Chapter - 4
Fractions and Decimals

Exercise

In questions 1 to 20, out of the four options, only one answer is correct. Choose the correct answer.

1. The fraction which is not equal to 4/5 is

(A) 40/50 (B) 12/15 (C) 16/20 (D) 9/15

Solution:

Fraction $\frac{9}{15}$ is equal to $\frac{3}{5}$ and not to $\frac{4}{5}$.

So, option (D) is correct.

2. The two consecutive integers between which the fraction 5/7 lies are

(A) 5 and 6 (B) 0 and 1 (C) 5 and 7 (D) 6 and 7

Solution:

Here we have $\frac{5}{7}$ and is equal to 0.71. Clearly 0.71 is greater than 0 and less than 1.

So, option (B) is correct.

3. When 1/4 is written with denominator as 12, its numerator is

(A) 3 (B) 8 (C) 24 (D) 12

Solution:

When $\frac{1}{4}$ is written with denominator as 12, the fraction is $\frac{3}{12}$, this implies numerator of the fraction is 3.

So, option (A) is correct.

4. Which of the following is not in the lowest form?

(A) 7/5 (B) 15/20 (C) 13/33 (D) 27/28

Solution:

$\frac{15}{20}$ reduces to $\frac{3}{4}$ and out of given choices it is not in the lowest form.

So, option (B) is correct.

5. If 5/8 = 20/p, then value of p is

(A) 23 (B) 2 (C) 32 (D) 16

Solution:

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

To evaluate: value of p

We have, $p = \left(\frac{20 \times 8}{5} \right)$

$= 32$

So, option (C) is correct.

6. Which of the following is not equal to the others?

(A) 6/8 (B) 12/16 (C) 15/25 (D) 18/24

Solution:

$\frac{15}{25}$ reduces to $\frac{3}{5}$ while other choices reduce to $\frac{3}{4}$ respectively.

So, option (C) is correct.

7. Which of the following fractions is the greatest?

(A) 5/7 (B) 5/6 (C) 5/9 (D) 5/8

Solution:

Fraction with the smallest value of denominator is the greatest.

So, option (B) is correct.

8. Which of the following fractions is the smallest?

(A) 7/8 (B) 9/8 (C) 3/8 (D) 5/8

Solution:

Fraction with the smallest value of numerator is the smallest.

So, option (C) is correct.

9. Sum of 4/17 and 15/17 is

(A) 19/17 (B) 11/17 (C) 19/34 (D) 2/17

Solution:

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

$= \frac{19}{17}$ respectively

So, option (A) is correct.

10. On subtracting 5/9 from 19/9, the result is

(A) 24/9 (B) 14/9 (C) 14/18 (D) 14/0

Solution:

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

$= \frac{14}{9}$ respectively

So, option (B) is correct.

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:

Since we have 0.7499 which is greater than 0.749 and less than 0.75 hence, 0.7499 lies between 0.749 and 0.75 respectively.

So, option (C) is correct.

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:

Since we have 0.023 which is greater than 0.02 and less than 0.03 hence, 0.023 lies between 0.02 and 0.03 respectively.

So, option (A) is correct.

13. 11/7 can be expressed in the form

(A) 7(1/4) (B) 4(1/7) (C) 1(4/7) (D) 11(1/7)

Solution:

Here $1\frac{4}{7} = \frac{\left((7\times 1)+4\right)}{7}$

$= \frac{11}{7}$

So, option (C) is correct.

14. The mixed fraction 4(5/7) can be expressed as

(A) 33/7 (B) 39/7 (C) 33/4 (D) 39/4

Solution:

The mixed fraction $4\frac{5}{7} = \frac{((7\times 4)+5)}{7}$

$= \frac{33}{7}$

So, option (A) is correct.

15. 0.07 + 0.008 is equal to

(A) 0.15 (B) 0.015 (C) 0.078 (D) 0.78

Solution:

0.07 + 0.008 = 0.078 respectively.

So, option (C) is correct.

16. Which of the following decimals is the greatest?

(A) 0.182 (B) 0.0925 (C) 0.29 (D) 0.038

Solution:

Among all given decimals. 0.29 is the greatest.

So, option (C) is correct.

17. Which of the following decimals is the smallest?

(A) 0.27 (B) 1.5 (C) 0.082 (D) 0.103

Solution:

Among all given decimals. 0.082 is the smallest.

So, option (C) is correct.

