

Addition and Subtraction of Fractions



We know-

$\frac{1}{4}$ means, 1 part out of 4 equal parts of an object.

Write in the same way-

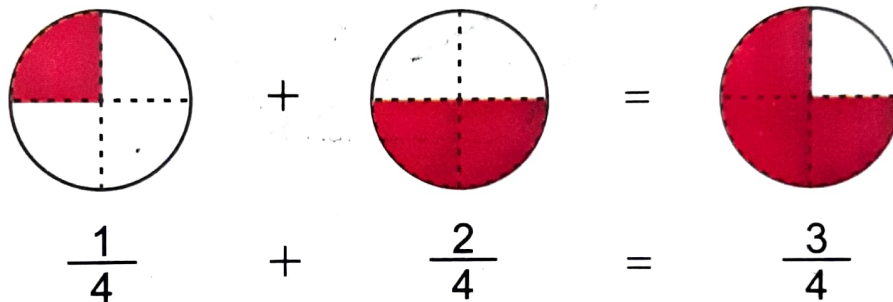
$\frac{2}{4}$ chapatti means,

Leela has $\frac{1}{4}$ part of a chapatti and Alok has $\frac{2}{4}$ part of the same chapatti?

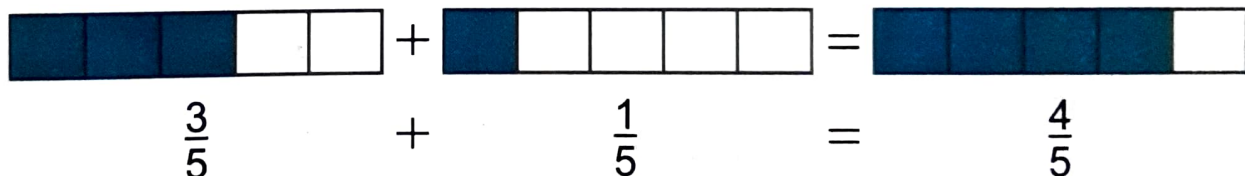
How many parts of the chapatti do both of them have together?

How will you find out? Think.....

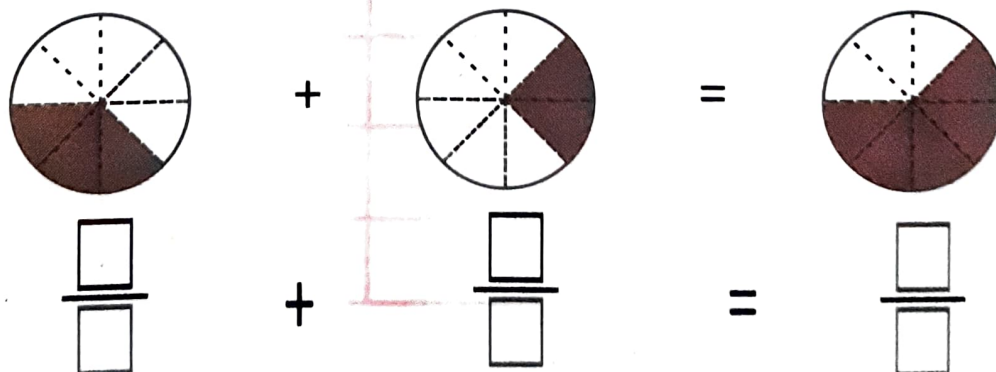
Let us understand, how do we add fractions?



Similarly-



Write the addition of fractions according to the coloured parts of the figures-



Represent the addition of these fractions through figures-

$$\frac{2}{7} + \frac{4}{7} = \frac{6}{7}$$

We saw- To add fractions with same denominator, only the numerators are added.

The denominator remains the same. For example- $\frac{4}{9} + \frac{3}{9}$

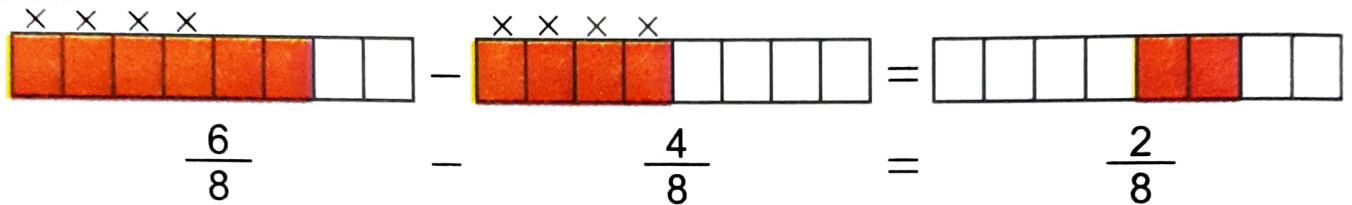
The denominators are same, therefore- $\frac{4+3}{9} = \frac{7}{9}$

You also do it- $\frac{2}{6} + \frac{3}{6} = \boxed{}$

Think-

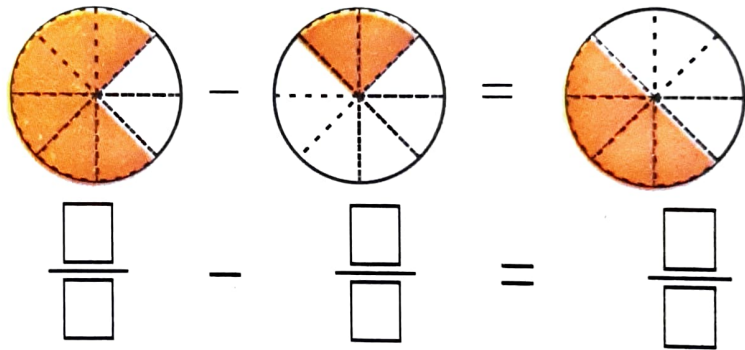
On the basis of your understanding of addition of fractions, can you tell the method of subtraction of fractions?

