{-3}{4}, \frac{-5}{-12}, \frac{-7}{16}$.

## Solution:

$$\frac{-5}{-12} = \frac{-5\times(-1)}{-12\times(-1)} = \frac{5}{12}$$

$$\frac{-3}{4}, \frac{5}{12}, \frac{-7}{16}.$$

LCM of 4,12,16=48

$$\frac{-3}{4} = \frac{-3\times12}{4\times12} = \frac{-36}{48}$$

$$\frac{-5}{-12} = \frac{5}{12} = \frac{5\times4}{12\times4} = \frac{20}{48}$$

$$\frac{-7}{16} = \frac{-7\times3}{16\times3} = \frac{-21}{48}$$

$$-36 < -21 < 20$$

Thus, $\frac{-3}{4} < \frac{-7}{16} < \frac{-5}{-12}$

## Q5. Arrange the following in descending order:

(ii) $\frac{-7}{10}, \frac{8}{-15}, \frac{19}{30}, \frac{-2}{-5}$

**Solution:**

$\frac{8}{-15} = \frac{8\times(-1)}{-15\times(-1)} = \frac{-8}{15}$

$\frac{-2}{-5} = \frac{-2\times(-1)}{-5\times(-1)} = \frac{2}{5}$

LCM of 10, 15, 30 and 5 = 30

$\frac{-7}{10} = \frac{-7\times3}{10\times3} = \frac{-21}{30}$

$\frac{-8}{15} = \frac{-8\times2}{15\times2} = \frac{-16}{30}$

$\frac{19}{30} = \frac{19\times1}{30\times1} = \frac{19}{30}$

$\frac{2}{5} = \frac{2\times6}{5\times6} = \frac{12}{30}$

$19 > 12 > -16 > -21$

Thus, $\frac{19}{30} > \frac{-2}{-5} > \frac{8}{-15} > \frac{-7}{10}$.

# VALUE BASED QUESTION

Sukhdev, a farmer had a son and a daughter. He decided to divide his property among his children. He gave 2/5 of his property to his son,4/5 to his daughter and the rest to a charitable trust.

(a)Whose share was more Son's or daughter's?

(b)What do you feel by Sukhdev's decision? Which value is depicted

here?

Solution: (a)Share of son = 2/5

Share of daughter = 4/10 = 2/5

Thus Share of son = Share of daughter .

(b)Sukhdev's decision was good as he did not discriminate between girl and boy. He was kind also.

# BRAINTEASERS

Q1.A. TICK THE CORRECT OPTION.

(A) THE VALUE OF X SUCH THAT $\frac{-3}{8}$ AND $\frac{x}{-24}$ ARE EQUIVALENT RATIONAL NUMBERS.

(I) 64 (II) -64 (III) -9 (IV) 9

## SOLUTION:

$\frac{-3}{8}$ AND $\frac{x}{-24}$ ARE EQUIVALENT IF

$(-3)\times(-24) = x \times 8$

OR $X = \frac{(-3)\times(-24)}{8} = 9$

THUS, X= 9

(e) Which of the following rational numbers is the smallest?

I 7/11 I (II) I -8/11 I (III) I -2/11 I (IV) I-9/-11 I

## Solution:

I 7/11 I =7/11

I -8/11 I = 8/11

I -2/11 I =2/11

I -9/-11 I =9/11

2/11 is the smallest

Hence I -2/11 I is the smallest rational number.

