

* Choose The Right Answer From The Given Options.

[55]

1. $\frac{5}{6}$ is a:

- (A) proper fraction (B) improper fraction (C) mixed fraction (D) none of these

Ans.: (A) proper fraction

2. Which of the following is an improper fraction?

- (A) $\frac{3}{4}$ (B) $\frac{4}{3}$ (C) $\frac{4}{7}$ (D) $\frac{5}{16}$

Ans. : (B) $\frac{4}{3}$

3. $\frac{3}{7} - \frac{1}{21}$ is equal to:

- (A) $\frac{6}{7}$ (B) $\frac{4}{19}$ (C) $\frac{8}{21}$ (D) $\frac{10}{23}$

Ans. : (C) $\frac{8}{21}$

4. Which of the following fractions is non-equivalent to $\frac{3}{4}$?

- (A) $\frac{12}{16}$ (B) $\frac{21}{28}$ (C) $\frac{27}{36}$ (D) $\frac{15}{24}$

Ans. : (D) $\frac{15}{24}$

5. Which of the following is the simplest form of $\frac{24}{108}$?

- (A) $\frac{1}{9}$ (B) $\frac{2}{9}$ (C) $\frac{3}{9}$ (D) $\frac{4}{9}$

Ans. : (B) $\frac{2}{9}$

6. Fill in the missing number.

$$\frac{4}{5} = \frac{?}{25}$$

- (A) 5 (B) 20 (C) 16 (D) 24

Ans. : (B) 20

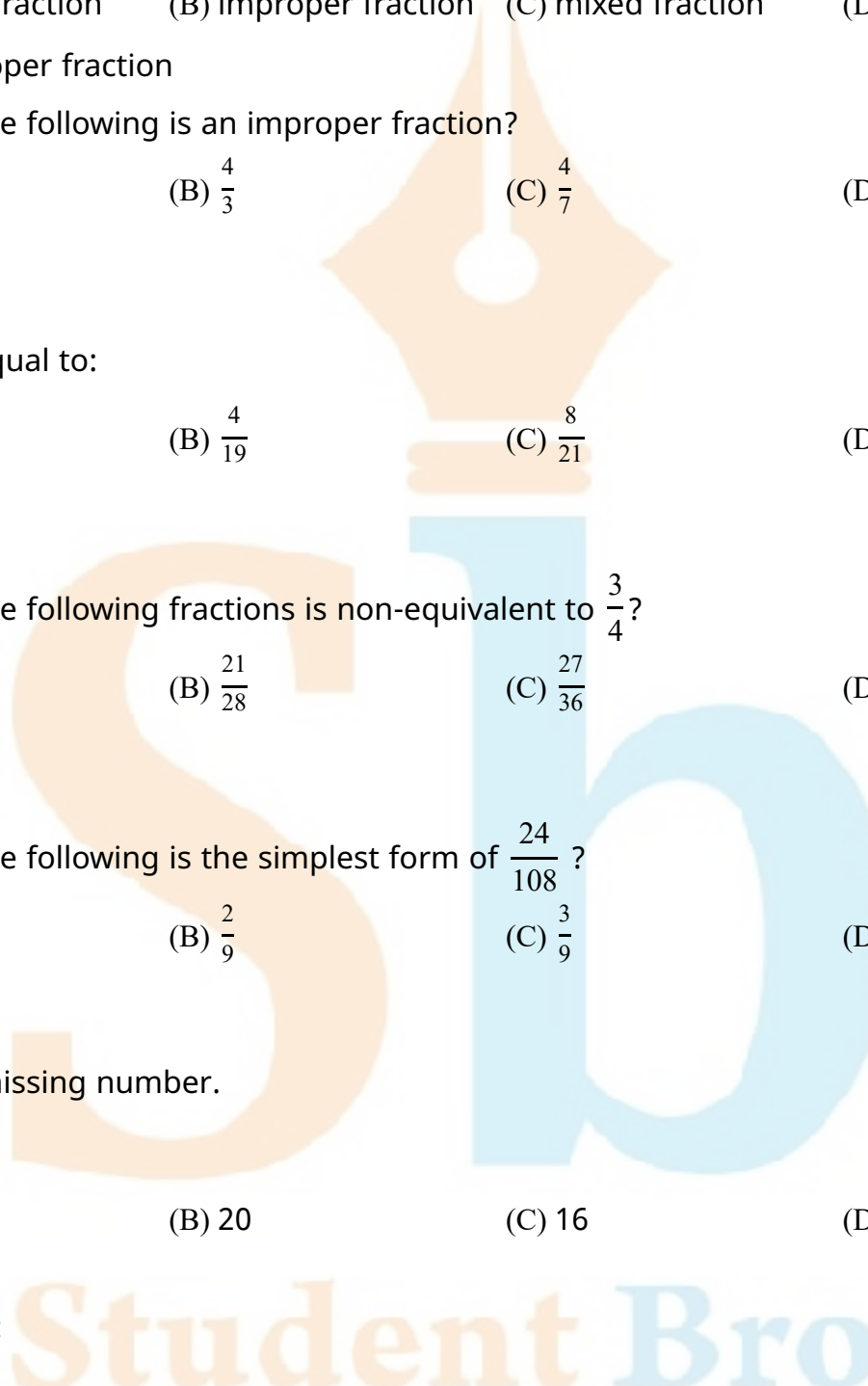
Explanation:

