

## Operations on Rational Numbers

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### PRACTICE SET 22 [PAGE 36]

#### Practice Set 22 | Q 1.1 | Page 36

Carry out the following addition of a rational number.

$$\frac{5}{36} + \frac{6}{42}$$

**Solution:**

$$\frac{5}{36} + \frac{6}{42}$$

At first, we will calculate the LCM of 36 and 42. The prime factorisation is 36 and 42 is,

$$36 = 2 \times 2 \times 3 \times 3$$

$$42 = 2 \times 3 \times 7$$

Now, LCM of 36 and 42 =  $2 \times 2 \times 3 \times 3 \times 7 = 252$

$$\begin{aligned} & \frac{5}{36} + \frac{6}{42} \\ &= \frac{5 \times 7}{36 \times 7} + \frac{6 \times 6}{42 \times 6} \end{aligned}$$

$$= \frac{35}{252} + \frac{36}{252}$$

$$= \frac{35 + 36}{252}$$

$$= \frac{71}{252}$$

#### Practice Set 22 | Q 1.2 | Page 36



Carry out the following addition of a rational number.

$$1\frac{2}{3} + 2\frac{4}{5}$$

**Solution:**

$$\begin{aligned} &1\frac{2}{3} + 2\frac{4}{5} \\ &= \frac{1 \times 3 + 2}{3} + \frac{2 \times 5 + 4}{5} \\ &= \frac{5}{3} + \frac{14}{5} \end{aligned}$$

Now, LCM of 3 and 5 is 15.

$$\begin{aligned} &\frac{5}{3} + \frac{14}{5} \\ &= \frac{5 \times 5}{3 \times 5} + \frac{14 \times 3}{5 \times 3} \\ &= \frac{25}{15} + \frac{42}{15} \\ &= \frac{67}{15} \\ &= 4\frac{7}{15} \end{aligned}$$

**Practice Set 22 | Q 1.3 | Page 36**

Carry out the following addition of a rational number.

$$\frac{11}{17} + \frac{13}{19}$$

**Solution:**

$$\frac{11}{17} + \frac{13}{19}$$

Now, LCM of 17 and 19 is 323.

$$\begin{aligned} & \frac{11}{17} + \frac{13}{19} \\ &= \frac{11 \times 19}{17 \times 19} + \frac{13 \times 17}{19 \times 17} \\ &= \frac{209}{323} + \frac{221}{323} \\ &= \frac{430}{323} \end{aligned}$$

#### Practice Set 22 | Q 1.4 | Page 36

Carry out the following addition of a rational number.

$$2\frac{3}{11} + 1\frac{3}{77}$$

**Solution:**

$$\begin{aligned} & 2\frac{3}{11} + 1\frac{3}{77} \\ &= \frac{2 \times 11 + 3}{11} + \frac{1 \times 77 + 3}{77} \\ &= \frac{25}{11} + \frac{80}{77} \end{aligned}$$

Now, LCM of 11 and 77 is 77.

$$= \frac{25}{11} + \frac{80}{77}$$

$$= \frac{25 \times 7}{11 \times 7} + \frac{80 \times 1}{77 \times 1}$$

$$= \frac{175}{77} + \frac{80}{77}$$

$$= \frac{255}{77} = 3\frac{24}{77}$$

**Practice Set 22 | Q 2.1 | Page 36**

Carry out the following subtraction involving a rational number.

$$\frac{7}{11} - \frac{3}{7}$$

**Solution:**

$$\frac{7}{11} - \frac{3}{7}$$

Now, LCM of 11 and 7 is 77.

$$\frac{7}{11} - \frac{3}{7}$$

$$= \frac{7 \times 7}{11 \times 7} - \frac{3 \times 11}{7 \times 11}$$

$$= \frac{49}{77} - \frac{33}{77}$$

$$= \frac{49 - 33}{77}$$

$$= \frac{16}{77}$$

**Practice Set 22 | Q 2.2 | Page 36**

Carry out the following subtraction involving a rational number.

