

Chapter 4: Fractions and Decimals

NCERT Exemplar · Class 6 · Maths

Textbook exercises

Question 1

The fraction which is not equal to $\frac{4}{5}$ is

(A) $\frac{40}{50}$

(B) $\frac{12}{15}$

(C) $\frac{16}{20}$

(D) $\frac{9}{15}$

Solution

Ans: Option D is right

$$\text{Check option A} \Rightarrow \frac{40 \div 10}{50 \div 10} = \frac{4}{5}$$

$$\text{Check option B} \Rightarrow \frac{12}{15} = \frac{4}{5}$$

$$\text{Check option C} \Rightarrow \frac{16}{20} = \frac{4}{5}$$

$$\text{Check option D} \Rightarrow \frac{9}{15} = \frac{3}{5}$$

Question 2

The two consecutive integers between which the fraction $\frac{5}{7}$ lies are

(A) 5 and 6

(B) 0 and 1

(C) 5 and 7

(D) 6 and 7

Solution

Ans: Option B is right

Fundamental from fraction, if the value of a numerator of each fraction implies less than this value of denominator, ever lies between and 0 and 1.

Hence, $\frac{5}{7}$ are lies between 0 and 1.

Question 3

When $\frac{1}{4}$ is written with denominator as 12, its numerator is

(A) 3

(B) 8

(C) 24

(D) 12

Solution

Ans: Option A is right

$$\text{Since, } \Rightarrow \frac{1}{4} \times \frac{3}{3} = \frac{3}{12}$$

Question 4

Which of the following is not in the lowest form?

(A) $\frac{7}{5}$

(B) $\frac{15}{20}$

(C) $\frac{13}{33}$

(D) $\frac{27}{28}$

Solution

Ans: Option B is right

In case of $\frac{5}{7}$, the common factor of 7 and 5 is 1.

Hence, already given in the simplest form.

In case of $\frac{15}{20}$, the common factor of 15 and 20 is 4.

In case of $\frac{13}{33}$, the common factor of 13 and 33 is 1.

Hence, already given in the simplest form.

In case of $\frac{27}{28}$, the common factor of 27 and 28 is 1.

Hence, already given in the simplest form.

Hence, $\frac{15}{20}$ not given in the simplest form.

Question 5

If $\frac{5}{8} = \frac{20}{p}$, then value of p is

(A) 23

(B) 2

(C) 32

(D) 16

Solution

Ans: Option C is right

$$\frac{5}{8} = \frac{20}{p}$$

$$\Rightarrow 5 \times p = 20 \times 8$$

$$\Rightarrow p = \frac{20 \times 8}{5}$$

$$\Rightarrow p = 4 \times 8 = 32$$

Hence, Value of p is 32

Question 6

Which of the following is not equal to the others?

(A) $\frac{6}{8}$

(B) $\frac{12}{16}$

(C) $\frac{15}{25}$

(D) $\frac{18}{24}$

Solution

Ans: Option C is right

Check option A $\Rightarrow \frac{6}{8} = \frac{3}{4}$

Check option B $\Rightarrow \frac{12 \div 4}{16 \div 4} = \frac{3}{4}$

Check option C $\Rightarrow \frac{15 \div 5}{25 \div 5} = \frac{3}{5}$

Check option D $\Rightarrow \frac{18 \div 6}{24 \div 6} = \frac{3}{4}$

Thus, Option C is not equal to the other option.

Question 7

Which of the following fractions is the greatest?

(A) $\frac{5}{7}$

(B) $\frac{5}{6}$

(C) $\frac{5}{9}$

(D) $\frac{5}{8}$

Solution

Ans: Option B is right

In the above option given that, among the entire fraction with same numerator, the one with smaller denominator will be greatest.

Thus, required fraction is $\frac{5}{6}$.

Question 8

Which of the following fractions is the smallest?

(A) $\frac{7}{8}$

(B) $\frac{9}{8}$

(C) $\frac{3}{8}$

(D) $\frac{5}{8}$

Solution

Ans: Option C is right

In the above option given that, among the entire fraction with same denominator, the one with smaller numerator will be smallest.

Thus, required fraction is $\frac{3}{8}$.

Question 9

Sum of $\frac{4}{17}$ and $\frac{15}{17}$ is

(A) $\frac{19}{17}$

(B) $\frac{11}{17}$

(C) $\frac{19}{34}$

(D) $\frac{2}{17}$

Solution

Ans: Option A is right

$$\frac{4}{17} \text{ and } \frac{15}{17}$$

Take the LCM of denominators

$$\begin{aligned}\Rightarrow \frac{4}{17} + \frac{15}{17} &= \frac{4 + 15}{17} \\ &= \frac{19}{17}\end{aligned}$$

Thus, required fraction is $\frac{19}{17}$.

Question 10

On subtracting $\frac{5}{9}$ from $\frac{19}{9}$, the result is

(A) $\frac{24}{9}$

(B) $\frac{14}{9}$

(C) $\frac{14}{18}$

(D) $\frac{14}{0}$

Solution

Ans: Option B is right

$$\frac{5}{9} \text{ from } \frac{19}{9}$$

Take the LCM of denominators

$$\begin{aligned}\Rightarrow \frac{19}{9} - \frac{5}{9} &= \frac{19 - 5}{9} \\ &= \frac{14}{9}\end{aligned}$$

Thus, required fraction is $\frac{14}{9}$.

Question 11

0.7499 lies between

(A) 0.7 and 0.74

(B) 0.75 and 0.79

(C) 0.749 and 0.75

(D) 0.74992 and 0.75

Solution

Ans: Option C is right

0.7499 is successor of 0.749 and predecessor of 0.75

Thus, 0.749 lies between 0.749 and 0.75

Question 12

0.023 lies between

- (A) 0.2 and 0.3
(B) 0.02 and 0.03
(C) 0.03 and 0.029
(D) 0.026 and 0.024

Solution

Ans: Option B is right

Thus, 0.023 lies between 0.02 and 0.03

Question 13

$\frac{11}{7}$ can be expressed in the form

- (A) $7\frac{1}{4}$
(B) $4\frac{1}{7}$
(C) $1\frac{4}{7}$
(D) $11\frac{1}{7}$

Solution

Ans: Option C is right

The mix fraction of $\frac{11}{7}$ is $1\frac{4}{7}$

Question 14

The mixed fraction $5\frac{4}{7}$ can be expressed as

(A) $\frac{33}{7}$

(B) $\frac{39}{7}$

(C) $\frac{33}{4}$

(D) $\frac{39}{4}$

Solution

Ans: Option B is right

$$\begin{aligned}\therefore 5\frac{4}{7} &= \frac{(7 \times 5) + 4}{7} \\ &= \frac{35 + 4}{7} \\ &= \frac{39}{7}\end{aligned}$$

Question 15

0.07 + 0.008 is equal to

(A) 0.15

(B) 0.015

(C) 0.078

(D) 0.78

Solution

Ans: Option C is right

Sum of 0.07 + 0.008 is **0.078**

Question 16

Which of the following decimals is the greatest?

- (A) 0. 182
- (B) 0. 0925
- (C) 0. 29
- (D) 0. 038

Solution

Ans: Option C is right

Convert the above option into like decimal as 0.1820, 0.0925, 0.2900 and 0.0380.

Thus, comparing the value of like decimal value, 0.2900 is the greatest among the given option.

Question 17

Which of the following decimals is the smallest?

- (A) 0. 27
- (B) 1. 5
- (C) 0. 082
- (D) 0. 103

Solution

Ans: Option C is right

Convert the above option into like decimal as 0.270, 1.500, 0.082 and 0.103.

Thus, comparing the value of like decimal value, 0.082 is the smallest among the given option.

Question 18

13.572 correct to the tenths place is

- (A) 10
- (B) 13.57
- (C) 14.5
- (D) 13.6

Solution

Ans: Option D is right

Round off the number 13.572 is 13.6

Question 19

$15.8 - 6.73$ is equal to

- (A) 8.07
- (B) 9.07
- (C) 9.13
- (D) 9.25

Solution

Ans: Option B is right

Subtraction of $15.8 - 6.73$ is **9.07**

Question 20

The decimal 0.238 is equal to the fraction

- (A) $\frac{119}{500}$
- (B) $\frac{238}{25}$

(C) $\frac{199}{25}$

(D) $\frac{119}{50}$

Solution

Ans: Option A is right

Thus, 0.238

fraction for 0.238

$$\begin{aligned}\Rightarrow \frac{238}{1000} &= \frac{238 \div 2}{1000 \div 2} \\ &= \frac{119}{500}\end{aligned}$$

Thus, required option $\frac{119}{500}$.

In Questions 21 to 44, fill in the blanks to make the Statements True

Question 21

A number representing a part of a _____ is called a fraction.

Solution

Ans: A number representing a part of a whole is called a fraction.

Question 22

A fraction with denominator greater than the numerator is called a _____ fraction.

Solution

Ans: A fraction with denominator greater than the numerator is called a proper fraction

Question 23

fractions with the same denominator are called ____ fractions.

Solution

Ans: fractions with the same denominator are called like fractions.

Question 24

$13\frac{5}{18}$ Is a ____ fraction.

Solution

Ans: $13\frac{5}{8}$ Is a mix fraction.

Question 25

$\frac{18}{8}$ Is a ____ fraction.

Solution

Ans: $\frac{18}{5}$ Is a improper fraction

Question 26

$\frac{7}{19}$ Is a ____ fraction.

Solution

Ans: $\frac{7}{19}$ Is a proper fraction.

Question 27

$\frac{5}{8}$ and $\frac{3}{8}$ Are _____ proper fractions.