18. 13.572 correct to the tenths place is

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

Solution:

In 13.572, hundredths place digit is 7, which is greater than 5 and so tenths place digit will get increase by 1 and it will become 13.6.

So, option (D) is correct.

19. 15.8 – 6.73 is equal to

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

Solution:

15.8 – 6.73 = 9.07 respectively.

So, correct option is (B).

20. The decimal 0.238 is equal to the fraction

(A) 119/500 (B) 238/25 (C) 119/25 (D) 119/50

Solution:

Here 0.238 can also be written as $\frac{(238)}{1000} = \frac{(119)}{500}$ respectively.

So, option (A) is correct.

In questions 21 to 44, fill in the blanks to make the statements true:

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

Solution:

Fractions are basically numbers which are part of a whole.

A number representing a part of a **whole** is called a fraction.

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

Solution:

Proper Fractions are the fractions in which the value of denominator is greater than numerator.

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

23. Fractions with the same denominator are called _____ fractions.

Solution:

Like fractions represents the fractions which have the same value in the denominator.

Fractions with the same denominator are called **like** fractions.

24. 13(5/18) is a _____ fraction.

Solution:

Fractions which are written in the form of $n\frac{p}{q}$ are called mixed fractions.

$13\frac{5}{8}$ is a **mixed** fraction.

25. 18/5 is an _____ fraction.

Solution:

In $\frac{18}{5}$, numerator is greater than denominator and so it is called as improper fraction.

$\frac{18}{5}$ is an **improper** fraction.

26. 7/19 is a _____ fraction.

Solution:

In $\frac{7}{19}$, denominator is greater than numerator and so it is called as proper fraction.

$\frac{7}{19}$ is a proper fraction.

27. 5/8 and 3/8 are _____ proper fractions.

Solution:

Fractions in which denominator is greater than numerator and denominator are same are called as like proper fraction.

$\frac{5}{8}$ and $\frac{3}{8}$ are like **proper** fractions.

28. 6/11 and 6/13 are _____ proper fractions.

Solution:

Fractions in which denominator is greater than numerator and denominator are not same are called as unlike proper fraction.

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

29. The fraction 6 /15 in simplest form is _____.

Solution:

$\frac{6}{15}$ can also be expressed as = $\frac{2}{5}$ in simplest form.

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

30. The fraction 17/ 34 in simplest form is _____.

Solution:

$\frac{17}{34}$ can also be expressed as = $\frac{1}{2}$ in simplest form.

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

31. 18 /135 and 90/675 are proper, unlike and _____ fractions.

Solution:

Fractions in which denominator is greater than numerator and denominator are same are called as like proper fraction.

Here $\frac{18}{135}$ = $\frac{90}{675}$ if multiplied and divided by 5, this implies $\frac{18}{135}$ and $\frac{90}{675}$ are equivalent.

$\frac{18}{135}$ and $\frac{90}{675}$ are proper, unlike and <u>equivalent</u> fractions.

32. 2(8/7) is equal to the improper fraction _____.

Solution:

$2\frac{8}{7}$ can be expressed as $\frac{((2\times 7)+8)}{7}$ = $\frac{22}{7}$

$2\frac{8}{7}$ is equal to the improper fraction $\underline{\frac{22}{7}}$.

33. 87/7 is equal to the mixed fraction _____.

Solution:

$\frac{87}{7}$ can be expressed as $12\frac{3}{7}$ in mixed form.

$\frac{87}{7}$ is equal to the improper fraction $\underline{12\frac{3}{7}}$.

34. 9 + 2/10 + 6/100 is equal to the decimal number _____.

Solution:

$$9+\frac{2}{10}+\frac{6}{100}=\frac{9\times100}{100}+\frac{2\times10}{100}+\frac{6}{100}$$
$$=\frac{900+20+6}{100}$$
$$=\frac{926}{100}$$
$$=9.26$$

9 + 2/10 + 6/100 is equal to the decimal number **9.26.**

35. Decimal 16.25 is equal to the fraction _____.

Solution:

16.25 in fraction from is written as $\frac{1625}{100}=\frac{65}{4}$ respectively.

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

36. Fraction $\frac{7}{25}$ is equal to the decimal number _____.

Solution:

$\frac{7}{25}$ in decimal can be written as 0.28 respectively.

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

37. 17/9 + 41/9 = _____.

Solution:

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

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

38. 67/14 – 24/14 = _____.