$$\frac{13}{36} - \frac{2}{40}$$

**Solution:**

$$\frac{13}{36} - \frac{2}{40}$$

Now, LCM of 36 and 40 is 360.

$$\begin{aligned} \frac{13}{36} - \frac{2}{40} \\ = \frac{13 \times 10}{36 \times 10} - \frac{2 \times 9}{40 \times 9} \end{aligned}$$

$$= \frac{130}{360} - \frac{18}{360}$$

$$= \frac{130 - 18}{360}$$

$$= \frac{112}{360}$$

$$= \frac{112 \div 8}{360 \div 8} \quad (\text{Since, HCF of 112 and 360 is 8})$$

$$= \frac{14}{45}$$

**Practice Set 22 | Q 2.3 | Page 36**

Carry out the following subtraction involving a rational number.

$$1\frac{2}{3} - 3\frac{5}{6}$$

**Solution:**

$$\begin{aligned} 1\frac{2}{3} - 3\frac{5}{6} \\ = \frac{1 \times 3 + 2}{3} - \frac{3 \times 6 + 5}{6} \\ = \frac{5}{3} - \frac{23}{6} \end{aligned}$$

Now, LCM of 3 and 6 is 6.

$$\begin{aligned} &= \frac{5}{3} - \frac{23}{6} \\ &= \frac{5 \times 2}{3 \times 2} - \frac{23 \times 1}{6 \times 1} \\ &= \frac{10}{6} - \frac{23}{6} \\ &= \frac{10 - 23}{6} \\ &= -\frac{13}{6} \end{aligned}$$

#### Practice Set 22 | Q 2.4 | Page 36

Carry out the following subtraction involving a rational number.

$$4\frac{1}{2} - 3\frac{1}{3}$$

**Solution:**

$$\begin{aligned}
 & 4\frac{1}{2} - 3\frac{1}{3} \\
 &= \frac{4 \times 2 + 1}{2} - \frac{3 \times 3 + 1}{3} \\
 &= \frac{9}{2} - \frac{10}{3}
 \end{aligned}$$

Now, LCM of 2 and 3 is 6.

$$\begin{aligned}
 &= \frac{9}{2} - \frac{10}{3} \\
 &= \frac{9 \times 3}{2 \times 3} - \frac{10 \times 2}{3 \times 2} \\
 &= \frac{18}{6} - \frac{20}{6} \\
 &= \frac{18 - 20}{6} \\
 &= -\frac{2}{6} \\
 &= -\frac{1}{3}
 \end{aligned}$$

### Practice Set 22 | Q 3.1 | Page 36

Multiply the following rational number.

$$\frac{3}{11} \times \frac{2}{5}$$

Solution:

$$\begin{aligned}\frac{3}{11} \times \frac{2}{5} \\&= \frac{3 \times 2}{11 \times 5} \\&= \frac{6}{55}\end{aligned}$$

**Practice Set 22 | Q 3.2 | Page 36**

Multiply the following rational number.

$$\frac{12}{5} \times \frac{4}{15}$$

**Solution:**

$$\begin{aligned}\frac{12}{5} \times \frac{4}{15} \\&= \frac{12 \times 4}{5 \times 15} \\&= \frac{48}{75} \\&= \frac{48 \div 3}{75 \div 3} \quad \text{..(Since, HCF of 48 and 75 is 3)} \\&= \frac{16}{25}\end{aligned}$$

**Practice Set 22 | Q 3.3 | Page 36**

Multiply the following rational number.

$$\frac{-8}{9} \times \frac{3}{4}$$

**Solution:**



$$\begin{aligned}
 & \frac{-8}{9} \times \frac{3}{4} \\
 &= \frac{(-8) \times 3}{9 \times 4} \\
 &= \frac{-24}{36} \\
 &= \frac{-24 \div 12}{36 \div 12} \quad \dots(\text{Since, HCF of 24 and 36 is 12}) \\
 &= -\frac{2}{3}
 \end{aligned}$$