Solution

Ans: $\frac{5}{8}$ and $\frac{3}{8}$ Are like proper fractions.

Question 28

$\frac{6}{11}$ and $\frac{6}{13}$ Are _____ proper fractions.

Solution

Ans: $\frac{6}{11}$ and $\frac{6}{13}$ are unlike proper fractions.

Question 29

The fraction $\frac{6}{15}$ in simplest form is _____

Solution

Ans: Given fraction is $\frac{6}{15} = \frac{6 \div 3}{15 \div 3} = \frac{2}{5}$

The fraction $\frac{6}{15}$ in simplest form is $\frac{2}{5}$

Question 30

The fraction $\frac{17}{34}$ in simplest forms is _____

Solution

Ans: Given fraction is $\frac{17}{34} = \frac{17 \div 17}{34 \div 17} = \frac{1}{2}$

The fraction $\frac{17}{34}$ in simplest form is $\frac{1}{2}$

Question 31

$\frac{18}{135}$ and $\frac{90}{675}$ Are proper, unlike and _____ fractions.

Solution

Ans: $\frac{18}{135}$ and $\frac{90}{675}$ Are proper, unlike and equivalent fractions.

Question 32

$8\frac{2}{7}$ Is equal to the improper fraction _____

Solution

Ans: Given fraction is

$$\begin{aligned} 8\frac{2}{7} &= \frac{(8 \times 7) + 2}{7} \\ &= \frac{56 + 2}{7} \\ &= \frac{58}{7} \end{aligned}$$

$8\frac{2}{7}$ Is equal to the improper fraction $\frac{58}{7}$

Question 33

$\frac{87}{7}$ Is equal to the mixed fraction _____

Solution

Ans: By long division the quotient and remainder will be 12 and 3

$\frac{87}{7}$ Is equal to the mixed fraction $12\frac{3}{7}$

Question 34

$9 + \frac{2}{10} + \frac{6}{100}$ Is equal to the decimal number _____

Solution

Ans: The LCM of 10 and 100 is 100.

$$\begin{aligned}\text{Hence, } 9 + \frac{2}{10} + \frac{6}{100} \\&= \frac{9 \times 100 + 2 \times 10 + 6}{100} \\&\Rightarrow \frac{962}{100} = 9.26\end{aligned}$$

Question 35

Decimal 16.25 are equal to the fraction _____

Solution

Ans: Now, 16.25

$$\Rightarrow \frac{1625}{100} = \frac{1625 \div 25}{100 \div 25} = \frac{65}{4}$$

Decimal 16.25 are equal to the fraction $\frac{65}{4}$.

Question 36

fraction $\frac{7}{25}$ is equal to the decimal number

Solution

Ans: Given fraction is

$$\begin{aligned}\frac{7}{25} &= \frac{7 \times 4}{25 \times 4} \\ &= \frac{28}{100} \\ &= 0.28\end{aligned}$$

fraction $\frac{7}{25}$ is equal to the decimal number 0.28

Question 37

$$\frac{17}{9} + \frac{41}{9} =$$

Solution

Ans: Explanation,

For the fractions denominator is same so add only numerator

$$\Rightarrow \frac{17}{9} + \frac{41}{9} = \frac{17 + 41}{9} = \frac{58}{9}$$

So,

$$\frac{17}{9} + \frac{41}{9} = \frac{58}{9}$$

Question 38

$$\frac{67}{14} - \frac{14}{14} =$$

Solution

Ans: Explanation,

For the fractions denominator is same so subtract only numerator

$$\Rightarrow \frac{67}{14} - \frac{24}{14} = \frac{67 - 24}{14} = \frac{43}{14}$$

Hence,

$$\frac{67}{14} - \frac{24}{14} = \frac{43}{14}$$

Question 39

$$\frac{17}{2} + 3\frac{1}{2} =$$

Solution

Ans: Explanation,

Rewrite the mixed fraction and add the numerator

$$\Rightarrow \frac{17}{2} + 3\frac{1}{2} = \frac{17}{2} + \frac{7}{2} = \frac{17 + 7}{2}$$

$$\Rightarrow \frac{24}{2} = \frac{24 \div 2}{2 \div 2} = 12$$

$$\text{Hence, } \frac{17}{2} + 3\frac{1}{2} = 12$$

Question 40

$$9\frac{1}{4} - \frac{5}{4} =$$

Solution

Ans: Explanation,

Rewrite the mixed fraction and subtract the numerator

$$\Rightarrow 9\frac{1}{4} - \frac{5}{4} = \frac{37}{4} - \frac{5}{4}$$

$$= \frac{37 - 5}{4} = \frac{32}{4}$$

$$\Rightarrow \frac{32 \div 4}{4 \div 4} = 8$$

Therefore, $9\frac{1}{4} - \frac{5}{4} = 8$

Question 41

$$4.55 + 9.73 =$$

Solution

Ans: Add the numbers

$$4.55 + 9.73 = 14.28$$

Question 42

$$8.76 - 2.68 =$$

Solution

Ans: Subtract the numbers

$$8.76 - 2.68 = 6.08$$

Question 43

The value of 50 coins of 50 paisa = Rs_____

Solution

Ans: $50 \times 50 = 2500$ paisa

$$\Rightarrow \text{Rs. } \frac{2500}{100} = \text{Rs. } \frac{2500 \div 100}{100 \div 100}$$
$$= \text{Rs. } 25$$

The value of 50 coins of 50 paise = Rs. 25

Question 44

3 Hundredths + 3 tenths =

Solution

Ans: 3 Hundredths = 0.03

3 tenths = 0.3

3 Hundredths + 3 tenths = 0.33

In Each of the Questions 45 to 65, state Whether the Statement is True or False

Question 45

fractions with the same numerator are called like fractions.

Solution

Ans: The given statement is False

The correct statement is fractions with the same denominator are called like fractions.

Question 46

fraction $\frac{18}{39}$ is in its lowest form.

Solution

Ans: The statement is False

Because the fraction is in lowest form is

$$\frac{18}{39} \Rightarrow \frac{18 \div 3}{39 \div 3} = \frac{6}{13}$$

Question 47

fractions $\frac{15}{39}$ and $\frac{45}{117}$ are equivalent fractions.

Solution

Ans: The statement is True

It is divide by same number

$$\frac{45}{117} \Rightarrow \frac{45 \div 3}{117 \div 3} = \frac{15}{39}$$

So, Both are equivalent.

Question 48

The sum of two fractions is always a fraction.

Solution

Ans: The statement is True

Let, two fraction $\frac{17}{9}$ and $\frac{41}{9}$

$$\frac{17}{9} + \frac{41}{9} = \frac{58}{9}$$

Explanation,

$$\Rightarrow \frac{17}{9} + \frac{41}{9} = \frac{17 + 41}{9} = \frac{58}{9},$$

This is a fraction.

Question 49

The result obtained by subtracting a fraction from another fraction is necessarily a fraction.

Solution

Ans: The statement is False

Let, two fraction $\frac{24}{14}$ and $\frac{67}{14}$

$$\frac{24}{14} - \frac{67}{14} = -\frac{43}{14}$$

Explanation,

$$\Rightarrow \frac{24}{14} - \frac{67}{14} = \frac{24 - 67}{14} = -\frac{43}{14},$$

which is not a fraction.

Question 50

If a whole or an object is divided into a number of equal parts, then each part represents a fraction.

Solution

Ans: The statement is True

Question 51

The place value of a digit at the tenths place is 10 times the same digit at the one's place.

Solution

Ans: The given statement is False

The place value of a digit at the tenths place is $\frac{1}{10}$ times the same digit at the one's place.

$$\frac{x}{10} = 10x, \text{ it is not possible.}$$

Question 52

The place value of a digit at the hundredths place is $\frac{1}{10}$ times the same digit at the tenths place.

Solution

Ans: The given statement is True

Question 53

The decimal 3.725 is equal to 3.72 correct to two decimal places.

Solution

Ans: The given statement is False

Since, 5 is at thousandths place.

3.725 is written as 3.73, correct two decimal place.

Question 54

In the decimal form, fraction $\frac{25}{8} = 3.125$.

Solution

Ans: The statement is True

$$\begin{aligned}\frac{25}{8} &= \frac{25 \times 125}{8 \times 125} \\ &= \frac{3125}{1000} = 3.125\end{aligned}$$

Question 55

The decimal $23.2 = 23\frac{2}{5}$.

Solution

Ans: The given statement is False

$$\begin{aligned} 23.2 &= \frac{232}{10} \\ &= \frac{232 \div 2}{10 \div 2} = \frac{116}{5} \end{aligned}$$

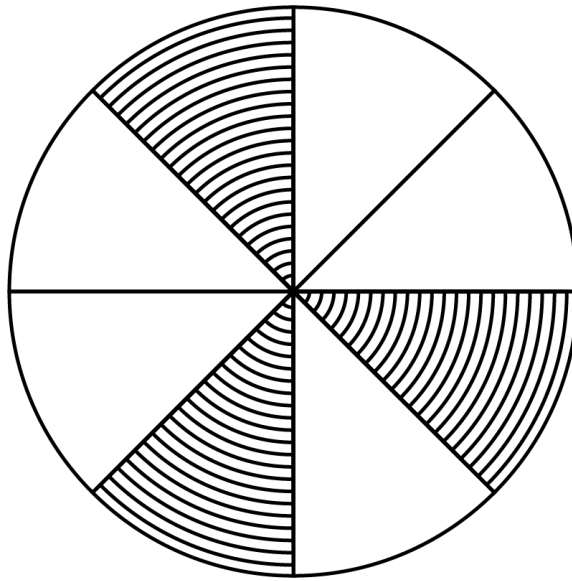
By Long division method the quotient and remainder is 23 and 1.

