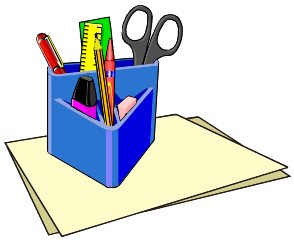
Activity 9



Objective

To find the sum of fractions with different denominators say, $\frac{1}{4} + \frac{2}{3}$

Material Required

Rectangular sheet, sketch pens of different colours.

Method of Construction

1. First fold a rectangular sheet along the length three times to make four equal parts.
2. Again fold the rectangular sheet along the breadth two times to make three equal parts to get a 4 × 3 grid in which there are 12 squares (Fig. 1).

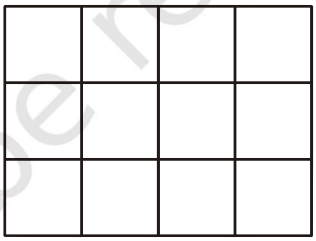


Fig. 1

3. Mark each square of any column, say, first column by '+' sign with red sketch pen (Fig. 2).

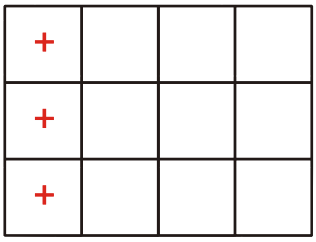


Fig. 2

4. Now mark any two rows, say first two rows, by '+' signs with blue sketch pen (Fig. 3).

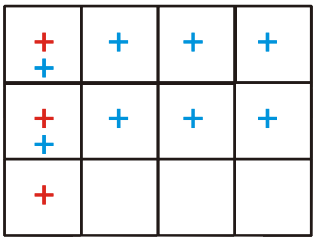


Fig. 3

Demonstration

1. Count the total number of '+' signs in Fig. 3. There are 11 '+' signs in all.
2. In Fig. 3, there are in all 12 squares.
3. Three red '+' signs represent the fraction $\frac{3}{12} = \frac{1}{4}$.
4. Eight blue '+' signs represent the fraction $\frac{8}{12} = \frac{2}{3}$.
5. Fraction represented by 11 '+' signs = $\frac{11}{12}$.

   So, $\frac{1}{4} + \frac{2}{3} = \frac{11}{12}$.

Observation

1. Red '+' signs represent the fraction = $\frac{\quad}{12} = \frac{\quad}{4}$.
2. Blue '+' signs represent the fraction = $\frac{\quad}{12} = \frac{\quad}{3}$.
3. Total number of '+' signs represent the fraction = $\frac{\quad}{12}$.

   So, $\frac{1}{4} + \frac{2}{3} =$ _____.

Application

This activity may be used to explain addition of two fractions with different denominators.