**Practice Set 22 | Q 3.4 | Page 36**

**Multiply the following rational number.**

$$\frac{0}{6} \times \frac{3}{4}$$

**Solution:**

$$\begin{aligned}
 & \frac{0}{6} \times \frac{3}{4} \\
 &= \frac{0 \times 3}{6 \times 4} \\
 &= \frac{0}{24} \\
 &= 0
 \end{aligned}$$

**Practice Set 22 | Q 4.1 | Page 36**

**Write the multiplicative inverse.**

$$\frac{2}{5}$$

**Solution:**

It is known that the multiplicative inverse of any rational number  $a$  is the reciprocal of the rational number i.e.,  $\frac{1}{a}$

$$\text{Multiplicative inverse of } \frac{2}{5} = \frac{1}{\frac{2}{5}} = \frac{5}{2}$$

**Practice Set 22 | Q 4.2 | Page 36**

**Write the multiplicative inverse.**

$$\frac{-3}{8}$$

**Solution:**

It is known that the multiplicative inverse of any rational number  $a$  is the reciprocal of the rational number i.e.,  $\frac{1}{a}$

$$\text{Multiplicative inverse of } -\frac{3}{8} = \frac{1}{-\frac{3}{8}} = -\frac{8}{3}$$

**Practice Set 22 | Q 4.3 | Page 36**

**Write the multiplicative inverse.**

$$\frac{-17}{39}$$

**Solution:**

It is known that the multiplicative inverse of any rational number  $a$  is the reciprocal of the rational number i.e.,  $\frac{1}{a}$

$$\text{Multiplicative inverse of } -\frac{17}{39} = \frac{1}{-\frac{17}{39}} = -\frac{39}{17}$$

**Practice Set 22 | Q 4.4 | Page 36**

**Write the multiplicative inverse.**

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**Solution:**

It is known that the multiplicative inverse of any rational number  $a$  is the reciprocal of the rational number i.e.,  $\frac{1}{a}$

Multiplicative inverse of  $7 = \frac{1}{7}$

**Practice Set 22 | Q 4.5 | Page 36**

**Write the multiplicative inverse.**

$$-7\frac{1}{3}$$

**Solution:**

It is known that the multiplicative inverse of any rational number  $a$  is the reciprocal of the rational number i.e.,  $\frac{1}{a}$

The given number is  $-7\frac{1}{3}$

$$\text{Now, } -7\frac{1}{3}$$

$$= -\left(7 + \frac{1}{3}\right)$$

$$= -\left(\frac{21 + 1}{3}\right)$$

$$= -\frac{22}{3}$$

$$\text{Multiplicative inverse of } -\frac{22}{3} = \frac{1}{-\frac{22}{3}} = -\frac{3}{22}$$



**Practice Set 22 | Q 5.1 | Page 36**

Carry out the division of a rational number.

$$\frac{40}{12} \div \frac{10}{4}$$

**Solution:**

$$\frac{40}{12} \div \frac{10}{4}$$

$$= \frac{40}{12} \times \frac{4}{10}$$

$$= \frac{40 \times 4}{12 \times 10}$$

$$= \frac{160}{120}$$

$$= \frac{160 \div 40}{120 \div 40} \quad (\text{Since, HCF of 60 and 120 is 40})$$

$$= \frac{40}{3}$$

**Practice Set 22 | Q 5.2 | Page 36**

Carry out the division of a rational number.

$$\frac{-10}{11} \div \frac{-11}{10}$$

**Solution:**



$$\begin{aligned}
 & \frac{-10}{11} \div \frac{-11}{10} \\
 &= \left( -\frac{10}{11} \right) \times \left( -\frac{10}{11} \right) \\
 &= \frac{(-10) \times (-10)}{11 \times 11} \\
 &= \frac{100}{121}
 \end{aligned}$$