The correct statement

The decimal $23.2 = 23\frac{1}{5}$.

Question 56

The fraction represented by the shaded portion in the adjoining figure is $\frac{3}{8}$.

**Solution**

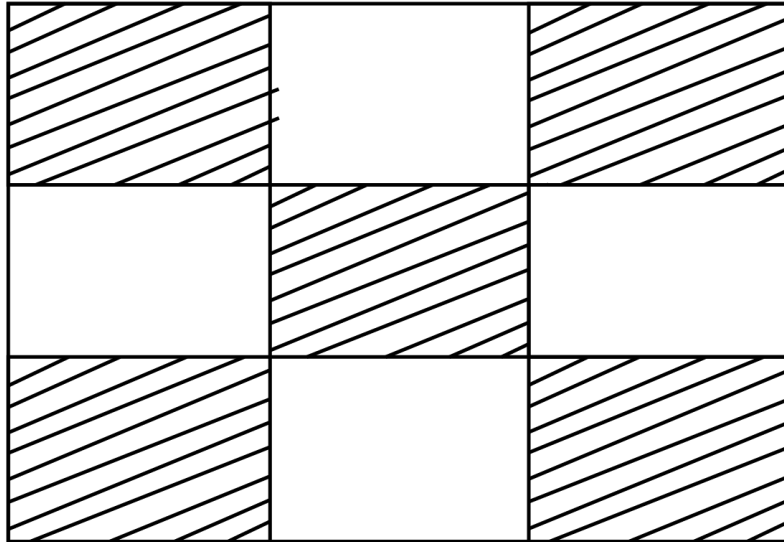
Ans: The given explanation is true.

The figure shows that, number of total part is 8 and out of these 3 parts is shaded.

The required fraction is $\frac{3}{8}$

Question 57

The fraction represented by the un-shaded portion in the adjoining figure is $\frac{5}{9}$.

**Solution**

Ans: The given statement for the figure is false.

The figure shows that, number of total part is 9 and out of these 4 parts is un-shaded.

The required fraction is $\frac{4}{9}$.

Question 58

$$\frac{25}{19} + \frac{6}{19} = \frac{31}{38}$$

Solution

Ans: The addition of the fraction is False

Denominator is same for the fractions so by adding the numerator

$$\Rightarrow \frac{25}{19} + \frac{6}{19} = \frac{25+6}{19} = \frac{31}{19}$$

$$\Rightarrow \frac{31}{19} \neq \frac{31}{38}$$

Question 59

$$\frac{8}{18} - \frac{8}{15} = \frac{8}{3}$$

Solution

Ans: The subtract of the fraction is False

Cross multiply the both fraction with each other.

$$\begin{aligned}\Rightarrow \frac{8}{18} - \frac{8}{15} &= \frac{8 \times 15 - 8 \times 18}{18 \times 15} \\&= \frac{120 - 144}{270} = \frac{-24}{270} \\&= -\frac{4}{45} \\ \Rightarrow -\frac{4}{45} &\neq \frac{8}{3}\end{aligned}$$

Question 60

$$\frac{7}{12} + \frac{11}{12} = \frac{3}{2}$$

Solution

Ans: The addition of the fraction is True

$$\begin{aligned}\Rightarrow \frac{7}{12} + \frac{11}{12} &= \frac{7 + 11}{12} \\&= \frac{18 \div 6}{12 \div 6} = \frac{3}{2}\end{aligned}$$

Question 61

$$3.03 + 0.016 = 3.019$$

Solution

Ans: The addition of the numbers is False

$$\Rightarrow 3.030 + 0.016 = 3.046$$

$$\Rightarrow 3.046 \neq 3.019$$

Question 62

$$42.28 - 3.19 = 39.09.$$

Solution

Ans: The subtraction of the two numbers is True

Question 63

$$\frac{16}{25} > \frac{13}{25}$$

Solution

Ans: The statement is True

Given fraction are like fraction.

Comparing the numerator, we get $\frac{16}{25} > \frac{13}{25}$

Question 64

$$19.25 < 19.053$$

Solution

Ans: The given fraction type is False

Since, convert the 19.25 and 19.053 in like decimal. It's become 19.250 and 19.053.

Compare the place value $19.250 < 19.053$, we get hundred place of 19.250 is 2 and the hundred place of 19.053 is 0

Hence, the statement is $19.25 > 19.053$

Question 65

$$13.730 = 13.73$$

Solution

Ans: The given number is True

Since, convert the 13.730 and 13.73 in like decimal. It's become 13.730 and 13.730

$$\text{So, } 13.730 = 13.73$$

In Each of the Questions 66 to 71, fill in the Blanks Using '>', '<' or '=':

Question 66

$$\frac{11}{16} \cdots \frac{14}{15}$$

Solution

Ans: The L.C.M. of 16 and 15 is $2 \times 2 \times 2 \times 2 \times 3 \times 5 = 240$

Make it as like a fraction, multiply in numerator and denominator with the same digit

$$\frac{11}{16} \times \frac{15}{15} = \frac{165}{240}$$

$$\frac{14}{15} \times \frac{16}{16} = \frac{224}{240}$$

$$\frac{224}{240} > \frac{165}{240} \text{ So, } \frac{11}{16} < \frac{14}{15}$$

Question 67

$$\frac{8}{5} \cdots \frac{95}{14}$$

Solution

Ans: The L.C.M of 15 and 14 is $2 \times 3 \times 5 \times 7 = 210$

Make it as like a fraction, multiply in numerator and denominator with the same digit

$$\frac{8}{15} \times \frac{14}{14} = \frac{112}{210}$$

$$\frac{95}{14} \times \frac{15}{15} = \frac{1425}{210}$$

$$\frac{1425}{210} > \frac{112}{210}$$

Therefore, $\frac{8}{15} < \frac{95}{14}$

Question 68

$$\frac{12}{75} \cdots \frac{32}{200}$$

Solution

Ans: The L.C.M of 75 and 200 is $2 \times 2 \times 2 \times 3 \times 5 \times 5 = 600$

Make it as like a fraction, multiply in numerator and denominator with the same digit

$$\frac{12}{75} \times \frac{8}{8} = \frac{96}{600}$$

$$\frac{32}{200} \times \frac{3}{3} = \frac{96}{600}$$

$$\frac{96}{600} = \frac{96}{600}$$

Hence, $\frac{12}{75} = \frac{32}{200}$

Question 69

$3.25 \dots 3.4$

Solution

Ans: Since, convert the 3.25 and 3.4 in like decimal. It's become 3.25 and 3.40

Compare the place value of 3.25 and 3.40 , we get tenth place of 3.25 is 2 and the tenth place of 3.40 is 4

Hence, $3.25 < 3.4$

Question 70

$\frac{18}{15} \dots 1.3$

Solution

Ans: Since, convert 1.3 into fraction form, we get $\frac{13}{10}$

$$\frac{18}{15} \dots \frac{13}{10}$$

The L.C.M. of 15 and 10 is $2 \times 3 \times 5 = 30$

Make it as like a fraction, multiply in numerator and denominator with the same digit

$$\frac{18}{15} \times \frac{10}{10} = \frac{180}{150} \text{ and } \frac{13}{10} \times \frac{15}{15} = \frac{195}{150}$$

$$\frac{180}{150} < \frac{195}{150} \text{ So, } \frac{18}{15} < 1.3$$

Question 71

$$6.25 \dots \frac{25}{4}$$

Solution

Ans: Since, convert 1.3 into fraction form, we get $\frac{625}{100}$

$$\Rightarrow \frac{625}{100} = \frac{625 \div 25}{100 \div 25} = \frac{25}{4}$$

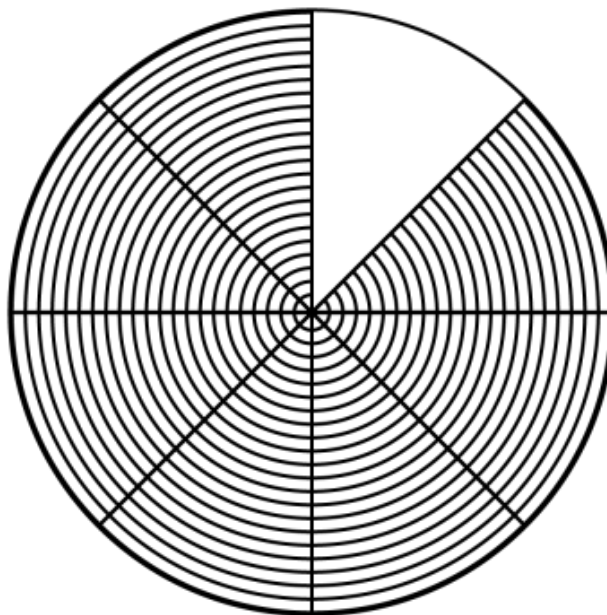
$$\frac{25}{4} \dots \frac{25}{4}$$

$$\frac{25}{4} = \frac{25}{4}$$

Therefore, $6.25 = \frac{25}{4}$

Question 72

Write the fraction represented by the shaded portion of the adjoining figure:



Solution

Ans: In the given figure, total parts in the figure is divided into 8 parts and 7 parts are shaded.