Solution:

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

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

39. 17/2 + 3(1/2) = _____.

Solution:

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

$=\frac{24}{2}$

$=12.$

$\frac{17}{2}+3\frac{1}{2}=\underline{12}$

40. 9(1/4) – 5/4 = _____.

Solution:

Here, $9\frac{1}{4}-\frac{5}{4}=\frac{33-5}{4}$

$=\frac{28}{4}$.

$9\frac{1}{4}-\frac{5}{4}=\frac{28}{4}$.

41. 4.55 + 9.73 = _____.

Solution:

Here, 4.55 + 9.73 = 14.28.

4.55 + 9.73 = 14.28.

42. 8.76 – 2.68 = _____.

Here, 8.76 – 2.68 = 6.08.

8.76 – 2.68 = 6.08.

43. The value of 50 coins of 50 paisa = Rs _____.

Solution:

Here, 1 coin = 50 paisa

So 50 coins = 50×50

= 2500 paisa

= Rs 25 (since 1 Rs = 100 paisa)

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

44. 3 Hundredths + 3 tenths = _____.

Solution:

Here, 3 Hundredths + 3 tenths = $\frac{3}{100} + \frac{3}{10}$

= 0.03 + 0.3

= 0.33 respectively.

3 Hundredths + 3 tenths = <u>0.33</u>.

In each of the questions 45 to 65, state whether the statement is true or false:

45. Fractions with same numerator are called like fractions.

Solution:

Fractions with same denominator are called as like fractions and not with same numerator.

So, given statement is **False**.

46. Fraction 18/39 is in its lowest form.

Solution:

Fraction $\frac{18}{39}$ in lowest can be written as $\frac{6}{13}$.

So, given statement is **False**.

47. Fractions 15/39 and 45/117 are equivalent fractions.

Solution:

Here, $\frac{45}{117}$ can also be written as $\frac{5}{19}$ when multiplied and divided by 9 and hence, it can be seen that it is equivalent to $\frac{5}{19}$ which can be written as $\frac{5}{19}$ when multiplied and divided by 3.

So, given statement is **True**.

48. The sum of two fractions is always a fraction.

Solution:

Fraction is of the form p/q and so when two fractions are added, their resultant sum is also fraction.

So, the given statement is **True**.

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

Solution:

The result obtained by subtracting a fraction from another fraction is not necessarily a fraction but can be written in the form of fraction.

For e.g. $\frac{6}{2} - \frac{6}{3} = 3 - 2$

$= 1$ which is not a fraction but can be written as 1/1 as fraction.

So, given statement is **False**.

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

Solution:

It is obvious that when a whole or an object is divided into a number of equal parts, then each part represents a fraction.

So, given statement is **True**.

51. The place value of a digit at the tenths place is 10 times the same digit at the ones place.

Solution:

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

So, given statement is **False**.

52. The place value of a digit at the hundredths place is 1/10 times the same digit at the tenths place.

Solution:

The place value of a digit at the hundredths place is $\frac{1}{100}$ times the same digit at the tenths place.

So, the given statement is **False**.

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

Solution:

The decimal 3.725 is equal to 3.73 correct to two decimal places and not 3.72.

So, the given statement is **False**.

54. In the decimal form, fraction 25/8 = 3.125.

Solution:

Fraction $\frac{25}{8}$ in decimal form is equal to 3.125.

So, given statement is **True**.

55. The decimal 23.2 = 23(2/5)

Solution:

The decimal $23.2 = 23\frac{1}{5}$ and not to $23\frac{2}{5}$.

So, given statement is **False**.

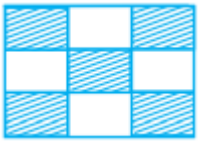
56. The fraction represented by the shaded portion in the adjoining figure is 3/8 .

Solution:

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

So, given statement is **True**.

57. The fraction represented by the unshaded portion in the adjoining figure is 5/9.



Solution:

The fraction represented by the unshaded portion in the figure is $\frac{4}{9}$.

So, given statement is **False**.

58. 25/19 + 6/19 = 31/38

Solution:

Here, $\frac{25}{19}+\frac{6}{19}=\frac{31}{19}$.

So, given statement is **False**.

59. 8/18 – 8/15 = 8/3

Solution:

Here, $\frac{8}{18}-\frac{8}{15}=-\frac{4}{45}$

So, given statement is **False**.