**Practice Set 22 | Q 5.3 | Page 36**

Carry out the division of a rational number.

$$\frac{-7}{8} \div \frac{-3}{6}$$

**Solution:**

$$\begin{aligned}
 & \frac{-7}{8} \div \frac{-3}{6} \\
 &= \left( -\frac{7}{8} \right) \times \left( -\frac{6}{3} \right) \\
 &= \frac{(-7) \times (-6)}{8 \times 3}
 \end{aligned}$$

$$= \frac{42}{24}$$

$$= \frac{42 \div 6}{24 \div 6} \quad (\text{Since, HCF of 42 and 24 is 6})$$

$$= \frac{7}{4}$$

**Practice Set 22 | Q 5.4 | Page 36**

Carry out the division of a rational number.

$$\frac{2}{3} \div (-4)$$

**Solution:**

$$\frac{2}{3} \div (-4)$$

$$= \frac{2}{3} \times \left(-\frac{1}{4}\right)$$

$$= \frac{2 \times (-1)}{3 \times 4}$$

$$= \frac{-2}{12}$$

$$= \frac{-2 \div 2}{12 \div 2} \quad (\text{Since, HCF of 2 and 12 is 2})$$

$$= \frac{-1}{6}$$

**Practice Set 22 | Q 5.5 | Page 36**

Carry out the division of a rational number.

$$2\frac{1}{5} \div 5\frac{3}{6}$$

**Solution:**

$$2\frac{1}{5} \div 5\frac{3}{6}$$

$$= \frac{2 \times 5 + 1}{5} \div \frac{5 \times 6 + 3}{6}$$

$$= \frac{11}{5} \div \frac{33}{6}$$

$$= \frac{11}{5} \times \frac{6}{33}$$

$$= \frac{11 \times 6}{5 \times 33}$$

$$= \frac{66}{165}$$

$$= \frac{66 \div 33}{165 \div 33} \quad (\text{Since HCF of 66 and 165 is 33})$$

$$= \frac{2}{5}$$

**Practice Set 22 | Q 5.6 | Page 36**

Carry out the division of rational numbers.

$$-\frac{5}{13} \div \frac{7}{26}$$

**Solution:**

$$-\frac{5}{13} \div \frac{7}{26}$$

$$= -\frac{5}{13} \times \frac{26}{7}$$

$$= \frac{-5 \times 26}{13 \times 7}$$

$$= -\frac{130}{91}$$

$$= \frac{-130 \div 13}{91 \div 13} \text{ ....(Since HCF of 130 and 91 is 13)}$$

$$= -\frac{10}{7}$$

**Practice Set 22 | Q 5.7 | Page 36**

Carry out the division of rational numbers.

$$\frac{9}{11} \div (-8)$$

**Solution:**



$$\begin{aligned}
 & \frac{9}{11} \div (-8) \\
 &= \frac{9}{11} \times -\frac{1}{8} \\
 &= \frac{9 \times (-1)}{11 \times 8} \\
 &= -\frac{9}{88}
 \end{aligned}$$

**Practice Set 22 | Q 5.8 | Page 36**

Carry out the division of rational numbers.

$$5 \div \frac{2}{5}$$

**Solution:**

$$\begin{aligned}
 & 5 \div \frac{2}{5} \\
 &= \frac{5}{1} \div \frac{2}{5} \\
 &= \frac{5 \times 5}{1 \times 2} \\
 &= \frac{25}{2}
 \end{aligned}$$

**PRACTICE SET 23 [PAGE 38]**

**Practice Set 23 | Q 1 | Page 38**

Write three rational numbers that lie between the two given numbers.

$$\frac{2}{7}, \frac{6}{7}$$

**Solution:**

The given numbers are  $\frac{2}{7}$  and  $\frac{6}{7}$

We know that,

$$2 < 3 < 4 < 5 < 6$$

$$\therefore \frac{2}{7} < \frac{3}{7} < \frac{4}{7} < \frac{5}{7} < \frac{6}{7}$$

