Operations on Rational Numbers

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 × 2 × 3 × 3

42 = 2 × 3 × 7

Now, LCM of 36 and 42 = 2 × 2 × 3 × 3 × 7 = 252

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

$$=\frac{5\times 7}{36\times 7}+\frac{6\times 6}{42\times 6}$$

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

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

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

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:

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

$$=\frac{1\times3+2}{3}+\frac{2\times5+4}{5}$$

$$=\frac{5}{3}+\frac{14}{5}$$

Now, LCM of 3 and 5 is 15.

$$\frac{5}{3}+\frac{14}{5}$$

$$=\frac{5\times5}{3\times5}+\frac{14\times3}{5\times3}$$

$$=\frac{25}{15}+\frac{42}{15}$$

$$=\frac{67}{15}$$

$$=4\frac{7}{15}$$

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.

$$\frac{11}{17}+\frac{13}{19}$$
$$=\frac{11\times19}{17\times19}+\frac{13\times17}{19\times17}$$
$$=\frac{209}{323}+\frac{221}{323}$$
$$=\frac{430}{323}$$

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:

$$2\frac{3}{11}+1\frac{3}{77}$$
$$=\frac{2\times11+3}{11}+\frac{1\times77+3}{77}$$
$$=\frac{25}{11}+\frac{80}{77}$$

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.

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

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

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

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

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

$$= \frac{112 \div 8}{360 \div 8}$$ (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:

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

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

$$= \frac{5}{3} - \frac{23}{6}$$

Now, LCM of 3 and 6 is 6.

$$= \frac{5}{3} - \frac{23}{6}$$

$$= \frac{5 \times 2}{3 \times 2} - \frac{23 \times 1}{6 \times 1}$$

$$= \frac{10}{6} - \frac{23}{6}$$

$$= \frac{10 - 23}{6}$$

$$= -\frac{13}{6}$$

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:

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

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

$$= \frac{9}{2} - \frac{10}{3}$$

Now, LCM of 2 and 3 is 6.

$$= \frac{9}{2} - \frac{10}{3}$$

$$= \frac{9 \times 3}{2 \times 3} - \frac{10 \times 2}{3 \times 2}$$

$$= \frac{18}{6} - \frac{20}{6}$$

$$= \frac{18 - 20}{6}$$

$$= -\frac{2}{6}$$

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

Practice Set 22 | Q 3.1 | Page 36

Multiply the following rational number.

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

Solution:

$$\frac{3}{11} \times \frac{2}{5}$$
$$= \frac{3 \times 2}{11 \times 5}$$
$$= \frac{6}{55}$$

Practice Set 22 | Q 3.2 | Page 36

Multiply the following rational number.

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

Solution:

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

Practice Set 22 | Q 3.3 | Page 36

Multiply the following rational number.

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

Solution:

$$\frac{-8}{9} \times \frac{3}{4}$$
$$= \frac{(-8) \times 3}{9 \times 4}$$
$$= \frac{-24}{36}$$
$$= \frac{-24 \div 12}{36 \div 12}$$ ...(Since, HCF of 24 and 36 is 12)
$$= -\frac{2}{3}$$

Practice Set 22 | Q 3.4 | Page 36

Multiply the following rational number.

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

Solution:

$$\frac{0}{6} \times \frac{3}{4}$$
$$= \frac{0 \times 3}{6 \times 4}$$
$$= \frac{0}{24}$$
$$= 0$$

Practice Set 22 | Q 4.1 | Page 36

Write the multiplicative inverse.

2/5

Solution:

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

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., $\frac{1}{a}$

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., $\frac{1}{a}$

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.

7

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

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

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

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

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

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:

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

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

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

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

$$= \frac{160 \div 40}{120 \div 40}$$ (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:

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

$$= \left(-\frac{10}{11}\right) \times \left(-\frac{10}{11}\right)$$

$$= \frac{(-10) \times (-10)}{11 \times 11}$$

$$= \frac{100}{121}$$

Practice Set 22 | Q 5.3 | Page 36

Carry out the division of a rational number.

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

Solution:

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

$$= \left(-\frac{7}{8}\right) \times \left(-\frac{6}{3}\right)$$

$$= \frac{(-7) \times (-6)}{8 \times 3}$$

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

$$= \frac{42 \div 6}{24 \div 6}$$ (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:

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

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

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

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

$$= \frac{-2 \div 2}{12 \div 2}$$ (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:

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

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

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

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

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

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

$$= \frac{66 \div 33}{165 \div 33}$$ (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:

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

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

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

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

$$= \frac{-130 \div 13}{91 \div 13}$$ ....(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:

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

$$= \frac{9}{11} \times -\frac{1}{8}$$

$$= \frac{9 \times (-1)}{11 \times 8}$$

$$= -\frac{9}{88}$$

Practice Set 22 | Q 5.8 | Page 36

Carry out the division of rational numbers.