60. 7/12 + 11/12 = 3/2

Solution:

Here, $\frac{7}{12}+\frac{11}{12}=\frac{18}{12}$

So, given statement is **True**.

61. 3.03 + 0.016 =3.019

Solution:

Here, 3.03 + 0.016 = 3.046 and not to 3.019 respectively.

So, given statement is **False**.

62. 42.28 – 3.19 = 39.09

Solution:

Here, 42.28 – 3.19 = 39.09 is correct.

So, given statement is **True**.

63. 16/25 > 13/25

Solution:

Here, in $\frac{16}{25}$ numerator value is more as compared to fraction $\frac{13}{25}$ and hence, $\frac{16}{25}$ is greater than $\frac{13}{25}$.

So, given statement is **True**.

64. 19.25 < 19.053

Solution:

Here, 19.25 is greater than 19.053 respectively.

So, given statement is **False**.

65. 13.730 = 13.73

Solution:

Here, 13.730 = 13.73 as in 13.730, 0 is after decimal and that too at the last which possess no value.

So, given statement is **True**.

In each of the questions 66 to 71, fill in the blanks using '>', '<'

66. 11/16 ... 14/15

Solution:

Here, $\frac{11}{16}$ = 0.6875 and

$$\frac{14}{15} = 0.9333$$

This implies $\frac{11}{16} < \frac{14}{15}$.

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

67. 8/15 ... 95/14

Solution:

Here, $\frac{8}{15} = 0.53333$ and

$$\frac{95}{14} = 6.785$$

This implies $\frac{8}{15} < \frac{95}{14}$.

$$\frac{8}{15} \leq \frac{95}{14}$$

68. 12/75 ... 32/200

Solution:

Here, $\frac{12}{75} = 0.16$ and

$$\frac{32}{200} = 0.16$$

This implies

$$\frac{12}{75} = \frac{32}{200}.$$

$$\frac{12}{75} = \frac{12}{75}$$

69. 3.25... 3.4

Solution:

Here, 3.25 is less than 3.14, this implies 3.25 < 3.4.

3.25 $\underline{<}$ 3.4

70. 18/15 ...1.3

Solution:

Here, $\frac{18}{15}$ = 1.2 which shows that 1.2 < 1.3.

$\frac{18}{15}$ $\underline{<}$ 1.3

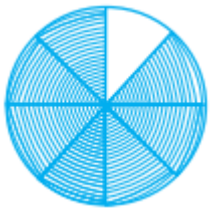
71. 6.25...25/4

Solution:

Here, $\frac{25}{4}$ = 6.25 which shows that 6.25 = $\frac{25}{4}$

6.25 $\underline{=}$ $\frac{25}{4}$

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

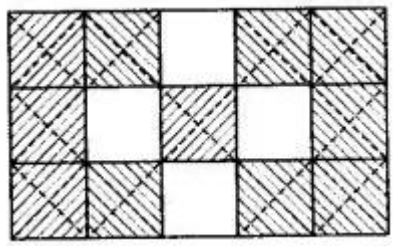


Solution:

The fraction represented by the shaded portion of the adjoining figure is $\frac{7}{8}$ as there are 7 blocks which are shaded and in total there are 8 blocks.

So, answer is $\frac{7}{8}$.

73. Write the fraction represented by the unshaded portion of the adjoining figure:



Solution:

The fraction represented by the unshaded portion of the adjoining figure is $\frac{4}{15}$ as there are 4 blocks which are unshaded and in total there are 15 blocks.

So answer is $\frac{4}{15}$.

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

Solution:

Here, we have cake = 1 and

No. of people = 6

Thus, 6 people = 1 cake

And then 1 person = 1/6 cake.

So, part of the cake Ali gave to each person = 1/6 respectively**.**

75. Arrange 12.142, 12.124, 12.104, 12.401 and 12.214 in ascending order.

Solution:

Ascending order of series is:

12.104, 12.124, 12.142, 12.214 and 12.401

76. Write the largest four digit decimal number less than1using the digits 1, 5, 3 and 8 once.

Solution:

The largest possible four digit decimal number less than1using the digits 1, 5, 3 and 8 once is 0.8531.

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

Solution:

Smallest four digit decimal number using the digits 2, 4, 5 and 3 once is 0.2345.

78. Express 11/20 as a decimal.

Solution:

$\frac{11}{20}$ as a decimal is expressed as: 0.55.

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

Solution:

$6\frac{2}{3}$ in terms of improper fraction is expressed as: $\frac{20}{3}$.