Hence, 3 rational numbers between  $\frac{2}{7}$  and  $\frac{6}{7}$  are:

$$\frac{3}{7}, \frac{4}{7} \text{ and } \frac{5}{7}.$$

**Practice Set 23 | Q 2 | Page 38**

Write three rational numbers that lie between the two given numbers.

$$\frac{4}{5}, \frac{2}{3}$$

**Solution:**

The given numbers are  $\frac{4}{5}$  and  $\frac{2}{3}$

Let us convert these numbers into fractions with equal denominators.

$$\frac{4}{5} = \frac{4 \times 6}{5 \times 6} = \frac{24}{30}$$

$$\frac{2}{3} = \frac{2 \times 10}{3 \times 10} = \frac{20}{30}$$

We know that,

$$20 < 21 < 22 < 23 < 24$$

$$\therefore \frac{20}{30} < \frac{21}{30} < \frac{22}{30} < \frac{23}{30} < \frac{24}{30}$$

$$\Rightarrow \frac{2}{3} < \frac{21}{30} < \frac{22}{30} < \frac{23}{30} < \frac{4}{5}$$

Hence, 3 rational numbers between  $\frac{2}{3}$  and  $\frac{4}{5}$  are:

$$\frac{21}{30}, \frac{22}{30} \text{ and } \frac{23}{30}.$$

#### Practice Set 23 | Q 3 | Page 38

Write three rational numbers that lie between the two given numbers.

$$-\frac{2}{3}, \frac{4}{5}$$

**Solution:**

The given numbers are  $-\frac{2}{3}$  and  $\frac{4}{5}$

Let us convert each of given numbers into fractions with equal denominators.

$$-\frac{2}{3} = \frac{-2 \times 5}{3 \times 5} = -\frac{10}{15}$$

$$\frac{4}{5} = \frac{4 \times 3}{5 \times 3} = \frac{12}{15}$$

We know that,

$$-10 < -9 < -8 < -7 < \dots < 1 < 2 < 3 < 4 < \dots < 12$$

$$\Rightarrow -\frac{2}{3} < -\frac{9}{15} < -\frac{8}{15} < -\frac{7}{15} < \dots < \frac{1}{15} < \frac{2}{15} < \frac{3}{15} < \frac{4}{15} < \dots < \frac{4}{15}$$

Hence, 3 rational numbers between  $-\frac{2}{3}$  and  $\frac{4}{5}$  are:

$$-\frac{9}{15}, -\frac{7}{15} \text{ and } \frac{4}{15}.$$

### Practice Set 23 | Q 4 | Page 38

Write three rational numbers that lie between the two given numbers.

$$\frac{7}{9}, -\frac{5}{9}$$

**Solution:**

The given numbers are  $\frac{7}{9}$  and  $-\frac{5}{9}$

We know that,

$$-5 < -4 < -3 < -2 < -1 < 0 < \dots < 6 < 7$$

$$\therefore -\frac{5}{9} < -\frac{4}{9} < -\frac{3}{9} < -\frac{2}{9} < -\frac{1}{9} < 0 < \dots < \frac{6}{9} < \frac{7}{9}$$

Hence, 3 rational numbers between  $-\frac{5}{9}$  and  $\frac{7}{9}$  are:

$$-\frac{4}{9}, 0 \text{ and } \frac{6}{9}.$$

### Practice Set 23 | Q 5 | Page 38

Write three rational numbers that lie between the two given numbers.

$$-\frac{3}{4}, \frac{5}{4}$$

**Solution:**

The given numbers are  $-\frac{3}{4}$  and  $\frac{5}{4}$

We know that,

$$-3 < -2 < -1 < 0 < 1 < 2 < 3 < 4 < 5$$

$$\therefore -\frac{3}{4} < -\frac{2}{4} < -\frac{1}{4} < 0 < \frac{1}{4} < \frac{2}{4} < \frac{3}{4} < \frac{4}{4} < \frac{5}{4}$$