$$\frac{4}{5} = \frac{x}{25}$$

$$5x = 25 \times 4$$

$$x = \frac{25 \times 4}{5} = 20$$

7. A fraction equivalent to $\frac{18}{30}$ with numerator 3 is equal to _____ .



(A) $\frac{54}{90}$

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

(C) $\frac{3}{5}$

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

Ans. : (C) $\frac{3}{5}$

Explanation:

$$\frac{18 \div 6}{30 \div 6} = \frac{3}{5}$$

8. $\frac{3}{12}$ is greater than $\frac{3}{17}$ (True/False)

Ans. : True

Explanation:

$$\frac{3}{12}, \frac{3}{17}$$

LCM of 12, 17 = 204

$$3 \times 17 > 3 \times 12$$

$$\frac{51}{204} > \frac{36}{204}$$

$$\frac{3}{12} > \frac{3}{17} \text{ (True)}$$

9. Shweta made Biryani. She gave $\frac{9}{23}$ parts to Yash, $\frac{4}{23}$ parts to Raj, $\frac{7}{23}$ parts to Rahul and she kept the remaining biryani for herself. Then find out who got more biryani?

(A) Shweta

(B) Yash

(C) Raj

(D) Rahul

Ans. : (B) Yash

Explanation:

Given fractions are $\frac{9}{23}$, $\frac{4}{23}$, $\frac{7}{23}$ and $\frac{3}{23}$

$$\text{Since } \frac{9}{23} < \frac{7}{23} < \frac{4}{23} < \frac{3}{23}$$

Yash got more biryani.

10. Abhishek, Bani and Chitra take $\frac{7}{11}$, $\frac{4}{9}$ and $\frac{9}{17}$ hours respectively to reach their friend Dhruv's home. Who will take the least time?

(A) Abhishek

(B) Bani

(C) Chitra

(D) All of them will take equal time

Ans. : (B) Bani

Explanation:

$$\frac{7}{11}, \frac{4}{9} \text{ and } \frac{9}{17}$$

LCM of denominators 11, 9 and 17 is 1683.

Converting the fractions into like fractions with denominator 1683 as

$$\frac{7}{11} = \frac{11 \times 153}{11 \times 153} = \frac{1071}{1683}$$



$$\frac{4}{9} = \frac{4 \times 187}{9 \times 187} = \frac{748}{1683}$$

$$\frac{9}{17} = \frac{9 \times 99}{17 \times 99} = \frac{891}{1683}$$

Since the denominators are same, we can compare fractions by comparing their numerators.

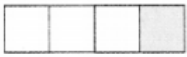
Since $748 < 891 < 1071$

Therefore, $\frac{748}{1683} < \frac{891}{1683} < \frac{1071}{1683}$

i.e., $\frac{4}{9} < \frac{9}{17} < \frac{7}{11}$

Hence, Bani will take least time to reach Dhruv's home.