Let us do-



You also do it-

See the figure and write the fractions-



See the fractions and draw figures- $\frac{3}{4} - \frac{1}{4} = \frac{2}{4}$

We saw-

To subtract fractions with the same denominators, only the numerators are subtracted.

The denominator remains the same. For example- $\frac{5}{7} - \frac{2}{7}$

The denominators are same, therefore- $\frac{5-2}{7} = \frac{3}{7}$

You also do it-

$$\frac{5}{9} - \frac{3}{9} = \boxed{}$$

We have Learnt

- In case of fractions with the same denominators-

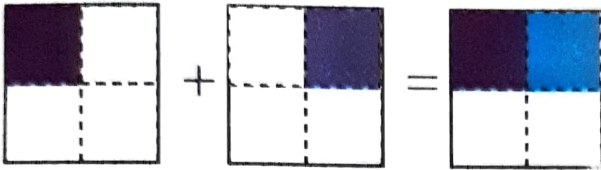
$$\text{Sum of fractions} = \frac{\text{sum of numerators}}{\text{denominator}}$$

$$\text{Difference (subtraction) of fractions} = \frac{\text{difference of numerators}}{\text{denominator}}$$



Exercise

1. Write the coloured part as a fraction-

(a)  $\frac{\square}{\square} + \frac{\square}{\square} = \frac{\square}{\square}$

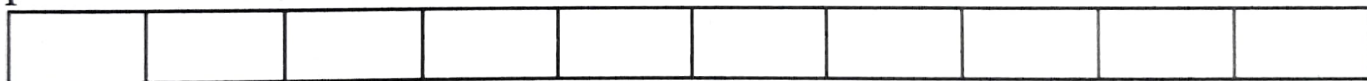
(b)  $\frac{\square}{\square} - \frac{\square}{\square} = \frac{\square}{\square}$

2. Solve these problems of fractions by drawing figures-

(a) $\frac{5}{9} + \frac{2}{9} = \frac{\square}{\square}$

(b) $\frac{3}{5} - \frac{2}{5} = \frac{\square}{\square}$

3. The strip given below has been divided into 10 equal parts. Colour 3 parts with yellow and 4 parts with red colour. Now, see how many parts in all are coloured?



4. Add the fractions-

(a) $\frac{5}{7} + \frac{1}{7}$

(b) $\frac{3}{8} + \frac{4}{8}$

(c) $\frac{5}{9} + \frac{2}{9}$

5. Subtract the fractions-

(a) $\frac{7}{11} - \frac{3}{11}$

(b) $\frac{8}{19} - \frac{6}{19}$

(c) $\frac{12}{17} - \frac{7}{17}$

6. Lata sowed tomato in $\frac{1}{6}$ part and coriander in $\frac{2}{6}$ part of her field. In total how much part of the land has she sowed tomato and coriander?

Now, make the students to solve related exercises in their workbook.

How Much have you Learnt?

1. Form the greatest and the smallest four digit numbers with 5,8,7,4 using each digit only once. Find the place value of 8 in both the numbers.
2. 325 plants of neem and 530 plants of peepal have been planted by the sides of the road. Total how many plants have been planted?
3. There are 2563 men, 2304 women and 872 children in a village. What will be the total population of the village?
4. There are 75 buffaloes, 125 cows and 200 goats in Shankar's dairy and 80 buffaloes, 200 cows and 175 goats in Sujan's dairy. How many total animals are there in both the dairies? Which dairy has more animals?
5. **Find the product-**

$$200 \times 10 = \dots\dots\dots, \quad 400 \times 20 = \dots\dots\dots,$$

$$500 \times 40 = \dots\dots\dots, \quad 600 \times 50 = \dots\dots\dots,$$

6. A gardener makes 75 garlands of flowers in a day. How many garlands would he make in 15 days?
7. Saroj has 6 Oranges. There are 8 slices in each orange. If all the slices of the 6 oranges would be equally distributed among 4 children, how many slices would each child get?

8. Find numerators and denominators of the given fractions-

a. $\frac{3}{5}$ b. $\frac{1}{2}$ c. $\frac{1}{4}$ d. $\frac{3}{4}$

9. Add-

a. $\frac{1}{2} + \frac{1}{2}$

b. $\frac{2}{3} + \frac{1}{3}$

10. Subtract-

a. $\frac{2}{5} - \frac{1}{5}$

b. $\frac{2}{9} - \frac{1}{9}$

11. Put the correct sign ($>$, $<$, $=$) in the blanks-

a. $\frac{5}{8}$ _____ $\frac{7}{8}$

b. $\frac{4}{5}$ _____ $\frac{2}{5}$

c. $\frac{5}{9}$ _____ $\frac{5}{9}$

d. $\frac{3}{6}$ _____ $\frac{5}{6}$

12. Multiply-

a. 756×8

b. 458×21

13. Solve-

a. $63 \div 9$

b. $55 \div 11$

c. $56 \div 8$

d. $72 \div 6$

14. Gulshan gave $\frac{1}{4}$ part of an apple to Razia and $\frac{1}{4}$ part to Gaurav. How much part is left with Gulshan?