DEEP PUBLIC SCHOOL

2021 – 22

HOLIDAY HOME WORK CLASS 8

SUBJECT: MATHS

NOTE: (I) Do attempt activity work in Math file.

(II) Do attempt assignment work in sheet and keep in a folder.

PART A

Total no. of pages 04

1. Add $\frac{4}{-5}$ and $\frac{2}{3}$.

2. Subtract $\frac{-6}{7}$ from the sum of 1 and $\frac{-2}{7}$.

3. Write the additive inverse of $\frac{3}{8}$ and multiply it with the multiplicative inverse of $\frac{-9}{4}$.

4. Simplify:

$$\frac{-6}{16} \times \frac{8}{9}$$

5. Find the value of the following:

$$\left|\frac{-11}{5} + \frac{3}{-20}\right|$$

6. Find a rational number between $\frac{3}{5}$ and $\frac{5}{6}$.

7. If $\frac{p}{q}$ is any rational number where $q \neq 0$, then prove that $\left(\frac{p}{q}\right) \times \left(\frac{p}{q}\right)^{-1} = 1$.

8. Divide $\left(\frac{-3}{14}\right)$ by $\frac{9}{7}$.

9. What should be added to $\frac{-3}{11}$ to get 2?

10. What should be subtracted from $\frac{7}{8}$ to get 1?

PART B

1. Which one of the following is the negative rational number?

(a) $\frac{-5}{-6}$ (b) $-\left(\frac{-8}{9}\right)$ (c) $\frac{4}{-7}$ (d) $\frac{3}{4}$

2. What is the additive inverse of $\frac{5}{-14}$?

(a) $\frac{-14}{5}$ (b) $\frac{-5}{14}$ (c) $\frac{14}{5}$ (d) $\frac{+5}{14}$

3. What is the multiple inverse of $+\frac{6}{17}$?

(a) $\frac{17}{6}$ (b) $\frac{-6}{17}$ (c) $\frac{-16}{7}$ (d) $\frac{+16}{7}$

4. The product of a rational number and its reciprocal is always:

(a) 0 (b) 1

(c) the rational number itself (d) none of these

5. Between two rational numbers, there exists _____ rational numbers.

(a) one (b) two (c) ten (d) infinite

6. The numerical value of a rational number irrespective of its sign is called its:

(a) additive inverse (b) multiplicative inverse

(c) absolute value (d) reciprocal

7. Which of the following represents the multiplicative identity of rational number?

(a) $x + 1 = x$ (b) $x \times 0 = 0$ (c) $x \div x = 1$ (d) $x \times 1 = x$

8. If we add a rational number to its additive inverse, then we will get:

(a) zero (b) 1

(c) -1 (d) the rational number itself

9. The expression $x \times y = y \times x$ represents the following property of rational numbers:

(a) additive identity (b) multiplicative identity

(c) commutative property of multiplication (d) associative property of multiplication

10. All rational numbers are closed under:

(a) addition and multiplication only

(b) subtraction and division only

(c) addition, subtraction, multiplication, and division

(d) none of the these

PART C

State true or false.

1 All whole numbers are rational numbers.

2 State the commutative property of addition of rational numbers.

3 Write the reciprocal of $\left(\frac{5}{17}\right)^{-1}$.

4 Add $\frac{4}{7}$ and $\frac{-3}{5}$.

5 Subtract $\frac{9}{16}$ from the sum of $\frac{3}{4}$ and $\frac{5}{8}$.

6 Simplify using distributive property: $\frac{4}{9} \times \frac{3}{7} + \frac{4}{7} \times \frac{4}{9}$

7 Find the difference of multiplicative inverses of $\frac{11}{12}$ and $\frac{3}{4}$.

8 Find the perimeter of an equilateral triangle if its each side is $\frac{4}{9}$ cm.

9 Find the value of $\frac{16}{9} \times \frac{3}{8} + \frac{14}{15} \times \left(\frac{-3}{7}\right)$.

10 Rubina had 8 m long fancy tape. She distributed $4\frac{3}{5}$ m of it among her friends. Find the length of tape left with her.

10. Rubina had 8 m long fancy tape. She distributed $4\frac{3}{5}$ m of it among her friends. Find the length of

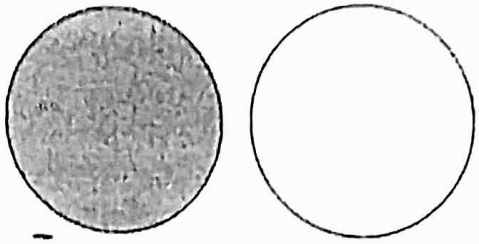
ACTIVITY

Objective: To understand the concept of addition of rational numbers with different denominator

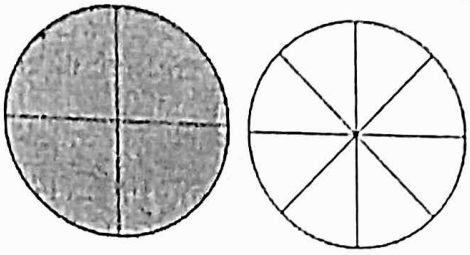
Materials Required: Sheets of coloured chart paper, glue, sketch pen, and a pair of scissors

Procedure:

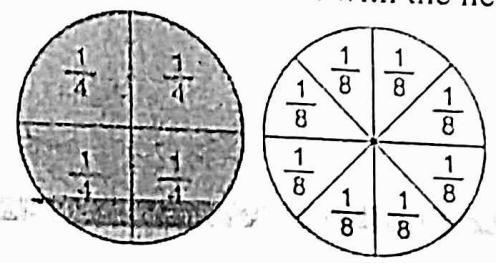
1. Draw two circles of same radius on two different coloured sheets of chart paper (say red and yellow) as shown and cut them with the help of a pair of scissors.



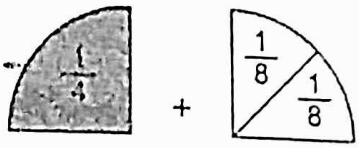
2. Divide red circle into four equal parts and yellow circle into eight equal parts as shown.



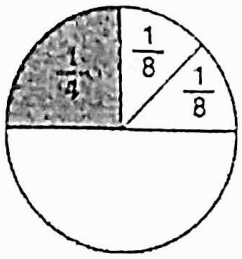
3. Write rational number on each section and cut them with the help of a pair of scissors.



4. Now take one red cut-out and two yellow cut-outs and place the yellow cut-outs over the red cut-out.



5. Two yellow cut-outs are equal to one red cut-out. That means $2\left(\frac{1}{8}\right) = \frac{1}{4}$. Now verify: $\frac{1}{8} + \frac{1}{8} = \frac{1+1}{8} = \frac{2}{8} = \frac{1}{4}$



6. Verify the addition again by pasting different cut-outs on separate sheets of chart paper.