Total parts = 8

Total shaded parts = 7

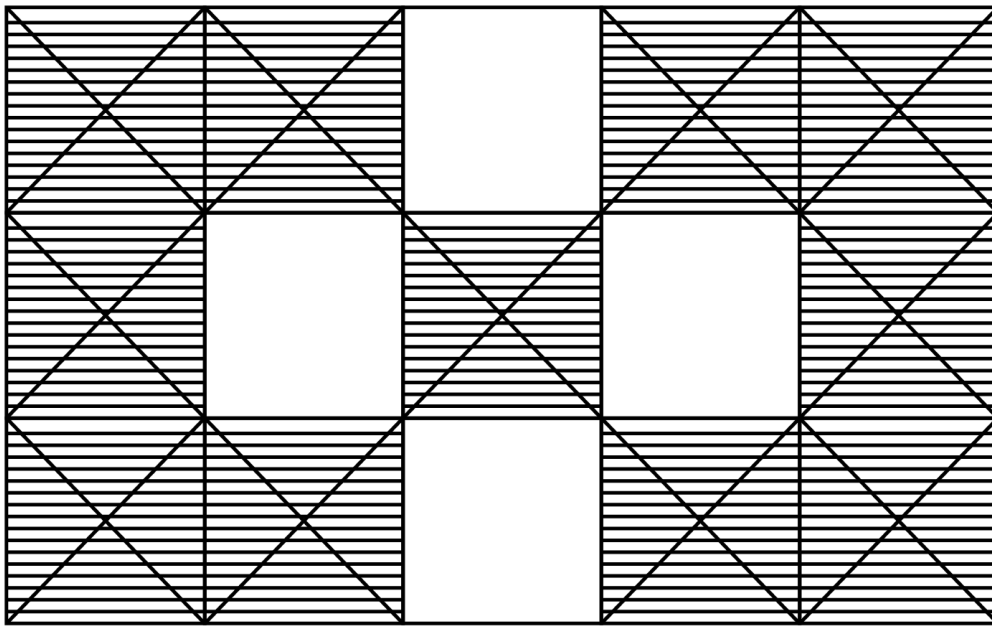
Therefore,

$$\begin{aligned}\text{fraction of unshaded portion} &= \frac{\text{Total shaded parts}}{\text{Total parts}} \\ &= \frac{7}{8}\end{aligned}$$

The required fraction is $\frac{7}{8}$.

Question 73

Write the fraction represented by the un-shaded portion of the adjoining figure:



Solution

Ans: In the given figure, total parts in which figure has been divided into 15 and out of which 4 parts are unshaded.

Total parts = 15

Total unshaded parts = 4

Therefore,

$$\text{fraction of unshaded portion} = \frac{\text{Total unshaded parts}}{\text{Total parts}} = \frac{4}{15}$$

The required fraction is $\frac{4}{15}$.

Question 74

Ali divided one fruit cake equally among six persons. What part of the cake he gave to each person?

Solution

Ans: Given data

Number of cake = 1

Total no. of persons = 6

Since,

Ali has to divide one fruit cake among 6 people,

$$\begin{aligned}\text{Each person will get} &= \frac{\text{No. of cake}}{\text{Total no. of person}} \\ &= \frac{1}{6} \text{ part}\end{aligned}$$

Question 75

Arrange 12. 142, 12. 124, 12. 104, 12. 401 and 12. 214 in ascending order.

Solution

Ans: Given number 12.142, 12.124, 12.104, 12.401 and 12.214 in like decimal.

So, compare the place value of the digit and arrange them,

$$12.104 < 12.124 < 12.142 < 12.214 < 12.401$$

Question 76

Write the largest four-digit decimal number less than 1 using the digits 1, 5, 3 and 8 once.

Solution

Ans: Given whole numbers are 1, 5, 3, and 8.

Arrange them in descending order to make them large, after arranging the number will be 8531.

To make it a decimal number we will keep the whole number 8531 in the decimal point.

The required number is 0.8531, which is the largest four - digit decimal number less than 1.

Question 77

Using the digits 2, 4, 5 and 3 once, write the smallest four-digit decimal number.

Solution

Ans: For converting 2, 4, 5, and 3 into smallest four digit decimal number, arrange them in ascending order and then making the numbers decimal, we have to keep the whole numbers in decimal point.

After arranging whole numbers in ascending form it will be 2345.

To make the number decimal we will keep the numbers in decimal point.

So, the required number is 0.2345, which is the smallest four digit decimal number.

Question 78

Express $\frac{11}{20}$ as a decimal.

Solution

Ans: $\frac{11}{20}$ is an improper fraction.

To get the denominator as whole number we will multiply denominator by 5,

$$\frac{11}{20} = \frac{11 \times 5}{20 \times 5} = \frac{55}{100} = 0.55$$

0.55 is in decimal form

Question 79

Express $6\frac{2}{3}$ as an improper fraction.

Solution

Ans: We will convert the mixed fraction $6\frac{2}{3}$ into improper fraction.

We have,

$$6\frac{2}{3} = \frac{(6 \times 3) + 2}{3} = \frac{18 + 2}{3} = \frac{20}{3}$$

Now we got $\frac{20}{3}$.

$\frac{20}{3}$ is an improper fraction.

Question 80

Express $3\frac{2}{5}$ as a decimal.

Solution

Ans: We will convert the mixed fraction $3\frac{2}{5}$ into an improper fraction.

$$\text{We have, } 3\frac{2}{5} = \frac{(3 \times 5) + 2}{5} = \frac{15 + 2}{5} = \frac{17}{5}$$

Now,

$$\frac{17}{5} = \frac{17 \times 2}{5 \times 2} = \frac{34}{10} = 3.4$$

Question 81

Express 0.041 as a fraction.

Solution

Ans: We can write 0.041 as $\frac{0.041}{1}$.

$$\text{So, } 0.041 = \frac{0.041}{1}$$

Multiply numerator and denominator by **1000** we have,

$$0.041 = \frac{0.041 \times 1000}{1 \times 1000}$$

$$= \frac{41}{1000}$$

fraction for the decimal is $\frac{41}{1000}$

Question 82

Express 6.03 as a mixed fraction.

Solution

Ans: We have, 6.03

$$6.03 = \frac{603}{100} = 6\frac{3}{100}$$

The fraction for the decimal is $6\frac{3}{100}$

Question 83

Convert 5201g to kg.

Solution

Ans: We know that,

$$1\text{Kg} = 1000\text{g}$$

$$1\text{g} = \frac{1}{1000}\text{kg}$$

$$5201\text{g} = \frac{1}{1000} \times 5201\text{kg}$$

$$\Rightarrow 5201\text{g} = \frac{5201}{1000} = 5.201\text{kg}$$

Question 84

Convert 2009 paisa to rupees and express the result as a mixed fraction.

Solution

Ans: We know that,

$$1 \text{ rupee} = 100 \text{ paisa}$$

$$1 \text{ paisa} = \frac{1}{100} \text{ rupees}$$

$$2009 \text{ paisa} = \frac{1}{100} \times 2009 \text{ rupees}$$

$$\Rightarrow 2009 \text{ paisa} = \frac{2009}{100} = 20.09 \text{ rupees}$$

The mixed fraction is Rs. $20\frac{9}{100}$.

Question 85

Convert 1537cm to m and express the result as an improper fraction.

Solution

Ans: We know that,

$$1 \text{ meter} = 100\text{centimeters}$$

$$1 \text{ centimeter} = \frac{1}{100} \text{ meter}$$

$$1537\text{cm} = \frac{1}{100} \times 1537\text{m}$$

$$\Rightarrow 1537\text{cm} = \frac{1537}{100}\text{m}$$

Question 86

Convert 2435m to km and express the result as a mixed fraction.

Solution

Ans: We know that

$$1\text{km} = 1000\text{m}$$

$$1\text{m} = \frac{1}{1000}\text{km}$$

$$2435\text{m} = \frac{1}{1000} \times 2435\text{km}$$

$$2435\text{m} = \frac{2435}{1000}\text{km} = 2.435\text{km}$$

Dividing numerator and denominator by 5 we have,

$$\frac{2435 \div 5}{1000 \div 5}\text{km} = \frac{487}{200}\text{km}$$

By long division method quotient and remainder is 2 and 87

$$\text{The mixed fraction is } 2\frac{87}{200}$$

Question 87

Arrange the fractions $\frac{2}{3}$, $\frac{3}{4}$, $\frac{1}{2}$ and $\frac{5}{6}$ in ascending order.

Solution

$$\text{Ans: Given fraction is } \frac{2}{3}, \frac{3}{4}, \frac{1}{2} \text{ and } \frac{5}{6}$$

Take the LCM of 3, 4, 2 and 6

The LCM of 3, 4, 2 and 6 is $2 \times 2 \times 3 = 12$

$$\text{Now, } \frac{2 \times 4}{3 \times 4} = \frac{8}{12},$$

$$\frac{3 \times 3}{4 \times 3} = \frac{9}{12}$$

$$\frac{1 \times 6}{2 \times 6} = \frac{6}{12},$$

$$\frac{5 \times 2}{6 \times 2} = \frac{10}{12}$$

Now, arrange the following the ascending order

$$\frac{6}{12} < \frac{8}{12} < \frac{9}{12} < \frac{10}{12}$$

The ascending order of the function is $\frac{1}{2} < \frac{2}{3} < \frac{3}{4} < \frac{5}{6}$.