11. The fraction representing the shaded portion is



(A) $\frac{1}{4}$

(B) $\frac{3}{4}$

(C) $\frac{1}{2}$

(D) $\frac{1}{8}$

Ans.: (A) $\frac{1}{4}$

12. The fraction representing the shaded portion is



(A) $\frac{1}{4}$

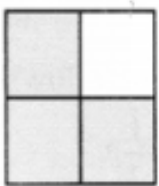
(B) $\frac{1}{2}$

(C) $\frac{1}{3}$

(D) $\frac{1}{8}$

Ans. : (B) $\frac{1}{2}$

13. The fraction representing the shaded portion is



(A) $\frac{1}{4}$

(B) $\frac{1}{2}$

(C) $\frac{3}{4}$

(D) none of these

Ans. : (C) $\frac{3}{4}$

14. The fraction representing the shaded portion is



(A) $\frac{1}{4}$

(B) $\frac{1}{2}$

(C) $\frac{1}{8}$

(D) none of these

Ans. : (C) $\frac{1}{8}$

15. The fraction representing the shaded portion is



(A) $\frac{1}{2}$

(B) $\frac{1}{4}$

(C) $\frac{1}{3}$

(D) $\frac{1}{6}$

Ans. : (D) $\frac{1}{6}$

16. What fraction of ₹ 1 is 50 paise?

(A) $\frac{1}{2}$

(B) $\frac{1}{4}$

(C) $\frac{1}{8}$

(D) $\frac{1}{10}$

Ans.: (A) $\frac{1}{2}$

17. What fraction of ₹ 1 is 25 paise?

(A) $\frac{1}{2}$

(B) $\frac{1}{4}$

(C) $\frac{1}{8}$

(D) $\frac{1}{10}$

Ans. : (B) $\frac{1}{4}$

18. What fraction of an hour is 30 minutes?

(A) $\frac{1}{4}$

(B) $\frac{1}{2}$

(C) $\frac{1}{3}$

(D) $\frac{1}{5}$

Ans. : (B) $\frac{1}{2}$

19. What fraction of a day is 12 hours?

(A) $\frac{1}{2}$

(B) $\frac{1}{4}$

(C) $\frac{1}{3}$

(D) $\frac{1}{6}$

Ans.: (A) $\frac{1}{2}$

20. Which of the following is a proper fraction?

(A) $\frac{1}{2}$

(B) $\frac{5}{4}$

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

(D) $\frac{9}{2}$

Ans.: (A) $\frac{1}{2}$

21. Which of the following is a proper fraction?

(A) $\frac{0}{1}$

(B) $\frac{5}{2}$

(C) $\frac{7}{4}$

(D) $\frac{11}{3}$

Ans.: (A) $\frac{0}{1}$

22. Which of the following is a proper fraction whose numerator is 1 and denominator is 3?

(A) $\frac{1}{3}$

(B) $\frac{1}{6}$

(C) $\frac{1}{9}$

(D) $\frac{1}{12}$

Ans.: (A) $\frac{1}{3}$

23. Which of the following is an improper fraction?

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

(B) $\frac{3}{4}$

(C) $\frac{4}{5}$

(D) $\frac{5}{4}$

Ans. : (D) $\frac{5}{4}$

24. Which of the following is an improper fraction?

(A) $\frac{1}{4}$

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

(C) $\frac{11}{3}$

(D) $\frac{2}{5}$

Ans. : (C) $\frac{11}{3}$

25. Express $\frac{5}{2}$ as a mixed fraction.

(A) $1\frac{1}{2}$

(B) $2\frac{1}{2}$

(C) $3\frac{1}{2}$

(D) $4\frac{1}{2}$

Ans. : (B) $2\frac{1}{2}$

26. Express $\frac{9}{4}$ as a mixed fraction.

(A) $2\frac{1}{4}$

(B) $3\frac{1}{4}$

(C) $4\frac{1}{4}$