## B.(a) Find the average of the rational numbers $\frac{4}{5}, \frac{2}{3}, \frac{5}{6}$

# Solution:

The average of numbers $\frac{4}{5}, \frac{2}{3}, \& \frac{5}{6}$

$= \left[\frac{4}{5} + \frac{2}{3} + \frac{5}{6}\right] \div 3$

$= \left[\frac{4\times6+2\times10+5\times5}{30}\right] \div 3$

$= \left[\frac{24+20+25}{30}\right] \div 3$

$= \frac{69}{30} \times \frac{1}{3} = \frac{23}{30}$

Thus , average of $\frac{4}{5}, \frac{2}{3}, \& \frac{5}{6}$ is $\frac{23}{30}$

(b) How will you write $\frac{12}{-18}$ in the standard form

## Solution :

$$\frac{12}{-18} = \frac{12\times(-1)}{-18\times(-1)} = \frac{12}{18}$$

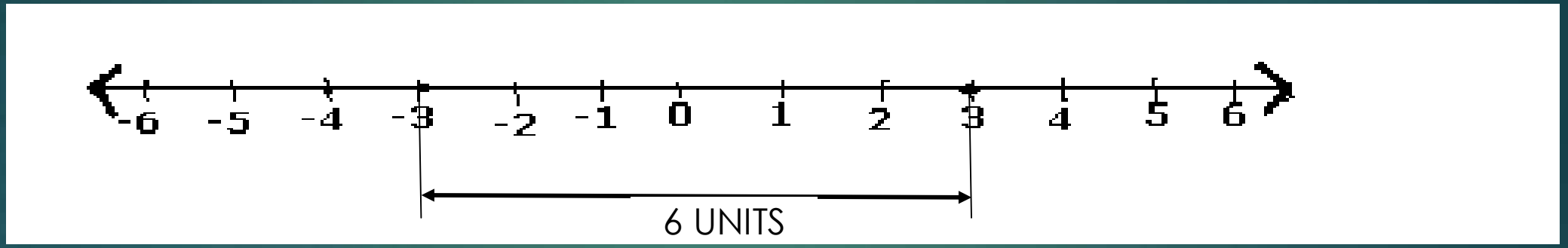
HCF of 12 & 18 is 6

$\frac{-12}{18} = \frac{-12\div6}{18\div6} = \frac{-2}{3}$, which is in the standard form.

*Q5. On a number line, what is the length of the line segment joining:*
*-3 and 3.*

(i)

# Solution:



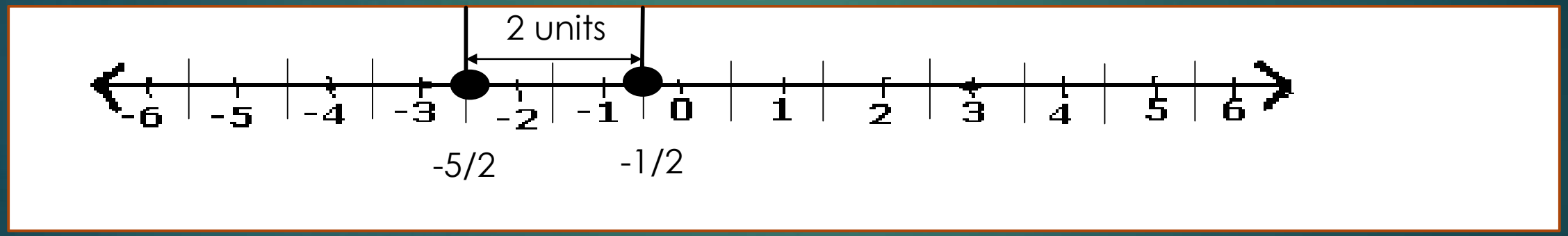

**The length of the line segment joining -3 and 3 is 6 units.**

*Q5. On a number line, what is the length of the line segment joining:*

$\frac{-1}{2}$ & $-2\frac{1}{2}$

## Solution:

**The length of the line segment joining $\frac{-1}{2}$ & $-2\frac{1}{2}$ is 2 units.**



# HOME WORK

- WORKSHEET 6
- Q4 (i), Q5 (i)
- VALUE BASED QUESTION Q2
- BRAINTEASER Q1A.(b),(c) and (d) in book
- Q1B.(c) (d),(e)
- Q.2 In Book
- Q3.,Q4 and Q5 (ii) and (iii)

# MATHEMATICS ASSIGNMENT No. 1

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 vales 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)