Question 88

Arrange the fractions $\frac{6}{7}$, $\frac{7}{8}$, $\frac{4}{5}$ and $\frac{3}{4}$ in descending order

Solution

Ans: The given fraction is $\frac{6}{7}$, $\frac{7}{8}$, $\frac{4}{5}$ and $\frac{3}{4}$

Take the LCM of 7, 8, 5 and 4

The LCM of 7, 8, 5 and 4 = $2 \times 2 \times 2 \times 5 \times 7 = 280$

$$\text{Now, } \frac{6}{7} = \frac{6 \times 40}{7 \times 40} = \frac{240}{280},$$

$$\frac{7}{8} = \frac{7 \times 35}{8 \times 35} = \frac{245}{280}$$

$$\frac{4}{5} = \frac{4 \times 56}{5 \times 56} = \frac{224}{280} \text{ and } \frac{3}{4} = \frac{3 \times 70}{4 \times 70} = \frac{210}{280}$$

Now, arrange the following the descending order

$$\frac{245}{280} > \frac{240}{280} > \frac{224}{280} > \frac{210}{280}$$

The descending order of the fraction is $\frac{7}{8} > \frac{6}{7} > \frac{4}{5} > \frac{3}{4}$.

Question 89

Write $\frac{3}{4}$ as a fraction with denominator 44.

Solution

Ans: Given fraction $\frac{3}{4}$

If multiply 4 by 11 it become 44

Now,

$$\frac{3}{4} \times \frac{11}{11} = \frac{3 \times 11}{4 \times 11} = \frac{33}{44}$$

$$\frac{3}{4} \text{ is equivalent to } \frac{33}{44}$$

Question 90

Write $\frac{5}{6}$ as a fraction with numerator 60.

Solution

Ans: Given fraction $\frac{5}{6}$

If multiply 5 by 12 it become 60

Now,

$$\frac{5}{6} = \frac{5 \times 12}{6 \times 12}$$

$$\frac{5}{6} = \frac{60}{72}$$

$$\frac{5}{6} \text{ is equivalent to } \frac{60}{72}.$$

Question 91

Write $\frac{129}{8}$ as a mixed fraction

Solution

Ans: Given fraction is $\frac{129}{8}$

Now divide the numbers and quotient and remainder of the numbers is 16 and 1

So, the mixed fraction of the $\frac{129}{8} = 16\frac{1}{8}$

Question 92

Round off 20.83 to nearest tenths

Solution

Ans: 20.8 is the nearest round off 20.83

Question 93

Round off 75.195 to nearest hundredths.

Solution

Ans: 75.20 is the nearest round off 75.195

Question 94

Round off 27.981 to nearest tenths.

Solution

Solution:

28.0 is the nearest round off 27.981

Question 95

Add the fractions $\frac{3}{8}$ and $\frac{2}{3}$.

Solution

Ans: Given fraction $\frac{3}{8}$ and $\frac{2}{3}$

Denominator is different so need to cross multiply

Cross multiply the both fraction with each other.

$$\begin{aligned}\frac{3}{8} + \frac{2}{3} &= \frac{3 \times 3 + 8 \times 2}{8 \times 3} \\ &= \frac{9 + 16}{24} = \frac{25}{24}\end{aligned}$$

The addition of fraction $\frac{3}{8}$ and $\frac{2}{3}$ is $\frac{25}{24}$.

Question 96

Add the fractions $\frac{3}{8}$ and $6\frac{3}{4}$.

Solution

Ans: Given fraction is $\frac{3}{8}$ and $6\frac{3}{4}$

Now, rewrite the mixed fraction

$$6\frac{3}{4} = \frac{(6 \times 4) + 3}{4} = \frac{24 + 3}{4} = \frac{27}{4}$$

Add the following fraction $\frac{3}{8}$ and $\frac{27}{4}$

Cross multiply the both fraction with each other.

$$\frac{3 \times 4 + 27 \times 8}{8 \times 4} = \frac{12 + 216}{32}$$

$$\begin{aligned} &= \frac{228}{32} = \frac{228 \div 4}{32 \div 4} \\ &= \frac{57}{8} = 7\frac{1}{8} \end{aligned}$$

The addition of fractions $\frac{3}{8}$ and $6\frac{3}{4}$ is $7\frac{1}{8}$

Question 97

Subtract $\frac{1}{6}$ from $\frac{1}{2}$.

Solution

Ans: Given fraction $\frac{1}{6}$ and $\frac{1}{2}$

Cross multiply the both fraction with each other.

$$\begin{aligned} \frac{1}{2} - \frac{1}{6} &= \frac{1 \times 6 - 1 \times 2}{2 \times 6} \\ &= \frac{6 - 2}{12} \\ &= \frac{4}{12} = \frac{4 \div 4}{12 \div 4} \\ &= \frac{1}{3} \end{aligned}$$

The subtraction of $\frac{1}{6}$ and $\frac{1}{2}$ is $\frac{1}{6}$.

Question 98

Subtract $8\frac{1}{3}$ from $\frac{100}{9}$.

Solution

Ans: Given fraction $8\frac{1}{3}$ and $\frac{100}{9}$

Now, rewrite the mixed fraction

$$8\frac{1}{3} = \frac{(8 \times 3) + 1}{3} = \frac{24 + 1}{3} = \frac{25}{3}$$

Subtract the following fraction, $\frac{25}{3}$ from $\frac{100}{9}$

Cross multiply the both fraction with each other.

$$\begin{aligned} &= \frac{100}{9} - \frac{25}{3} \\ &= \frac{100}{9} - \frac{25 \times 3}{3 \times 3} \\ &= \frac{100}{9} - \frac{75}{9} \\ &= \frac{100 - 75}{9} \\ &= \frac{25}{9} = 2\frac{7}{9} \end{aligned}$$

The subtraction of $\frac{100}{9} - 8\frac{1}{3} = 2\frac{7}{9}$.

Question 99

Subtract $1\frac{1}{4}$ from $\frac{1}{2}$.

Solution

Ans: Given fraction $1\frac{1}{4}$ and $6\frac{1}{2}$

Now, rewrite the mixed fraction

Now, $1\frac{1}{4}$ and $6\frac{1}{2}$

$$\begin{aligned} \Rightarrow \frac{(4 \times 1) + 1}{4} &= \frac{4 + 1}{4} \\ &= \frac{5}{4} \end{aligned}$$

Now, $6\frac{1}{2}$

$$\Rightarrow \frac{(6 \times 2) + 1}{2} = \frac{12 + 1}{2}$$

$$= \frac{13}{2}$$

Subtract the following fraction, $\frac{5}{4}$ from $\frac{13}{2}$

$$\frac{13}{2} - \frac{5}{4} = \frac{13 \times 2}{2 \times 2} - \frac{5}{4}$$

$$= \frac{26}{4} - \frac{5}{4}$$

$$= \frac{26 - 5}{4}$$

$$= \frac{21}{4} = 5\frac{1}{4}$$

The subtraction of the $\frac{13}{2} - \frac{5}{4} = 5\frac{1}{4}$.

Question 100

Add $1\frac{1}{4}$ and $6\frac{1}{2}$

Solution

Ans: The given fraction $1\frac{1}{2}$ and $6\frac{1}{2}$

Now, rewrite the mixed fraction

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

$$6\frac{1}{2} = \frac{12 + 1}{2} = \frac{13}{2}$$

$$\text{Now, } \frac{5}{4} + \frac{13}{2} = \frac{5}{4} + \frac{13 \times 2}{2 \times 2}$$

$$= \frac{5}{4} + \frac{26}{4}$$

$$= \frac{5 + 26}{4}$$

$$= \frac{31}{4} = 7\frac{3}{4}$$

The addition of the $\frac{5}{4} + \frac{13}{2} = 7\frac{3}{4}$.

Question 101

Katrina rode her bicycle $6\frac{1}{2} \text{ km}$ in the morning and $8\frac{3}{4} \text{ km}$ in the evening. Find the distance traveled by her altogether on that day.

Solution

Ans: The distance covers by Katrina in the morning

$$= 8\frac{3}{4} = \frac{(8 \times 3) + 3}{4} = \frac{24 + 3}{4} = \frac{27}{4}$$

The distance covers by Katrina in the evening

$$= 8\frac{3}{4} = \frac{(8 \times 3) + 3}{4} = \frac{32 + 3}{4} = \frac{35}{4}$$

Total distance travelled by her

$$= \frac{13}{2} \text{ km} + \frac{35}{4} \text{ km}$$

$$= \frac{13 \times 2}{2 \times 2} \text{ km} + \frac{35}{4} \text{ km}$$

L.C.M of 2 and 4 = 4

$$= \frac{26}{4} \text{ km} + \frac{35}{4} \text{ km} = \frac{(26 + 35) \text{ km}}{4}$$

$$= \frac{61}{4} \text{ km} = 15\frac{1}{4} \text{ km}$$

Distance travelled altogether by Katrina in a day is $15\frac{1}{4} \text{ km}$.

Question 102

A rectangle is divided into a certain number of equal parts. If 16 of the parts so formed represent the fraction $\frac{1}{4}$, find the number of parts in which the rectangle has been divided.

Solution

Ans: Let, the number of parts in which the rectangle has been divided be x

According to the question, $\frac{16}{x} = \frac{1}{4}$

Cross- multiplication, $16 \times 4 = 1 \times x$

$$x = 64$$

64 are the parts in which the rectangle has been divided.

Question 103

Grip size of a tennis racquet is $11\frac{9}{80}cm$. Express the size as an improper fraction.

Solution

Ans: Given, Grip size of a tennis racquet is $11\frac{9}{80}cm$

Now, rewrite the mixed fraction

$$\Rightarrow 11\frac{9}{80} = \frac{(11 \times 80) + 9}{80}$$

$$= \frac{880 + 9}{80}$$

$$= \frac{889}{80}$$

$\frac{889}{80}$ this is a improper fraction.

Question 104

On an average $\frac{1}{10}$ of the food eaten is turned into organism's own body and is available for the next level of the consumer in a food chain. What fraction of the food eaten is not available for the next level?