(D) $5\frac{1}{4}$

Ans.: (A) $2\frac{1}{4}$

27. Express the mixed fraction $1\frac{1}{2}$ as an improper fraction.

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

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

(C) $\frac{3}{4}$

(D) none of these

Ans. : (B) $\frac{3}{2}$

28. Express the mixed fraction $2\frac{3}{4}$ as an improper fraction.

(A) $\frac{11}{4}$

(B) $\frac{4}{11}$

(C) $\frac{9}{11}$

(D) $\frac{7}{11}$

Ans.: (A) $\frac{11}{4}$

29. The simplest form of $\frac{12}{20}$ is

(A) $\frac{1}{5}$

(B) $\frac{2}{5}$

(C) $\frac{3}{5}$

(D) $\frac{4}{5}$

Ans. : (C) $\frac{3}{5}$



30. The simplest form of $\frac{45}{20}$ is

- (A) $\frac{9}{4}$ (B) $\frac{4}{9}$ (C) $\frac{9}{8}$ (D) $\frac{2}{9}$

Ans.: (A) $\frac{9}{4}$

31. Which of the following fractions is not equivalent to $\frac{1}{3}$?

- (A) $\frac{5}{15}$ (B) $\frac{6}{18}$ (C) $\frac{4}{12}$ (D) $\frac{7}{20}$

Ans. : (D) $\frac{7}{20}$

32. Which of the following fractions is equivalent to $\frac{3}{4}$?

- (A) $\frac{6}{11}$ (B) $\frac{9}{10}$ (C) $\frac{15}{20}$ (D) $\frac{21}{25}$

Ans. : (C) $\frac{15}{20}$

33. The equivalent fraction of $\frac{2}{5}$ with numerator 4 is

- (A) $\frac{4}{10}$ (B) $\frac{4}{12}$ (C) $\frac{4}{16}$ (D) $\frac{4}{20}$

Ans.: (A) $\frac{4}{10}$

34. The equivalent fraction of $\frac{20}{36}$ with denominator 9 is

- (A) $\frac{4}{9}$ (B) $\frac{5}{9}$ (C) $\frac{7}{9}$ (D) $\frac{8}{9}$

Ans. : (B) $\frac{5}{9}$

35. Which of the following pairs of fractions are equivalent?

- (A) $\frac{1}{2}, \frac{2}{4}$ (B) $\frac{1}{3}, \frac{3}{7}$ (C) $\frac{2}{5}, \frac{4}{9}$ (D) $\frac{4}{7}, \frac{8}{13}$

Ans.: (A) $\frac{1}{2}, \frac{2}{4}$

36. Which of the following pairs of fractions are not equivalent?

- (A) $\frac{1}{2}, \frac{2}{3}$ (B) $\frac{4}{5}, \frac{12}{15}$ (C) $\frac{6}{7}, \frac{12}{14}$ (D) $\frac{4}{9}, \frac{36}{81}$

Ans.: (A) $\frac{1}{2}, \frac{2}{3}$

37. Which of the following pairs of fractions are like fractions?

- (A) $\frac{1}{5}, \frac{4}{5}$ (B) $\frac{2}{3}, \frac{3}{4}$ (C) $\frac{4}{5}, \frac{5}{6}$ (D) $\frac{5}{6}, \frac{6}{7}$

Ans.: (A) $\frac{1}{5}, \frac{4}{5}$



38. Which of the following pairs of fractions are unlike fractions?

(A) $\frac{2}{3}, \frac{3}{5}$

(B) $\frac{1}{7}, \frac{6}{7}$

(C) $\frac{2}{9}, \frac{5}{9}$

(D) $\frac{4}{13}, \frac{12}{13}$

Ans.: (A) $\frac{2}{3}, \frac{3}{5}$

39. Apala typed 50 pages of a book containing 100 pages. Meenu typed 25 pages of the same book. Who typed more?

(A) Apala

(B) Meenu

(C) Both (a) and (b)