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

Solution:

Here $3\frac{2}{5} = \frac{17}{5}$ and in decimal it is expressed as 3.4.

81. Express 0.041 as a fraction.

Solution:

0.041 can be written as a fraction as $\frac{41}{1000}$.

82. Express 6.03 as a mixed fraction.

Solution:

6.03 as a mixed fraction is expressed as $6\frac{3}{100}$.

83. Convert 5201g to kg.

Solution:

We know that 1g = $\frac{1}{1000}$kg and so

5201g = $\frac{5201}{1000}$kg

= 5.201kg respectively.

So, 5201g = 5.201kg.

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

Solution:

We know that 1 paise = Rs $\frac{1}{100}$ and so

$$2009 \text{ paise} = \text{Rs}\frac{2009}{100}$$

$$= \text{Rs}\, 20\frac{9}{100}.$$

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

Solution:

We know that 1cm = $\frac{1}{100}$ m and so,

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

So, 1537 as an improper fraction is $\frac{1537}{100}$ m.

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

Solution:

We know that 1m = $\frac{1}{1000}$ km and so,

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

$$= 2\frac{435}{1000} \text{ km}.$$

So, 2435 m as mixed fraction in km is $2\frac{435}{1000}$ km respectively.

87. Arrange the fractions 2/3, 3/4, 1/2 and 5/6 in ascending order.

Solution:

Fractions in ascending order:

$\frac{1}{2}, \frac{2}{3}, \frac{3}{4}, \frac{5}{6}$

88. Arrange the fractions 6/7, 7/8, 4/5 and 3/4 in descending order.

Solution:

Fractions in descending order:

$\frac{7}{8}, \frac{6}{7}, \frac{4}{5}, \frac{3}{4}$

89. Write 3/4 as a fraction with denominator 44.

Solution:

In order to write $\frac{3}{4}$ as a fraction with denominator 44, multiply and divide $\frac{3}{4}$ by 11 and so we will get, $\frac{3}{4} \times \frac{11}{11} = \frac{33}{44}$.

So, $\frac{3}{4}$ as a fraction with denominator 44 is $\frac{33}{44}$ respectively.

90. Write 5/6 as a fraction with numerator 60.

Solution:

In order to write $\frac{5}{6}$ as a fraction with denominator 60, multiply and divide $\frac{5}{6}$ by 10 and so we will get, $\frac{5}{6} \times \frac{10}{10} = \frac{50}{60}$ respectively.

91. Write 129/8 as a mixed fraction.

Solution:

$\frac{129}{8}$ as a mixed fraction is expressed as $16\frac{1}{8}$ respectively.

92. Round off 20.83 to nearest tenths.

Solution:

In 20.83 if we look at the digit next to tenths place, it is 3 which is less than 5 and so 20.83 round off to nearest tenths is 20.8 respectively.

93. Round off 75.195 to nearest hundredths.

Solution:

In 75.195 if we look at the digit next to hundredths place, it is 5 which is equal to 5 and so 75.195 round off to nearest hundredths is 75.20 respectively.

94. Round off 27.981 to nearest tenths.

Solution:

In 27.981 if we look at the digit next to tenths place, it is 8 which is greater than 5 and so 27.981 round off to nearest tenths is 28.0 respectively.

95. Add the fractions 3/8 and 2/3.

Solution:

Here, addition of $\frac{3}{8}$ and $\frac{2}{3}$

$$\frac{3}{8}+\frac{2}{3}=\frac{9+16}{24}$$

$$= \frac{(3\times 3)+(2\times 8)}{24}$$

$$= \frac{25}{24} \text{ respectively}$$

96. Add the fractions 3/8 and 6(3/4).

Solution:

Here, addition of $\frac{3}{8}$ and $6\frac{3}{4} = \frac{3}{8} + \frac{27}{4}$

$$= \frac{(3\times 1)+(27\times 2)}{8}.$$

$$= \frac{57}{8} \text{ respectively}$$

97. Subtract 1/6 from 1/2.

Solution:

Here, subtracting $\frac{1}{6}$ from $\frac{1}{2}$

$$\frac{1}{2} - \frac{1}{6} = \frac{(3\times 1)-1}{6}.$$

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

98. Subtract 8(1/3) from 100/9 .

Solution:

Here, subtracting $8\frac{1}{3}$ from $\frac{100}{9}$.

