



INDIAN SCHOOL AL WADI AL KABIR  
**Class VII**, Mathematics (2021-22)  
 Worksheet (DTQ)- Rational Numbers  
 05-10-2021

SHORT ANSWER TYPE QUESTIONS. (2 Marks each)

Q1. Which of the following pairs represent equivalent rational numbers?

$\frac{2}{12}$  and  $\frac{28}{48}$  OR  $\frac{-2}{3}$  and  $\frac{-16}{24}$

Q2. Find the product of  $-2\frac{3}{4}$  and  $5\frac{6}{7}$ .

Q3. Find the reciprocal of  $(\frac{-1}{2} \times \frac{1}{4}) + (\frac{1}{2} \times 6)$ .

Q4. The sum of two rational numbers is  $\frac{17}{-4}$ . If one of them is  $\frac{-7}{3}$ , find the other.

Q5. By what rational number should  $\frac{81}{14}$  be multiplied to get  $\frac{83}{4}$ ?

LONG ANSWER TYPE (3 Marks)

Q6. Represent the following rational numbers on the number line.

a)  $\frac{-3}{5}, \frac{2}{5}, \frac{3}{5}, 0$  and  $1$

b)  $\frac{-1}{3}, \frac{0}{3}, \frac{2}{3}, 1$  and  $-1$ .

Q7. Find the value of a)  $-3\frac{2}{3} + 2\frac{5}{7}$                       b)  $\frac{7}{9} - (\frac{-11}{63})$

Q8. Divide a)  $34$  by  $\frac{17}{2}$     b)  $\frac{108}{17}$  by  $\frac{-54}{9}$

Q.9 From a rope of  $68$  m long, pieces of equal size are cut. If length of one piece is  $4\frac{1}{4}$  m, find the number of such pieces.

Q.10 Match the following:

i)	$\frac{3}{4} \div \frac{3}{4}$	a)	$-1$
ii)	$\frac{1}{2} \div \frac{4}{3}$	b)	$\frac{-2}{3}$
iii)	$\frac{2}{3} \div -1$	c)	$\frac{3}{2}$
iv)	$\frac{3}{4} \div \frac{1}{2}$	d)	$\frac{3}{8}$
v)	$\frac{5}{7} \div \frac{-5}{7}$	e)	$0$
vi)	$0 \div \frac{-2}{9}$	f)	$1$

LONG ANSWER TYPE- (4 Marks)

Q.11	List any six rational numbers between the following rational numbers. a) $-5$ and $\frac{3}{7}$ b) $\frac{7}{3}$ and $\frac{7}{11}$ c) $\frac{2}{-9}$ and $\frac{3}{-5}$
Q.12	Write the following numbers in ascending order: a) $\frac{-5}{7}, \frac{4}{7}, \frac{2}{5}, \frac{-4}{5}, \frac{-3}{7}$ b) $\frac{-5}{2}, \frac{4}{3}, \frac{-2}{3}, \frac{-4}{2}, \frac{-3}{3}$
O.13	Simplify and write the result in standard form: $(\frac{15}{2} + \frac{1}{5}) \div (\frac{11}{2} - \frac{1}{5})$
Q.14	Subtract the sum of $\frac{2}{5}$ and $\frac{3}{10}$ from $-3\frac{7}{10}$ .
Q.15	Taking $x = \frac{-4}{9}$ , $y = \frac{5}{12}$ and $z = \frac{7}{18}$ , find: (i) The reciprocal of x and y (ii) The sum of reciprocals of x and y. (iii) $x \div (y \div z)$ (iv) $x - (y \div z)$

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ANSWERS

1. $\frac{-2}{3} = \frac{-16}{24}$	2. $\frac{-451}{28}$	3. $2\frac{7}{8}$	4. $\frac{-23}{12}$	5.
6. Number line.	7.a) $\frac{-20}{21}$ b) $\frac{60}{63}$	8.a) 4  b) $\frac{-18}{19}$	9. 16	10. (i)-f, (ii)-(d)(iii)-b, (iv)-c, (v)-a, (vi)-e
11. a) $\frac{-34}{7}, \frac{-33}{7}, \frac{-32}{7}, \frac{-31}{7}, \frac{-30}{7}, \frac{-29}{7}$ b) $\frac{22}{33}, \frac{23}{33}, \frac{24}{33}, \frac{25}{33}, \frac{26}{33}, \frac{27}{33}$ c) $\frac{-11}{45}, \frac{-12}{45}, \frac{-13}{45}, \frac{-14}{45}, \frac{-15}{45}$	12.(a) $\frac{-4}{5}, \frac{-5}{7}, \frac{-3}{7}, \frac{2}{5}, \frac{4}{7}$ (b) $\frac{-5}{2}, \frac{-4}{2}, \frac{-3}{3}, \frac{-2}{3}, \frac{4}{3}$	13. $\frac{77}{53}$	14. $-4\frac{2}{5}$	15. (i) $\frac{-9}{4}, \frac{12}{5}$ (ii) $\frac{3}{20}$ (iii) $\frac{-56}{135}$ (iv) $\frac{-191}{126}$