(D) none of these

Ans.: (A) Apala

40. $\frac{1}{3} + \frac{2}{3} =$

(A) 1

(B) 2

(C) 3

(D) none of these

Ans.: (A) 1

41. $\frac{1}{3} + \frac{1}{3} + \frac{1}{3} =$

(A) 1

(B) 2

(C) 3

(D) none of these

Ans.: (A) 1

42. $\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} =$

(A) 1

(B) 2

(C) 4

(D) 8

Ans.: (A) 1

43. $\frac{5}{4} - \frac{1}{4} =$

(A) 1

(B) 4

(C) 5

(D) none of these

Ans.: (A) 1

44. $\frac{8}{10} - \frac{3}{10} =$

(A) $\frac{1}{2}$

(B) $\frac{1}{5}$

(C) $\frac{1}{10}$

(D) none of these

Ans.: (A) $\frac{1}{2}$

45. $1 - \frac{1}{2} =$

(A) $\frac{1}{2}$

(B) 1

(C) $-\frac{1}{2}$

(D) $\frac{1}{4}$

Ans.: (A) $\frac{1}{2}$

46. $\frac{0}{1} + \frac{0}{1} =$

(A) 0

(B) 1

(C) -1

(D) 2



Ans.: (A) 0

47. $\frac{8}{15} - ? = \frac{7}{15}$

(A) $\frac{1}{15}$

(B) $\frac{2}{15}$

(C) $\frac{4}{15}$

(D) $\frac{7}{15}$

Ans.: (A) $\frac{1}{15}$

48. $? - \frac{1}{4} = \frac{1}{4}$

(A) $\frac{1}{4}$

(B) $\frac{1}{2}$

(C) $\frac{3}{4}$

(D) $\frac{5}{4}$

Ans. : (B) $\frac{1}{2}$

49. $? + \frac{2}{7} = \frac{5}{7}$

(A) $\frac{1}{7}$

(B) $\frac{2}{7}$

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

(D) $\frac{4}{7}$

Ans. : (C) $\frac{3}{7}$

50. $\frac{25}{7} - \frac{15}{5} =$

(A) $3/4$

(B) $4/7$

(C) $1/2$

(D) $7/4$

Ans. : (B) $4/7$

51. $\frac{1}{2} - \frac{1}{4} =$

(A) $\frac{1}{4}$

(B) $\frac{1}{2}$

(C) $\frac{1}{8}$

(D) $\frac{1}{3}$

Ans.: (A) $\frac{1}{4}$

52. $1\frac{1}{2} + 2\frac{1}{2} =$

(A) 1

(B) 2

(C) 3

(D) 4

Ans. : (D) 4

53. Apala bought $2\frac{1}{2}$ kg of potatoes whereas Meenu bought $1\frac{1}{2}$ kg of potatoes. Find the total amount of potatoes purchased by Apala and Meenu both.

(A) 1 kg

(B) 2 kg

(C) 3 kg

(D) 4 kg

Ans. : (D) 4 kg

54. A teacher finished $\frac{3}{4}$ of his course. How much course is left?

(A) $\frac{1}{2}$

(B) $\frac{1}{4}$

(C) $\frac{1}{6}$

(D) $\frac{1}{3}$



Ans. : (B) $\frac{1}{4}$

55. Mamsh read $\frac{5}{6}$ part of a book. Preeti read $\frac{1}{6}$ part of that book. What more part was read by Manish?
- (A) $\frac{2}{3}$ (B) $\frac{1}{6}$ (C) $\frac{5}{6}$ (D) none of these

Ans.: (A) $\frac{2}{3}$

* a statement of Assertion (A) is followed by a statement of Reason (R). Choose the correct option. [2]

56. Assertion (A): $\frac{7}{11}$ is a proper fraction.
Reason (R): In a proper fraction numerator is greater than the denominator.
- (A) Assertion is true but reason is false.
(B) Assertion is false but reason is true.
(C) Both assertion and reason are true.
(D) Both assertion and reason are false.

Ans. : (A) Assertion is true but reason is false.

Explanation:

$\frac{7}{11}$ is a proper fraction where numerator is less than the denominator.

57. Assertion (A): are equivalent fraction.
Reason (R): Two or more fractions having the same value or representing the same part of a whole are called equivalent fraction.
- (A) Assertion is true but reason is false.
(B) Assertion is false but reason is true.
(C) Both assertion and reason are true.
(D) Both assertion and reason are false.

Ans. : (C) Both assertion and reason are true.

Explanation:

Both are true if numerator and denominator of a given fraction are multiplied and divided by same non-zero number we get equivalent fraction.