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

Solution:

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

$$= \frac{5}{1} \div \frac{2}{5}$$

$$= \frac{5 \times 5}{1 \times 2}$$

$$= \frac{25}{2}$$

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:

$\frac{3}{7}, \frac{4}{7}$ 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 <.....< 1 <2 < 3 < 4 < .....< 12

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

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

$-\frac{9}{15}, -\frac{7}{15}$ 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 < .....<6 < 7

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

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

$-\frac{4}{9}, 0$ 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:

$-\frac{2}{4}, -\frac{1}{4}$ 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 < .....< -13 < -12 < .....< 11 < 12 < ....<17 < 21

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

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

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

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

Practice Set 23 | Q 7 | Page 38

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

$\frac{5}{7}$ 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:

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

Practice Set 23 | Q 8 | Page 38

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

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

Solution:

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

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 $-\frac{6}{8} \text{ and} 0$ are:

$-\frac{5}{8}, -\frac{2}{8}$ and $-\frac{1}{8}$

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

$$
\begin{array}{r}
3.25 \\
4\overline{)13.00} \\
\underline{-\ 12\ \ } \\
10 \\
\underline{-\ 8\ } \\
20 \\
\underline{-\ 20} \\
0
\end{array}
$$

$\therefore \frac{13}{4} = 3.25$

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 – 7/8

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

$$\begin{array}{r} -40 \\ \hline 0 \\ \hline \end{array}$$

$\therefore \frac{7}{8} = 0.875$

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 $7\frac{3}{5}$

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

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

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

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

$$
\begin{array}{r}
0.4166 \\
12\overline{)5.0000} \\
-\,0 \\
\hline
50 \\
-\,48 \\
\hline
20 \\
-\,12 \\
\hline
80 \\
-\,72 \\
\hline
80 \\
-\,72 \\
\hline
8
\end{array}
$$

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

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

$$
\begin{array}{r}
3.1428571 \\
7\overline{)22.00000000} \\
\underline{-\ 21} \\
10 \\
\underline{-\ 7} \\
30 \\
\underline{-\ 28} \\
20 \\
\underline{-\ 14} \\
60 \\
\underline{-\ 56} \\
40 \\
\underline{-\ 35} \\
50 \\
\underline{-\ 49} \\
10 \\
\underline{-\ 7} \\
3
\end{array}
$$

$\therefore \frac{22}{7} = 3.142857142857.... = 3.\overline{142857}$

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.

4/3

Solution: The given number is 4/3

$$
\begin{array}{r}
1.33 \\
3\overline{)4.00} \\
-\,3 \\
\hline
10 \\
-\,9 \\
\hline
10 \\
-\,9 \\
\hline
1
\end{array}
$$

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

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

$$
\begin{array}{r}
0.77 \\
9\overline{)7.00} \\
-\,7 \\
\hline
70 \\
-\,63 \\
\hline
70 \\
-\,63 \\
\hline
7
\end{array}
$$

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

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 × 5 ÷ 2 + 24

Solution: 50 × 5 ÷ 2 + 24

= 250 ÷ 2 + 24

= 125 + 24

= 149

Practice Set 25 | Q 2 | Page 42

Simplify the expression.

(13 × 4) ÷ 2 – 26

Solution: (13 × 4) ÷ 2 – 26

= 52 ÷ 2 – 26

= 26 – 26

= 0

Practice Set 25 | Q 3 | Page 42

Simplify the expression.

140 ÷ [(– 11) × (– 3) – (– 42) ÷ 14 – 1]

Solution: 140 ÷ [(– 11) × (– 3) – (– 42) ÷ 14 – 1]

= 140 ÷ [33 – (– 42) ÷ 14 – 1]

= 140 ÷ [33 + 42 ÷ 14 – 1]

= 140 ÷ [33 + 3 – 1]

= 140 ÷ [36 – 1]

= 140 ÷ 35

= 4

Practice Set 25 | Q 4 | Page 42

Simplify the expression.

{(220 – 140) + [10 × 9 + (– 2 × 5)]} – 100

Solution: {(220 – 140) + [10 × 9 + (– 2 × 5)]} – 100

= {80 + [10 × 9 + (– 10)]} – 100

= {80 + [10 × 9 – 10]} – 100

= {80 + [90 – 10]} – 100

= {80 + 80} – 100

= 160 – 100

= 60

Practice Set 25 | Q 5 | Page 42

Simplify the expression.

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

Solution:

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

$$= \frac{3}{5} + \frac{3}{8} \times \frac{4}{6}$$

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

$$= \frac{4 \times 3 + 5 \times 1}{20}$$ (Since, LCM of 5 and 4 is 20)

$$= \frac{12 + 5}{20}$$

$$= \frac{17}{20}$$