Hence, 3 rational numbers between  $-\frac{3}{4}$  and  $\frac{5}{4}$  are:

$$-\frac{2}{4}, -\frac{1}{4} \text{ and } \frac{3}{4}.$$

#### Practice Set 23 | Q 6 | Page 38

Write three rational numbers that lie between the two given numbers.

$$\frac{7}{8}, -\frac{5}{3}$$

**Solution:**

The given numbers are  $\frac{7}{8}$  and  $-\frac{5}{3}$

Let us convert each of the given numbers into fractions with equal denominators.

$$\frac{7}{8} = \frac{7 \times 3}{8 \times 3} = \frac{21}{24}$$

$$-\frac{5}{3} = \frac{-5 \times 8}{3 \times 8} = -\frac{40}{24}$$

We know that,

$$-40 < -39 < \dots < -13 < -12 < \dots < 11 < 12 < \dots < 17 < \dots < 21$$



$$\therefore -\frac{40}{24} < -\frac{39}{24} < \dots < -\frac{13}{24} < -\frac{12}{24} < \dots < \frac{11}{24} < \frac{12}{24} < \dots < \frac{17}{24} < \dots < \frac{21}{24}$$

$$\Rightarrow -\frac{5}{3} < -\frac{39}{24} < \dots < -\frac{13}{24} < -\frac{12}{24} < \dots < \frac{11}{24} < \frac{12}{24} < \dots < \frac{17}{24} < \dots < \frac{7}{8}$$

Hence, 3 rational numbers between  $\frac{7}{8}$  and  $-\frac{5}{3}$  are:

$$-\frac{13}{24}, \frac{11}{24} \text{ and } \frac{17}{24}$$

### Practice Set 23 | Q 7 | Page 38

Write three rational numbers that lie between the two given numbers.

$$\frac{5}{7} \text{ and } \frac{11}{7}$$

**Solution:**

The given numbers are  $\frac{5}{7}$  and  $\frac{11}{7}$

We know that,

$$5 < 6 < 7 < 8 < 9 < 10 < 11$$

$$\therefore \frac{5}{7} < \frac{6}{7} < \frac{7}{7} < \frac{8}{7} < \frac{9}{7} < \frac{10}{7} < \frac{11}{7}$$

Hence, 3 rational numbers between  $\frac{5}{7}$  and  $\frac{11}{7}$  are:

$$\frac{6}{7}, \frac{8}{7} \text{ and } \frac{9}{7}$$

### Practice Set 23 | Q 8 | Page 38

Write three rational numbers that lie between the two given numbers.

$$0 \text{ and } -\frac{3}{4}$$

**Solution:**

The given numbers are 0 and  $-\frac{3}{4}$

Let us convert each of the given numbers into fractions with equal denominators.

$$0 = \frac{0 \times 8}{1 \times 8} = \frac{0}{8}$$

$$-\frac{3}{4} = \frac{-3 \times 2}{4 \times 2} = -\frac{6}{8}$$

We know that,

$$-6 < -5 < -4 < -3 < -2 < -1 < 0$$

$$\therefore -\frac{6}{8} < -\frac{5}{8} < -\frac{4}{8} < -\frac{3}{8} < -\frac{2}{8} < -\frac{1}{8} < \frac{0}{8}$$

$$\Rightarrow -\frac{3}{4} < -\frac{5}{8} < -\frac{4}{8} < -\frac{3}{8} < -\frac{2}{8} < -\frac{1}{8} < 0$$

Hence, 3 rational numbers between  $-\frac{6}{8}$  and 0 are:

$$-\frac{5}{8}, -\frac{4}{8} \text{ and } -\frac{3}{8}$$

#### PRACTICE SET 24 [PAGE 41]

##### Practice Set 24 | Q 1 | Page 41

Write the following rational number in decimal form.