We get,

$$\frac{100}{9} - \frac{25}{3} = \frac{100-75}{3}.$$

$$= \frac{25}{3}$$

99. Subtract 1(1/4) from 6(1/2).

Solution:

Here subtracting $1\frac{1}{4}$ from $6\frac{1}{2}$ we get = $\frac{13}{2} - \frac{5}{4}$

$= \frac{21}{4}$

100. Add 1(1/4) and 6(1/2).

Solution:

Here adding $1\frac{1}{4}$ and $6\frac{1}{2}$ we get = $\frac{5}{4} + \frac{13}{2}$

$= \frac{31}{4}$

101. Katrina rode her bicycle 6(1/2) km in the morning and 8(3/4) km in the evening. Find the distance travelled by her altogether on that day.

Solution:

As given, Katrina rode her bicycle $6\frac{1}{2}$ km in the morning and $8\frac{3}{4}$ km in the evening.

In order to find the total distance travelled by Katrina on that day we will simply add $6\frac{1}{2}$ km and $8\frac{3}{4}$ km as = $\frac{13}{2} + \frac{35}{4}$

= $\frac{61}{4}$ km.

102. A rectangle is divided into certain number of equal parts. If 16 of the parts so formed represent the fraction 1/4, find the number of parts in which the rectangle has been divided.

Solution:

Let the no. of parts of rectangle formed be n.

Now we have, $n \times \frac{1}{4} = 16$

This implies, $n = 16 \times 4$

$= 64$

So, the number of parts in which the rectangle has been divided = 64.

103. Grip size of a tennis racquet is 11(9/80) cm. Express the size as an improper fraction.

Solution:

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

$11\frac{9}{80}$ cm as an improper fraction is written as = $\frac{889}{80}$ cm.

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

Solution:

Given: $\frac{1}{10}$ of the food eaten is turned into organism's own body and is available for the next level of consumer in a food chain.

Now, fraction of the food eaten which is not available for the next level = $1 - \frac{1}{10}$

$= \frac{9}{10}$

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:

Given: Age when Mr. Rajan got the job = 24 years

Age when Mr. Rajan got retired = 60 years

Now, fraction of his age till retirement was he in the job = $\frac{60 - 24}{60}$

$= \frac{36}{60}$

$= \frac{3}{5}$ years

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:

Given: Time duration for which food remains in the stomach = 4 hours.

Now, fraction of a day for which it remain there = $\frac{4}{24} = \frac{1}{6}$ hours.

107. What should be added to 25.5 to get 50?

Solution:

Let x be added to 25.5 to get 50, so we have

$x + 25.5 = 50$

Or, $x = 50 - 25.5$

$= 24.5$

So, 24.5 should be added to 25.5 to get 50.

108. Alok purchased 1kg 200g potatoes, 250g dhania, 5kg 300g onion, 500g palak and 2kg 600g tomatoes. Find the total weight of his purchases in kilograms.

Solution:

Given:

Weight of potatoes = 1kg 200g

Weight of dhania = 250g

Weight of onion = 5kg 300g

Weight of palak = 500g

Weight of tomatoes = 2kg 600g

Total weight of the purchase = 1kg 200g + 250g + 5kg 300g + 500g + 2kg 600g

= (1000 +200) g +250g + (5000 + 300)g +500g + (2000 + 600)g

= (1200 + 250 +5300 + 500 + 2600)g

= 9850 kg

= 9.85 g

109. Arrange in ascending order:

0.011, 1.001, 0.101, 0.110

Solution:

Series in ascending order:

0.011, 0.101, 0.110 and 1.001

110. Add the following:

20.02 and 2.002

Solution:

Here, adding 20.02 and 2.002

20.02 + 2.002 = 22.02

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 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:

Given:

Quantity of CNG saved = 33000 tonnes

Quantity of diesel saved = 3300 tonnes

Quantity of petrol saved = 21000 tonnes

(i) Fraction of quantity of diesel saved to the quantity of petrol saved = $\frac{3300}{21000}$

$= \frac{11}{70}$ tonnes.

(ii) Fraction of quantity of diesel saved to the quantity of CNG saved = $\frac{3300}{33000}$

$= \frac{1}{10}$ tonnes.

112. 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:

According to given information, Milk provides the least energy of 3.0 Joules and Rice provides the maximum energy of 5.3 joules respectively.

Now, least energy as a fraction of the maximum energy is expressed as = $\frac{3.0}{5.3}$

$= \frac{30}{53}$ Joules.