Let that total food for the eaten is 1 and out of these, $\frac{1}{10}$ of the food eaten is turned into organism's own body.

Now, available for the next level of the consumer in a food chain is

$$\Rightarrow 1 - \frac{1}{10} = \frac{10 - 1}{10} = \frac{9}{10}$$

The fraction of food eaten is not available for next level is $\frac{9}{10}$

Solution

Solution coming soon.

Question 105

Mr. Rajan got a job at the age of 24 years and he got retired from the job at the age of 60 years. What fraction of his age till retirement was he in the job?

Solution

Ans: Given,

Mr. Rajan got a job at the age of 24 years

He got retired from the job at the age of 60 years

$$\text{Total working year} = (60 - (-24)) = 36\text{year}$$

$$\text{The required fraction} \frac{36}{60} = \frac{36 \div 12}{60 \div 12} = \frac{3}{5}$$

The fraction of his age till retirement was he in the job is $\frac{3}{5}$

Question 106

The food we eat remains in the stomach for a maximum of 4 hours. For what fraction of a day, does it remain there?

Solution

Ans: Given,

The food we eat remains in the stomach for a maximum of 4 hours

Total number of hours in a day is 24.

The required fraction

$$\frac{4}{24} = \frac{4 \div 4}{24 \div 4} = \frac{1}{6}$$

The fraction of the day food remains in the stomach is $\frac{1}{6}$

Question 107

What should be added to 25.5 to get 50 ?

Solution

Ans: Let x should be added to **25.5** to get **50**

Now,

$$25.5 + x = 50$$

$$x = 50 - 25.5 = 24.5$$

The required number is 24.5

The number that should be added to 25.5 to get 50 is 24.5

Question 108

Alok purchased 1kg200g potatoes, 250g dhania, 5kg300g onion, 500g palak, and 2kg600g tomatoes. Find the total weight of his purchases in kilograms.

Solution

Ans: Convert all the data in a signal unit, kg

$$1 \text{ kg} = \frac{1}{1000} \text{ g}$$

Given,

Alok purchased 1kg200g potatoes,

250g dhania,

5kg300g onion,

500g palak,

2kg600g tomatoes

$$= 1\text{kg}200\text{g} = 1\text{kg} + \frac{200}{1000}\text{kg} = 1.200\text{kg of potatoes}$$

$$= 0\text{kg}250\text{g} = 0\text{kg} + \frac{250}{1000}\text{kg} = 0.250\text{kg of dhania}$$

$$= 5\text{kg}300\text{g} = 5\text{kg} + \frac{300}{1000}\text{kg} = 5.300\text{kg of onion}$$

$$= 0\text{kg}500\text{g} = 0\text{kg} + \frac{500}{1000}\text{kg} = 0.500\text{kg Of palak}$$

$$= 2\text{kg}600\text{g} = 2\text{kg} + \frac{600}{1000}\text{kg} = 2.600\text{kg Of tomatoes}$$

$$\text{Total weight is } 1.200 + 0.25 + 5.300 + 0.500 + 2.600 = 9.850$$

Total weight of the purchase is 9.850kg

The total weight of purchase of Alok in kilograms is 9.850kg.

Question 109

Arrange in ascending order: 0.011, 1.001, 0.101, and 0.110

Solution

Ans: Since, all the decimals are already given in like fractions,

0.011, 1.001, 0.101, 0.110

Arranging them in ascending order, we get 0.011, 0.101, 0.110, 1.001

Question 110

Add the following: 20.02 and 2.002

Solution

Ans: We have, 20.02 and 2.002

To add the above decimals, we must convert them into like decimals first.

Writing 20.020 and 2.002 in a column

So,

$$20.020 + 2.002 = 22.022$$

Addition of 20.020 and 2.002 is 22.022

Question 111

It was estimated that because of people switching to Metro trains, about 33000 tonnes of CNG, 3300 tonnes of diesel and 21000 tonnes of petrol was saved by the end of the year 2007. Find the fraction of:

(i) The quantity of diesel saved to the quantity of petrol saved.

(ii) The quantity of diesel saved to the quantity of CNG saved.

Solution

Ans: Given,

By the end of the year 2007 Metro trains was saved

33000 tonnes of CNG

3300 tonnes of diesel

21000 tonnes of petrol

$$\begin{aligned}\frac{\text{The quantity of diesel saved}}{\text{The quantity of petrol saved}} &= \frac{3300}{21000} \\&= \frac{3300 \div 300}{21000 \div 300} \\&= \frac{11}{70}\end{aligned}$$

$$\begin{aligned}\text{Ans: } \frac{\text{The quantity of diesel saved}}{\text{The quantity of CNG saved}} &= \frac{3300}{33000} \\&= \frac{3300 \div 3300}{33000 \div 3300} \\&= \frac{1}{10}\end{aligned}$$

The quantity of diesel saved to quantity of petrol is $\frac{11}{70}$

The quantity of diesel saved to the quantity of CNG is $\frac{1}{10}$

Question 112

The energy content of different foods are as follows

Food	Energy Content per kg
Wheat	3.2 Joules
Rice	5.3 Joules
Potatoes (Cooked)	3.7 Joules
Milk	3.0 Joules

Which food provides the least energy and which provides the maximum?

Express the least energy as a fraction of the maximum energy

Solution

Ans: From the given table it is clear that Milk provides the least energy and Rice provides the maximum

Ratio of the least energy to the maximum energy

$$\frac{\text{The least energy}}{\text{The maximum energy}} = \frac{3}{5.3} = \frac{3 \times 10}{5.3 \times 10} = \frac{30}{53}$$

The least energy as a fraction of maximum energy is $\frac{30}{53}$.

Question 113

A cup is $\frac{1}{3}$ full of milk. What part of the cup is still to be filled by milk to make it full?

Solution

Ans: Total fill required of a cup of milk is 1

Given that Cup is $\frac{1}{3}$ full of milk

The remaining part of the cup which is still to be filled by milk

$$\begin{aligned} &= 1 - \frac{1}{3} = \frac{3 - 1}{3} \\ &= \frac{2}{3} \end{aligned}$$

The part of cup is still to be filled by milk to make it full is $\frac{2}{3}$.

Question 114

Mary bought $3\frac{1}{2}m$ of lace. She used $1\frac{3}{4}m$ of lace for her new dress. How much lace is left with her?

Solution

Ans: Mary bought $3\frac{1}{2}$ m of lace

She used $1\frac{3}{4}$ m of lace for her new dress

Left lace = bought $3\frac{1}{2}$ m of lace – used $1\frac{3}{4}$ m of lace

Rewrite the fraction in same denominator

$$= \frac{7 \times 2}{2 \times 2} \text{m} - \frac{7}{4} \text{m} = \frac{14\text{m} - 7\text{m}}{4}$$

$$= \frac{7}{4} \text{m} = 1\frac{3}{4} \text{m of lace}$$

The lace left with her is $\frac{7}{4}$ m.

Question 115

When Sunita weighed herself on Monday, she found that she had gained $1\frac{1}{4}$ kg. Earlier her weight was $46\frac{3}{8}$ kg. What was her weight on Monday?

Solution

Ans: Sunita had gained = $1\frac{1}{4}$ g = $\frac{5}{4}$ kg

Earlier her weight was $46\frac{3}{8}$ kg = $\frac{371}{8}$ kg

Her total weight on Monday

$$= \frac{371}{8} \text{kg} + \frac{5}{4} \text{kg}$$

$$= \frac{371}{8} \text{kg} + \frac{5 \times 2}{4 \times 2} \text{kg}$$

$$= \frac{371}{8} \text{kg} + \frac{10}{8} \text{kg}$$

$$= \frac{(371 + 10)}{8} \text{ kg} = \frac{381}{8} \text{ kg}$$

$$= 47\frac{5}{8} \text{ kg}$$

Her weight on Monday was $47\frac{5}{8}$

Question 116

Sunil purchased $12\frac{1}{2}$ litres of juice on Monday and $14\frac{3}{4}$ litres of juice on Tuesday. How many litres of juice did he purchase together in two days?

Solution

Ans: Monday Sunil purchased $12\frac{1}{2}$ liters of juice = $\frac{25}{2}$ liters

Tuesday Sunil purchased $14\frac{3}{4}$ liters of juice = $\frac{59}{4}$ liters

Total quantity of juice Sunil purchased in two days = $\left(\frac{25}{2} + \frac{59}{4}\right)$ litres

$$= \left(\frac{25 \times 2}{2 \times 2} + \frac{59}{4}\right) \text{ litres}$$

$$= \left(\frac{50}{4} + \frac{59}{4}\right) \text{ litres}$$

$$= \left(\frac{50 + 59}{4}\right) \text{ litres}$$

$$= \frac{109}{4} \text{ litres}$$

$$= 27\frac{1}{4} \text{ litres}$$

Litres of juice he purchased in two days is $27\frac{1}{4}$

Question 117

Nazima gave $2\frac{3}{4}$ litres out of the $5\frac{1}{2}$ litres of juice she purchased to her friends. How many litres of juice is left with her?

Solution

Ans: Total quantity of juice = $5\frac{1}{2}$ litres = $\frac{11}{2}$ litres

Nazima gave to her friends = $2\frac{3}{4}$ litres = $\frac{11}{4}$ litres

The required quantity of juice she is left with

$$= \left(\frac{11}{2} - \frac{11}{4} \right) \text{ litres}$$

$$= \left(\frac{11 \times 2}{2 \times 2} - \frac{11}{4} \right) \text{ litres}$$

$$= \left(\frac{22 - 11}{4} \right) \text{ litres}$$

$$= \frac{11}{4} \text{ litres}$$

$$= 2\frac{3}{4} \text{ litres}$$

The litre of juice left with her is $2\frac{3}{4}$ litres

Question 118

Roma gave a wooden board of length $150\frac{1}{4}$ cm to a carpenter for making a shelf. The Carpenter sawed off a piece of $40\frac{1}{5}$ cm from it. What is the length of the remaining piece?

