# **Addition of Rational Numbers**

## A. Write the Missing Terms to Complete the Sentences:

- 1. The sum of  $-\frac{3}{4}$  and  $\frac{5}{4}$  is \_\_\_\_\_.
- 2. The additive identity for rational numbers is \_\_\_\_\_\_.
- 3. To add rational numbers with different denominators, we first take the \_\_\_\_\_\_ of the denominators.

4. 
$$\frac{2}{5} + \left(-\frac{3}{10}\right) =$$
 \_\_\_\_\_\_.

5. Rational numbers are closed under \_\_\_\_\_\_ operation.

#### B. Figure out the answers to these questions:

- 1. Solve  $\frac{5}{12} + \frac{7}{8}$
- 2. Subtract  $\frac{3}{-7}$  from  $\frac{3}{7}$
- 3. Add  $\frac{3}{5}$  and  $\frac{13}{5}$
- 4. Add  $\frac{7}{9}$  and  $\frac{-12}{9}$

5. Add 
$$\frac{5}{9}$$
 and  $\frac{-17}{9}$ 

## C. Mark each sentence with a True (✔) or False (★):

- 1. The sum of two positive rational numbers is always positive.
- 2.  $-\frac{2}{3} + \frac{2}{3} = 1$
- 3. Rational numbers can be added using the same rules as integers.
- 4. The sum of a rational number and its additive inverse is zero.

 $5.\ \frac{3}{8} + \left(-\frac{1}{4}\right) = \frac{1}{8}$ 

### D. Challenge yourself with these questions:

1. A person walks  $\frac{2}{3}$  km in the morning and  $-\frac{1}{6}$  km in the evening. How much total distance does the person cover in the day?

2. A water tank has  $-\frac{5}{7}$  liter of water (shortage). After adding  $\frac{2}{7}$  liter of water, what is the new water level in rational terms?

- 3. A shopkeeper earns  $\frac{3}{5}$  rupees profit on Monday and loses  $\frac{1}{10}$  rupee on Tuesday. What is his total profit/loss for both days?
- 4. Riya had  $-\frac{4}{9}$  of her homework pending. She completed  $\frac{2}{9}$  of it today. What fraction of the homework is still pending?
- 5. The temperature was  $-\frac{3}{4}$ °C in the morning. It increased by  $\frac{1}{2}$ °C in the afternoon. What is the temperature now?