113. A cup is 1/3 full of milk. What part of the cup is still to be filled by milk to make it full?

Solution:

According to given information, $\frac{1}{3}$ of cup is filled with milk, that means $\frac{2}{3}$ of cup is still empty and $\frac{2}{3}$ part of the cup is still to be filled by milk to make it full.

114. Mary bought 3(1/2) m of lace. She used 1(3/4) m of lace for her new dress. How much lace is left with her?

Solution:

According to given information, total lace bought = $3\frac{1}{2}$m

$= \frac{7}{2}$ m

And length of lace used = $1\frac{3}{4}$

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

Now, length of lace left = 7/2 – 7/4

= 7/4 m

115. When Sunita weighed herself on Monday, she found that she had gained 1(1/4) kg. Earlier her weight was 46(3/8) kg. What was her weight on Monday?

Solution:

According to given information, weight gained by sunita = $1\frac{1}{4}$ kg

Earlier weight was = $43\frac{3}{8}$ kg

So, total weight on Monday = $1\frac{1}{4} + 43\frac{3}{8}$

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

$$= \frac{370+10}{8}$$

$$= \frac{381}{8}\text{kg}$$

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

116. Sunil purchased 12(1/2) litres of juice on Monday and 14(3/4) litres of juice on Tuesday. How many litres of juice did he purchase together in two days?

Solution:

Juice purchased on Monday = $12\frac{1}{2}$ litres

Juice purchased on Tuesday = $14\frac{3}{4}$ litres

Total juice altogether purchased in two days = $12\frac{1}{2}+14\frac{3}{4}$

$$= \frac{25}{2}+\frac{59}{4}$$

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

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

117. Nazima gave 2(3/4) litres out of the 5(1/2) litres of juice she purchased to her friends. How many litres of juice is left with her?

Solution:

According to given information, total juice quantity = $5\frac{1}{2}$ litres

Juice given to friends = $2\frac{3}{4}$ litres

Litres of juice left with Nazima = $5\frac{1}{2} - 2\frac{3}{4}$

$$= \frac{11}{2} - \frac{11}{4}$$

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

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

118. Roma gave a wooden board of length 150(1/4) cm to a carpenter for making a shelf. The Carpenter sawed off a piece of 40(1/5) cm from it. What is the length of the remaining piece?

Solution:

According to given information,

Total length of wooden board given to carpenter = $150\frac{1}{4}$ cm

Piece of wood used by the carpenter = $40\frac{1}{5}$ cm

Length of remaining wooden piece = $150\frac{1}{4} - 40\frac{1}{5}$

$$= \frac{601}{4} - \frac{201}{5}$$

$$= \frac{3005 - 804}{20}$$

$$= \frac{201}{20}$$

$$= 110\frac{1}{2}\text{ cm}$$

119. Nasir travelled 3(1/2) km in a bus and then walked 1(1/8) km to reach a town. How much did he travel to reach the town?

Solution:

According to given information, Distance travelled by Nasir by bus = $3\frac{1}{2}\text{km}$

$$= \frac{7}{2}\text{ km}$$

Distance walked by Nasir = $1\frac{1}{8}\text{km}$

$$= \frac{9}{8}\text{km}$$

Total distance travelled by Nasir = $\frac{7}{2}+\frac{9}{8}$

$$= \frac{37}{8}\text{ km}$$

120. The fish caught by Neetu was of weight 3(3/4) kg and the fish caught by Narendra was of weight 2(1/2) kg. How much more did Neetu's fish weigh than that of Narendra?

Solution:

According to given information, weight of Neetu's fish = $3\frac{3}{4}\text{kg}$

Weight of Narendra fish = $2\frac{1}{2}\text{kg}$

By how much Neetu's fish weigh more than that of Narendra = $3\frac{3}{4}-2\frac{1}{2}$

$$= \frac{15}{4} - \frac{5}{2}$$

$$= \frac{5}{4}\text{ kg}$$

121. Neelam's father needs 1(3/4) m of cloth for the skirt of Neelam's new dress and 1/2 m for the scarf. How much cloth must he buy in all?

Solution:

According to given information,

Length of cloth required for skirt = $1\frac{3}{4}$ m

Length of cloth required for scarf = $\frac{1}{2}$ m

Total cloth required to purchase = $1\frac{3}{4} + \frac{1}{2}$

$$= \frac{7}{4} + \frac{1}{2}$$

$$= \frac{9}{4} \text{ m}$$

122. What is wrong in the following additions?

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

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

Solution:

(a) In this addition, it can be seen that equal denominators are also added which is not correct.