* Fill In The Blanks With Correct Alternative. [21]

58. A _____ is a number representing a part of a whole.

Ans. : fraction

59. In a _____ fraction, the numerator is smaller than the denominator.

Ans. : proper

60. In an improper fraction, the denominator is _____ than the numerator.

Ans. : smaller

61. The numerator of $\frac{6}{11}$ is _____

Ans. : 6

62. Fractions with the _____ denominators are called like fractions.

Ans. : same

63. Fractions with _____ denominators are called unlike fractions.

Ans. : different

64. Fractions having _____ as the numerator are called unit fractions.

Ans. : 1

65. All _____ are in the lowest terms.

Ans. : unit fractions

66. A combination of whole number and a proper fraction is called a _____ number.

Ans. : mixed

67. A fraction is said to be in its _____ if the HCF of its numerator and denominator is 1.

Ans. : lowest terms

68. To reduce a fraction to its lowest terms, we divide the numerator and denominator of the given fraction by their _____

Ans. : HCF

69. Fraction having the same value are called _____ fractions.

Ans. : equivalent

70. $2\frac{3}{5}$ is a _____ fraction. [improper/mixed]

Ans. : mixed

71. $\frac{1}{28}$ is a _____ fraction. [mixed/unit]

Ans. : unit

72. Three seventh is written as _____ $\left[\frac{3}{7}/\frac{7}{3}\right]$

Ans. : $\frac{3}{7}$

73. A fraction having its _____ [numerator/denominator] as 1 is called a unit fraction.

Ans. : numerator

74. Fractions having _____ [same/different] denominators are like fractions.

Ans. : same

75. Three guavas together weigh 1 kg. If they are roughly of the same size, each guava will roughly weigh _____ kg.

Ans. : $\frac{1}{3}$

76. A wholesale merchant packed 1 kg of rice in four packets of equal weight. The weight of each packet is _____ kg.

Ans. : $\frac{1}{4}$

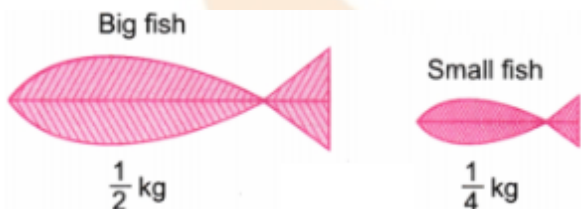
77. Four friends ordered 3 glasses of sugarcane juice and shared it equally. Each one drank _____ glass of sugarcane juice.

Ans. : $\frac{3}{4}$

As total quantity is 3 which is to be divided into four equal parts. So, the required fraction is $\frac{3}{4}$.

78. The big fish weighs $\frac{1}{2}$ kg. The small one weighs $\frac{1}{4}$ kg. Together they weigh _____ kg.

Ans. :



Given the weights of big fish = $\frac{1}{2}$ kg and the weights of small fish = $\frac{1}{4}$ kg

Total weight of both fish = $\frac{1}{2} + \frac{1}{4} = \frac{2+1}{4}$ kg

= $\frac{3}{4}$ kg

* Answer The Following Questions In One Sentence.[1 Marks Each]

[36]

79. What fraction of a day is 7 hours?

Ans. : $\frac{7}{24}$

80. What fraction of an hour is 9 minutes?

Ans. : $\frac{3}{20}$

81. What fraction of a metre is 3 centimeters?



Ans. : $\frac{3}{100}$

82. What fraction of a kilogram is 30 grams?

Ans. : $\frac{3}{100}$

83. Reduce $\frac{48}{216}$ in its simplest form.

Ans. : $\frac{2}{9}$

84. Write a fraction equivalent to $\frac{7}{12}$ with 63 as its numerator.

Ans. : $\frac{63}{108}$

85. Is adding one-half and three-fourth same as adding $\frac{2}{4}$ and $\frac{3}{4}$?

Ans. : Yes

86. Is subtracting one-half from three-fourth the same as subtracting $\frac{1}{2} - \frac{3}{4}$?

Ans. : No

87. Write the following fractions in ascending order:

(a) $\frac{13}{17}, \frac{11}{17}, \frac{15}{17}, \frac{3}{17}, \frac{4}{17}$

(b) $\frac{11}{13}, \frac{7}{13}, \frac{9}{13}, \frac{3}{13}, \frac{10}{13}$

(c) $\frac{4}{17}, \frac{4}{4}, \frac{4}{13}, \frac{4}{2}, \frac{4}{5}, \frac{4}{11}, \frac{4}{7}$

Ans. : (a) $\frac{3}{17} < \frac{4}{17} < \frac{11}{17} < \frac{13}{17} < \frac{15}{17}$