$$13/4$$

**Solution:** The given number is  $13/4$

$$\begin{array}{r}
 3.25 \\
 4 \overline{)13.00} \\
 \underline{-12} \phantom{00} \\
 10 \phantom{00} \\
 \underline{-8} \phantom{00} \\
 20 \phantom{00} \\
 \underline{-20} \phantom{00} \\
 0 \phantom{00} \\
 \therefore \frac{13}{4} = 3.25
 \end{array}$$

The decimal form of  $\frac{13}{4}$  is 3.25

#### Practice Set 24 | Q 2 | Page 41

Write the following rational number in decimal form.

$$-\frac{7}{8}$$

**Solution:** The given number is  $-\frac{7}{8}$

$$\begin{array}{r}
 0.875 \\
 8 \overline{)7.000} \\
 \underline{-0} \phantom{000} \\
 70 \phantom{00} \\
 \underline{-64} \phantom{00} \\
 60 \phantom{00} \\
 \underline{-56} \phantom{00} \\
 40
 \end{array}$$



$$\begin{array}{r} -40 \\ \underline{\phantom{-}0} \\ \therefore \frac{7}{8} = 0.875 \end{array}$$

The decimal form of  $-\frac{7}{8}$  is - 0.875

### Practice Set 24 | Q 3 | Page 41

Write the following rational number in decimal form.

$$7\frac{3}{5}$$

**Solution:**

The given number is  $7\frac{3}{5}$

$$7\frac{3}{5} = \frac{7 \times 5 + 3}{5} = \frac{35 + 3}{5} = \frac{38}{5}$$

$$\begin{array}{r} 7.6 \\ 5 \overline{)38.0} \\ \underline{-35} \phantom{0} \\ 30 \phantom{0} \\ \underline{-30} \phantom{0} \\ 0 \phantom{0} \end{array}$$

$$\therefore \frac{38}{5} = 7.6$$

The decimal form of  $7\frac{3}{5}$  is 7.6

### Practice Set 24 | Q 4 | Page 41

Write the following rational number in decimal form.

$$5/12$$

**Solution:** The given number is  $5/12$

$$\begin{array}{r} 0.4166 \\ 12 \overline{) 5.0000} \\ \underline{- 0} \phantom{0000} \\ 50 \phantom{00} \\ \underline{- 48} \phantom{00} \\ 20 \phantom{00} \\ \underline{- 12} \phantom{00} \\ 80 \phantom{00} \\ \underline{- 72} \phantom{00} \\ 80 \phantom{00} \\ \underline{- 72} \phantom{00} \\ 8 \phantom{00} \end{array}$$

$$\therefore \frac{5}{12} = 0.4166... = 0.41\bar{6}$$

The decimal form of  $\frac{5}{12}$  is  $0.41\bar{6}$

#### Practice Set 24 | Q 5 | Page 41

Write the following rational number in decimal form.

$$22/7$$

**Solution:** The given number is  $22/7$

$$\begin{array}{r}
 3.1428571 \\
 7 \overline{) 22.00000000} \\
 \underline{- 21} \phantom{00000000} \\
 10 \phantom{00000000} \\
 \underline{- 7} \phantom{00000000} \\
 30 \phantom{00000000} \\
 \underline{- 28} \phantom{00000000} \\
 20 \phantom{00000000} \\
 \underline{- 14} \phantom{00000000} \\
 60 \phantom{00000000} \\
 \underline{- 56} \phantom{00000000} \\
 40 \phantom{00000000} \\
 \underline{- 35} \phantom{00000000} \\
 50 \phantom{00000000} \\
 \underline{- 49} \phantom{00000000} \\
 10 \phantom{00000000} \\
 \underline{- 7} \phantom{00000000} \\
 3 \phantom{00000000} \\
 \hline
 \therefore \frac{22}{7} = 3.142857142857\dots = 3.\overline{142857}
 \end{array}$$