(b) In this addition, as it can be seen numerators and denominators have been added which is wrong.

123. Which one is greater?

1 metre 40 centimetres + 60 centimetres or 2.6 metres.

Solution:

Here 1 metre 40 centimetres + 60 centimetres = 100 cm + 40cm + 60cm

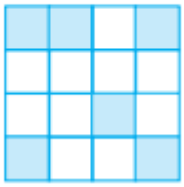
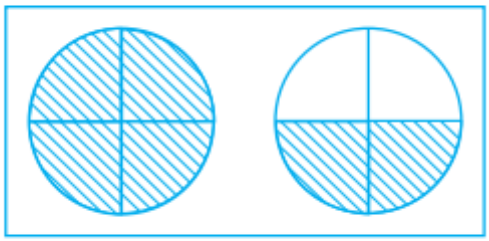
= 200 cm

= 2 m

And 2 m < 2.6 m

This implies, 2.6 m is greater.

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

Column I	Column II
(i) 6/4	(A) 
(ii) 6/10	(B) 
(iii) 6/6	(C) 
(iv) 6/16	(D)  (E) 

Solution:

(i) In part (D) we have fraction $\frac{4}{4}$ in first figure and $\frac{2}{4}$ in second figure, this results in total fraction = $\frac{4}{4}+\frac{2}{4}$

$= \frac{6}{4}$

So, (i) match (D).

(ii) In part (A) market part comprised of 6 units and in total there are 10 units, this results in fraction $\frac{6}{10}$.

So, (ii) match (A)

(iii) In part (E), all the 6 blocks are shaded and this results in fraction $\frac{6}{6}$.

So, (iii) match (E)

(iv) In part (B) total shaded are 6 and total blocks are 16, this results in fraction $\frac{6}{16}$.

So, (iv) match (B)

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:

Here given numbers are 0, 1, 2, 3, 4, 5 which are total 6 in count, out of which natural numbers are 1, 2, 3, 4 and 5. So fraction that represents the number of natural numbers to total numbers is $\frac{5}{6}$.

Now, here whole numbers are 0, 1, 2, 3, 4, 5, this implies fraction that represents the number of whole numbers to total numbers is $\frac{6}{6}$.

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:

Here given numbers are –3, – 2, –1, 0, 1, 2, 3 which are total 7 in count, out of which natural numbers are 1, 2, 3. So, fraction that represents the number of natural numbers to total numbers is $\frac{3}{7}$.

Also, whole numbers are 0, 1, 2, 3. So, fraction that represents the number of whole numbers to total numbers is $\frac{4}{7}$.

Now, integers are –3, – 2, –1, 0, 1, 2, 3. So, fraction that represents the number of integers to total numbers is $\frac{7}{7}$.

127. Write a pair of fractions whose sum is 7/11 and difference is 2/11.

Solution:

Pair of fractions whose sum is $\frac{7}{11}$ and difference is $\frac{2}{11}$ is $\frac{9}{22}$ and $\frac{5}{22}$ respectively.

Here, $\frac{9}{22}+\frac{5}{22}=\frac{14}{22}$

$=\frac{7}{11}$ and

$\frac{9}{22}-\frac{5}{22}=\frac{4}{22}$

$=\frac{2}{11}$

128. What fraction of a straight angle is a right angle?

Solution:

We have straight angle = 180 degrees and

Right angle = 90 degrees.

Now, fraction that represents right angle part of straight angle = $\frac{90}{180}$

$= \frac{1}{2}$ degrees.

129. Put the right card in the right bag.

Cards

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

(ii) $\frac{4}{4}$

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

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

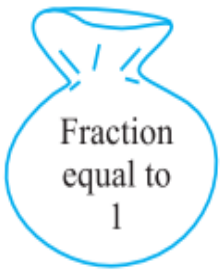
(v) $\frac{5}{6}$

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

Bags

Bag I

Bag II



(vii) $\frac{18}{18}$

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

(ix) $\frac{2}{3}$

(x) $\frac{13}{17}$

Solution:

Here we have following conclusion:

Bag I = (i), (iv), (v), (vi), (viii), (ix), (x)

Bag II = (ii), (vii)

Bag III = (iii)