(b) $\frac{3}{13} < \frac{7}{13} < \frac{9}{13} < \frac{10}{13} < \frac{11}{13}$

(c) $\frac{4}{17} < \frac{4}{13} < \frac{4}{11} < \frac{4}{7} < \frac{4}{5} < \frac{4}{4} < \frac{4}{2}$

88. Write the following fractions in descending order:

(a) $\frac{11}{12}, \frac{15}{12}, \frac{13}{12}, \frac{4}{12}, \frac{3}{12}$

(b) $\frac{3}{2}, \frac{3}{5}, \frac{3}{17}, \frac{3}{4}, \frac{3}{7}, \frac{3}{11}, \frac{3}{13}$

Ans. : (a) $\frac{15}{12} > \frac{13}{12} > \frac{11}{12} > \frac{4}{12} > \frac{3}{12}$

(b) $\frac{3}{2} > \frac{3}{4} > \frac{3}{5} > \frac{3}{7} > \frac{3}{11} > \frac{3}{13} > \frac{3}{17}$

89. Compare the following fractions and put $<$ or $>$ in the boxes:

(i) $\frac{7}{6}$ $\frac{3}{6}$

(ii) $\frac{1}{4}$ $\frac{1}{7}$

(iii) $\frac{0}{5}$ $\frac{4}{5}$

(iv) $\frac{4}{20}$ $\frac{1}{20}$

(v) $\frac{5}{8}$ $\frac{7}{8}$

Ans. : (i) $\frac{7}{6} > \frac{3}{6}$, (ii) $\frac{1}{4} > \frac{1}{7}$, (iii) $\frac{0}{5} < \frac{4}{5}$, (iv) $\frac{4}{20} > \frac{1}{20}$, (v) $\frac{5}{8} < \frac{7}{8}$

90. Which fraction is greater?

(i) $\frac{3}{2}$ and $\frac{3}{4}$

(ii) $\frac{2}{3}$ and $\frac{3}{4}$

(iii) $\frac{5}{6}$ and $\frac{1}{2}$

(iv) $\frac{7}{12}$ and $\frac{5}{13}$

Ans. : (i) $\frac{3}{2}$

(ii) $\frac{3}{4}$

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

(iv) $\frac{7}{12}$

91. Add with the help of diagrams:

(i) $\frac{1}{6} + \frac{1}{6}$

(ii) $\frac{2}{3} + \frac{1}{3}$

(iii) $\frac{1}{8} + \frac{1}{8} + \frac{1}{8}$

$$(iv) \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$$

$$(v) \frac{2}{5} + \frac{1}{5}$$

Ans. : (i) $\frac{1}{3}$

(ii) 1

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

(iv) $\frac{3}{4}$

(v) $\frac{3}{5}$

92. Subtract pictorially:

(i) $\frac{3}{4} - \frac{1}{4}$

(ii) $\frac{4}{5} - \frac{2}{5}$

(iii) $\frac{5}{8} - \frac{3}{8}$

Ans. : (i) $\frac{1}{2}$

(ii) $\frac{2}{5}$

(iii) $\frac{1}{4}$

93. Fill in the missing fractions:

(i) $\square - \frac{3}{10} = \frac{4}{10}$

(ii) $\square + \frac{5}{18} = \frac{12}{18}$

(iii) $\square - \frac{3}{5} = \frac{3}{5}$

(iv) $\frac{5}{9} + \square = \frac{11}{9}$

Ans. : (i) $\frac{7}{10}$, (ii) $\frac{7}{18}$, (iii) $\frac{6}{5}$, (iv) $\frac{6}{9}$

94. Solve:

(a) $\frac{8}{11} + \frac{3}{11}$

(b) $\frac{1}{22} + \frac{21}{22}$

(c) $\frac{12}{13} - \frac{7}{13}$

(d) $\frac{20}{23} - \frac{5}{23}$

Ans. : (a) 1

(b) 1

(c) $\frac{5}{13}$

(d) $\frac{15}{23}$

95. The sum of two fractions is $\frac{8}{13}$. If one of the fractions is $\frac{6}{13}$, then find the other fraction.

Ans. : $\frac{2}{13}$

96. Can you create a similar table for $\frac{1}{4}$?

Ans. : Yes.