The decimal form of  $\frac{22}{7}$  is  $3.\overline{142857}$

#### Practice Set 24 | Q 6 | Page 41

Write the following rational number in decimal form.

$$\frac{4}{3}$$

**Solution:** The given number is  $\frac{4}{3}$

$$\begin{array}{r}
 1.33 \\
 3 \overline{) 4.00} \\
 \underline{- 3} \phantom{00} \\
 10 \phantom{00} \\
 \underline{- 9} \phantom{00} \\
 10 \phantom{00} \\
 \underline{- 9} \phantom{00} \\
 1 \phantom{00}
 \end{array}$$

$$\therefore \frac{4}{3} = 1.33\dots = 1.\bar{3}$$

The decimal form of  $\frac{4}{3}$  is  $1.\bar{3}$

#### Practice Set 24 | Q 7 | Page 41

Write the following rational number in decimal form.

$$7/9$$

**Solution:** The given number is  $7/9$

$$\begin{array}{r}
 0.77 \\
 9 \overline{) 7.00} \\
 \underline{- 7} \phantom{00} \\
 70 \phantom{00} \\
 \underline{- 63} \phantom{00} \\
 70 \phantom{00} \\
 \underline{- 63} \phantom{00} \\
 7 \phantom{00}
 \end{array}$$

$$\therefore \frac{7}{9} = 0.77\dots = 0.\bar{7}$$

The decimal form of  $\frac{7}{9}$  is  $0.\bar{7}$

## PRACTICE SET 25 [PAGE 42]

### Practice Set 25 | Q 1 | Page 42

Simplify the expression.

$$50 \times 5 \div 2 + 24$$

**Solution:**  $50 \times 5 \div 2 + 24$

$$= 250 \div 2 + 24$$

$$= 125 + 24$$

$$= 149$$

### Practice Set 25 | Q 2 | Page 42

Simplify the expression.

$$(13 \times 4) \div 2 - 26$$

**Solution:**  $(13 \times 4) \div 2 - 26$

$$= 52 \div 2 - 26$$

$$= 26 - 26$$

$$= 0$$

### Practice Set 25 | Q 3 | Page 42

Simplify the expression.

$$140 \div [(-11) \times (-3) - (-42) \div 14 - 1]$$

**Solution:**  $140 \div [(-11) \times (-3) - (-42) \div 14 - 1]$

$$= 140 \div [33 - (-42) \div 14 - 1]$$

$$= 140 \div [33 + 42 \div 14 - 1]$$

$$= 140 \div [33 + 3 - 1]$$

$$= 140 \div [36 - 1]$$

$$= 140 \div 35$$

$$= 4$$

### Practice Set 25 | Q 4 | Page 42

Simplify the expression.

$$\{(220 - 140) + [10 \times 9 + (-2 \times 5)]\} - 100$$

**Solution:**  $\{(220 - 140) + [10 \times 9 + (-2 \times 5)]\} - 100$

$$\begin{aligned}
&= \{80 + [10 \times 9 + (-10)]\} - 100 \\
&= \{80 + [10 \times 9 - 10]\} - 100 \\
&= \{80 + [90 - 10]\} - 100 \\
&= \{80 + 80\} - 100 \\
&= 160 - 100 \\
&= 60
\end{aligned}$$

### Practice Set 25 | Q 5 | Page 42

Simplify the expression.

$$\frac{3}{5} + \frac{3}{8} \div \frac{6}{4}$$

**Solution:**

$$\begin{aligned}
&\frac{3}{5} + \frac{3}{8} \div \frac{6}{4} \\
&= \frac{3}{5} + \frac{3}{8} \times \frac{4}{6} \\
&= \frac{3}{5} + \frac{1}{4} \\
&= \frac{4 \times 3 + 5 \times 1}{20} \quad (\text{Since, LCM of 5 and 4 is 20}) \\
&= \frac{12 + 5}{20} \\
&= \frac{17}{20}
\end{aligned}$$