Solution

Ans: Total length of wood $150\frac{1}{4}$ cm = $\frac{601}{4}$ cm

Wood used by carpenter $40\frac{1}{5}$ cm = $\frac{201}{5}$ cm

Remaining piece of wood length

$$\begin{aligned}
 &= \left(\frac{601}{4} - \frac{201}{5} \right) \text{ cm} = \left(\frac{601 \times 5}{4 \times 5} - \frac{201 \times 4}{5 \times 4} \right) \text{ cm} \\
 &= \left(\frac{3005}{20} - \frac{804}{20} \right) \text{ cm} \\
 &= \frac{2201}{20} \text{ cm or } 110\frac{1}{20} \text{ cm}
 \end{aligned}$$

The length of the remaining piece is $110\frac{1}{20}$ cm

Question 119

Nasir travelled $3\frac{1}{2}$ km in a bus and then walked $1\frac{1}{8}$ km to reach a town. How much did he travel to reach the town?

Solution

Ans: Nasir travel $3\frac{1}{2}$ km in a bus = $\frac{7}{2}$ km

Walked $1\frac{1}{8}$ km to reach a town = $\frac{9}{8}$ km

Total distance covered by Nasir

$$\begin{aligned}
 &\left(\frac{7}{2} + \frac{9}{8} \right) \text{ km} \\
 &= \frac{(7 \times 8) + (9 \times 2)}{2 \times 8} \text{ km} \\
 &= \frac{56 + 18}{16} \text{ km} \\
 &= \frac{74}{16} \text{ km} \\
 &= \frac{74 \div 2}{16 \div 2} \text{ km} \\
 &= \frac{37}{8} \text{ km}
 \end{aligned}$$

$$= 4\frac{5}{8}\text{ km}$$

The distance he travelled to reach the town is $\frac{37}{8}\text{ km}$ or $4\frac{5}{8}\text{ km}$

Question 120

The fish caught by Neetu was of weight $3\frac{3}{4}\text{ kg}$ and the fish caught by Narendra was of weight $2\frac{1}{2}\text{ kg}$.

How much more did Neetu's fish weigh than that of Narendra

Solution

Ans: The weight of fish caught by Neetu $3\frac{3}{4}\text{ kg} = \frac{15}{4}\text{ kg}$

The weight of fish caught by Narendra $2\frac{1}{2}\text{ kg} = \frac{5}{2}\text{ kg}$

Neetu's fish weigh more than that of Narendra by

$$\begin{aligned}\frac{15}{4}\text{ kg} - \frac{5}{2}\text{ kg} &= \frac{15}{4}\text{ kg} - \frac{5 \times 2}{2 \times 2}\text{ kg} \\&= \frac{15}{4}\text{ kg} - \frac{10}{4}\text{ kg} \\&= \frac{(15 - 10)}{4}\text{ kg} \\&= \frac{5}{4}\text{ kg or } 1\frac{1}{4}\text{ kg}\end{aligned}$$

Neetu fish weighed $\frac{5}{4}\text{ kg}$ or $1\frac{1}{4}\text{ kg}$ more than Narendra.

Question 121

Neelam's father needs $1\frac{3}{4}\text{ m}$ of cloth for the skirt of Neelam's new dress and $\frac{1}{2}\text{ m}$ for the scarf. How much cloth must he buy in all?

Solution

Ans: Neelam's father needs $1\frac{3}{4}\text{m}$ $\left(\frac{7}{4}\text{m}\right)$ of cloth for the skirt of Neelam's new dress

$\frac{1}{2}\text{m}$ for the scarf.

Total cloths buy by her father

$$\begin{aligned} &= \frac{7}{4}m + \frac{1}{2}m \\ &= \frac{7}{4}m + \frac{1 \times 2}{2 \times 2}m \\ &= \frac{7}{4}m + \frac{2}{4}m \\ &= \frac{(7+2)}{4}m \\ &= \frac{9}{4}m \text{ or } 2\frac{1}{4}m \end{aligned}$$

The total cloth Neelam should buy is $\frac{9}{4}\text{m}$ or $2\frac{1}{4}\text{m}$

Question 122

What is wrong in the following additions?

(a)

$$\begin{array}{r} 8\frac{1}{2} = 8\frac{2}{4} \\ + 4\frac{1}{2} = 4\frac{1}{4} \\ \hline = 12\frac{3}{8} \\ \hline \end{array}$$

Solution

Ans: Equal denominators added.

(b)

$$\begin{array}{r} 6\frac{1}{2} \\ + 2\frac{1}{4} \\ \hline = 8\frac{2}{6} = 8\frac{1}{3} \\ \hline \end{array}$$

Ans: Numerator and denominator are added.

Question 123

Which one is greater?

1 meters 40 centimeters + 60 centimeters or 2.6 meters.

Solution

Ans: Know that $1\text{m} = 100\text{cm}$

$$1\text{cm} = \frac{1}{100}\text{m}$$

Now,

1 meters 40 centimeters + 60 centimeters.

$$= 1\text{m} + \frac{40}{100}\text{m} + \frac{60}{100}\text{m}$$

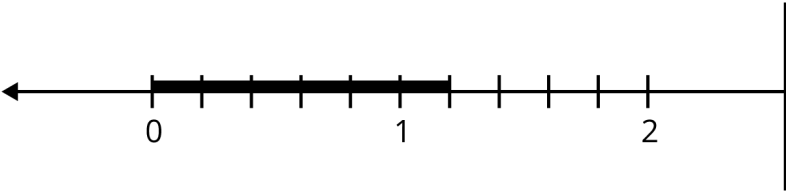
$$1\text{m} + 0.40\text{m} + 0.60\text{m} = 2.00\text{m}$$

So, $2.6\text{m} > 2.0\text{m}$

Question 124

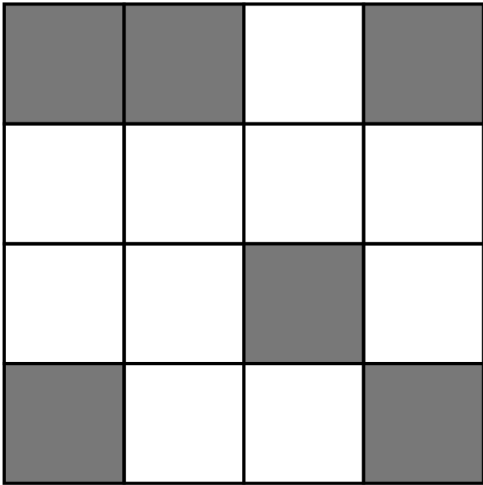
Match the fractions of Column I with the shaded or marked portion of figures of Column II:

Column I	Column II
(i) $\frac{6}{4}$	(A)



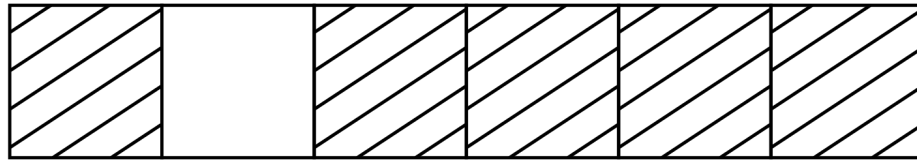
(B)

(ii)
 $\frac{6}{10}$

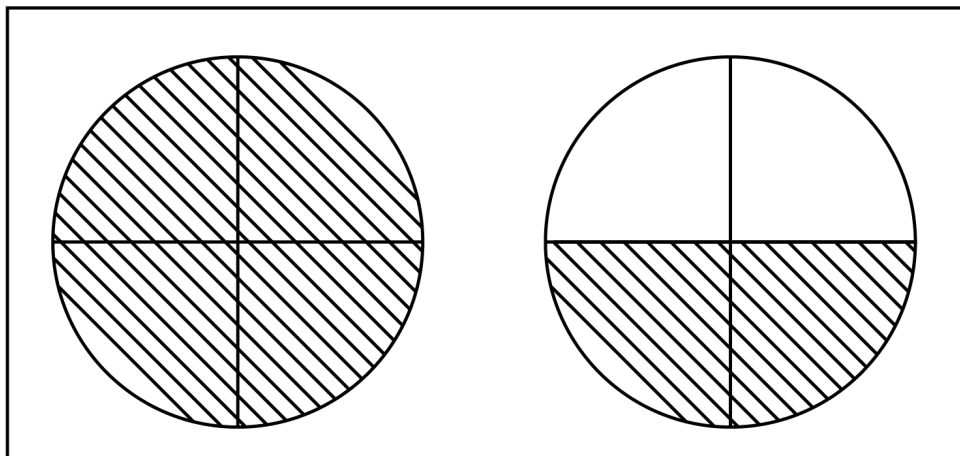


(iii)
 $\frac{6}{6}$

(C)

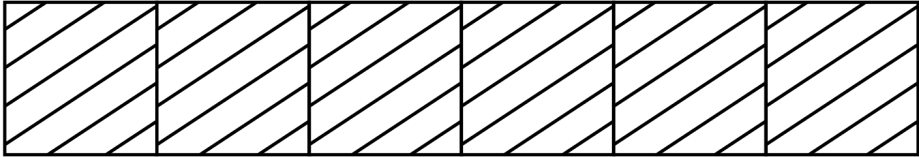


(D)



(iv)
 $\frac{6}{16}$

(E)

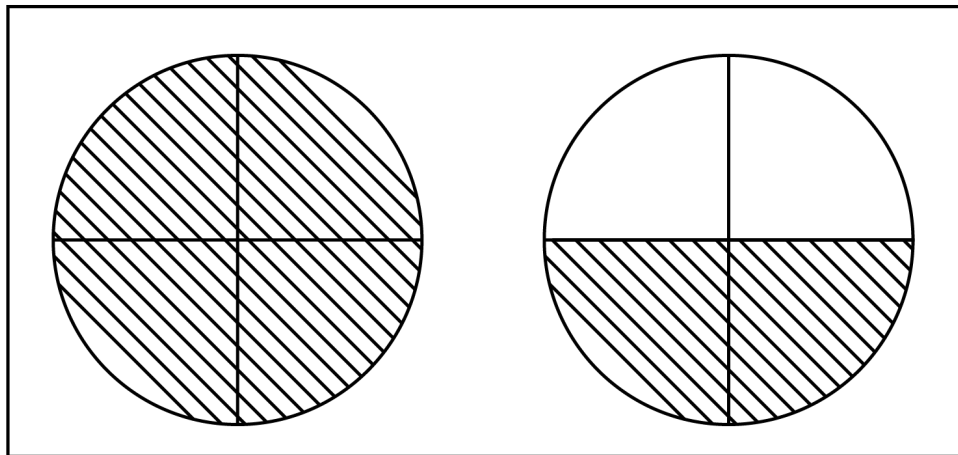


Solution

Ans:

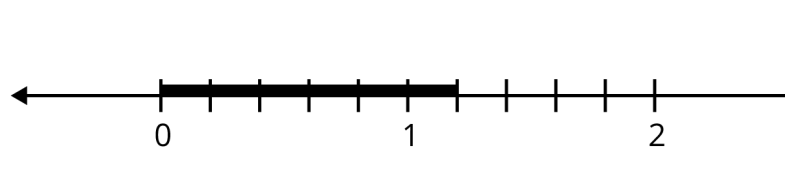
Match the correct following

Column I	Column II
(i) $\frac{6}{4}$	(D)



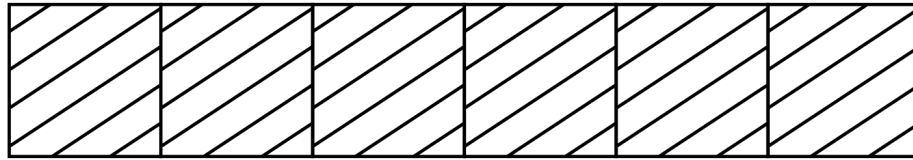
(A)

(ii)
 $\frac{6}{10}$



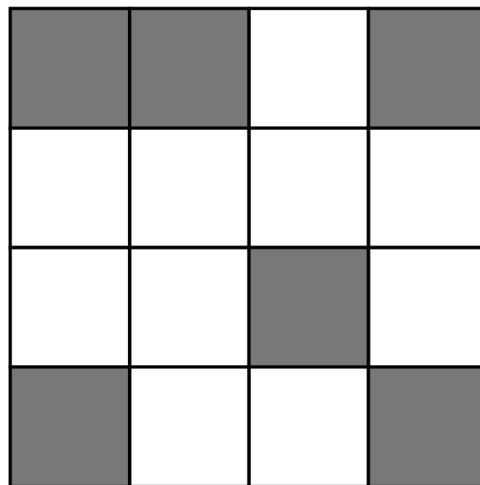
(iii)
 $\frac{6}{6}$

(E)



(B)

$$\begin{array}{r} \text{(iv)} \\ 6 \\ \hline 16 \end{array}$$

**Question 125**

Find the fraction that represents the number of natural numbers to total numbers in the collection 0, 1, 2, 3, 4, 5. What fraction will it be for whole numbers?

Solution

Ans: From the of collection 0, 1, 2, 3, 4, 5 $\rightarrow$ 1, 2, 3, 4, 5 is natural numbers

The fraction that represents the number of natural numbers to the total numbers $= \frac{5}{6}$

The whole numbers are 0, 1, 2, 3, 4 and 5.

The fraction that represents the number of whole numbers to the total numbers $= \frac{6}{6}$

Question 126

Write the fraction representing the total number of natural numbers in the collection of numbers $-3, -2, -1, 0, 1, 2, 3$. What fraction will it be for whole numbers? What fraction will it be for integers?

Solution

Ans: Total collection of numbers $-3, -2, -1, 0, 1, 2, 3$ and out of these 1, 2 and 3 is natural number and 0, 1, 2 and 3 are whole number and $-3, -2, -1, 0, 1, 2, 3$ are integers.

Question 127

Write a pair of fractions whose sum is $\frac{7}{11}$ and difference is $\frac{2}{11}$

Solution

Ans: Let one fraction be x .

Another fraction be $\frac{7}{11} - x$ Now, according to question,

$$x - \left(\frac{7}{11} - x \right) = \frac{2}{11}$$

$$x - \frac{7}{11} + x = \frac{2}{11}$$

$$\frac{11x}{11} - \frac{7}{11} + \frac{11x}{11} = \frac{2}{11}$$

$$\frac{11x - 7 + 11x}{11} = \frac{2}{11}$$

$$22x - 7 = \frac{2}{11} \times 11$$

$$22x - 7 = 2$$

$$22x = 2 + 7 = 9$$

$$x = \frac{9}{22}$$

Thus, the fraction is $\frac{9}{22}$ and another fraction is

$$\frac{7}{11} - \frac{9}{22} = \frac{7 \times 2}{11 \times 2} - \frac{9}{22}$$

$$= \frac{14 - 9}{22}$$

$$= \frac{5}{22}$$

Pair of fractions are $\frac{9}{22}$ and $\frac{5}{22}$.

Question 128

What fraction of a straight angle is a right angle?

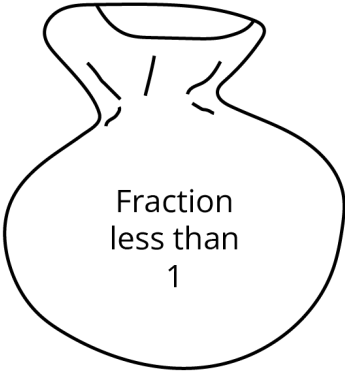
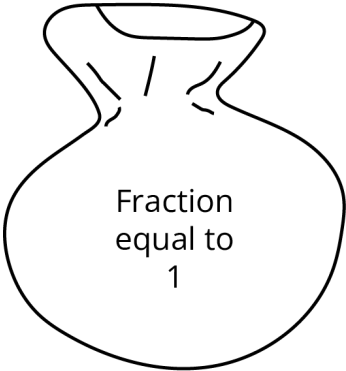
Solution

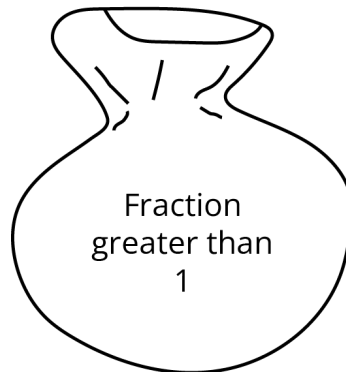
Ans: Since, we know that the measurement of a straight angle is 180° and a right angle is 90° . The required fraction is $\frac{90^\circ}{180^\circ} = \frac{1}{2}$.

The fraction of straight angle is a right angle is $\frac{1}{2}$.

Question 129

Put the right card in the right bag

Card s	Bags
(i) $\frac{3}{7}$	Bag I  Fraction less than 1
(ii) $\frac{4}{4}$	
(iii) $\frac{9}{8}$	
(iv) $\frac{8}{9}$	
(v) $\frac{5}{6}$	
(vi) $\frac{6}{11}$	
(vii) $\frac{18}{18}$	
(viii) $\frac{19}{25}$	Bag II  Fraction equal to 1
(ix) $\frac{2}{3}$	
(x) $\frac{13}{17}$	

Bag III**Solution**

Ans:

fractions whose numerators are less than the denominators are called proper fractions. (Numerator < denominator) and fraction is less than one.

fractions with the numerator either equal to or greater than the denominator are called improper fractions. (Numerator = denominator or, Numerator > denominator) and the fraction is greater and equal than one.

Now, cards in Bag -I

(i) $\frac{3}{7}$

(iv) $\frac{8}{9}$

(v) $\frac{5}{6}$

(vi) $\frac{6}{11}$

(viii) $\frac{19}{25}$

$$(ix) \frac{2}{3} \text{ and } (x) \frac{13}{17}$$

Cards in Bag-II

$$(ii) \frac{4}{4} \text{ and } (vii) \frac{18}{18}$$

Cards in Bag -III

$$(iii) \frac{9}{8}$$

What do we Learn in NCERT Exemplar Solutions for Class 6 Mathematics Chapter 4 Fractions and Decimals?

NCERT Exemplar solutions for Class 6 Mathematics Chapter 4 Fractions and Decimals consists of a fraction which is a number that represents a fraction of a total. This complete may be a single item or a set of items. Fractions with 10, 100 denominators, etc. can be written in the correct order, using a decimal point, called decimal or decimal numbers. Let us now consider some of the concepts discussed in this Chapter.

- Multiplication and division of fractions and other concepts, such as types of fractions.
- How to change different fractions to like fractions
- How to compare more than two fractions.
- How to turn a decimal into a fraction.
- Converting a fraction into a decimal, adding, and subtracting decimal.
- Decimal multiplication by 10, 100, 100, etc.
- Decimal multiplication by a whole number, decimal multiplication by the decimal.