97. Can all fractions greater than 1 be written as such mixed numbers?

Ans. : Yes.

98. Write the fraction as mixed fraction (e.g. $\frac{9}{2} = 4\frac{1}{2}$)

$$\frac{9}{2}$$

Ans. : $4\frac{1}{2}$

99. Write the fraction as mixed fraction (e.g. $\frac{9}{2} = 4\frac{1}{2}$)

$$\frac{9}{5}$$

Ans. : $1\frac{4}{5}$

100. Write the fraction as mixed fraction (e.g. $\frac{9}{2} = 4\frac{1}{2}$)

$$\frac{21}{19}$$

Ans. : $1\frac{2}{19}$

101. Write the fraction as mixed fraction (e.g. $\frac{9}{2} = 4\frac{1}{2}$)



$$\frac{47}{9}$$

Ans. : $5\frac{2}{9}$

102. Write the fraction as mixed fraction (e.g. $\frac{9}{2} = 4\frac{1}{2}$)

$$\frac{12}{11}$$

Ans. : $1\frac{1}{11}$

103. Write the fraction as mixed fraction (e.g. $\frac{9}{2} = 4\frac{1}{2}$)

$$\frac{19}{6}$$

Ans. : $3\frac{1}{6}$

104. Write the mixed number as fraction:

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

Ans. : $3\frac{1}{4} = \frac{(3 \times 4 + 1)}{4} = \frac{13}{4}$

105. Write the mixed number as fraction:

$$7\frac{2}{3}$$

Ans. : $7\frac{2}{3} = \frac{(7 \times 3 + 2)}{3} = \frac{23}{3}$

106. Write the mixed number as fraction:

$$9\frac{4}{9}$$

Ans. : $9\frac{4}{9} = \frac{(9 \times 9 + 4)}{9} = \frac{85}{9}$

107. Write the mixed number as fraction:

$$3\frac{1}{6}$$

Ans. : $3\frac{1}{6} = \frac{(3 \times 6 + 1)}{6} = \frac{19}{6}$

108. Write the mixed number as fraction:

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

Ans. : $2\frac{3}{11} = \frac{(2 \times 11 + 3)}{11} = \frac{25}{11}$

109. Write the mixed number as fraction:

$$3\frac{9}{10}$$

Ans. : $3\frac{9}{10} = \frac{(3 \times 10 + 9)}{10} = \frac{39}{10}$

110. Anil was in a group where 2 cakes were divided equally among 5 children. How much cake would Anil get?

Ans. : Anil would get $\frac{2}{5}$ part of the cake.

111. Express the following fraction in lowest term:

$$\frac{17}{51}$$

Ans. : $\frac{1}{3}$

112. Express the following fraction in lowest term:

$$\frac{64}{144}$$

Ans. : $\frac{4}{9}$

113. Express the following fraction in lowest term:

$$\frac{126}{147}$$

Ans. : $\frac{6}{7}$

114. Express the following fraction in lowest term:

$$\frac{525}{112}$$

Ans. : $\frac{75}{16}$

*** Questions With Calculation.[2 Marks Each]**

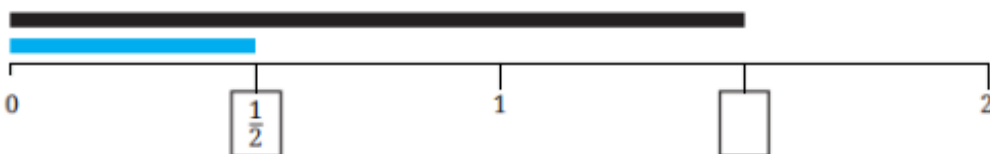
[86]

115. How many fractions lie between 0 and 1? Think, discuss with your classmates, and write your answer.

Ans. : There are an infinite number of fractions between 0 and 1.

Example: $\frac{3}{5}, \frac{4}{5}, \frac{7}{10}, \frac{1}{2}$ etc.

116. What is the length of the pink line and black line shown below? The distance between 0 and 1 is 1 unit long, and it is divided into two equal parts. The length of each part is $\frac{1}{2}$. So the pink line is y units long. Write the fraction that gives the length of the black line in the box.

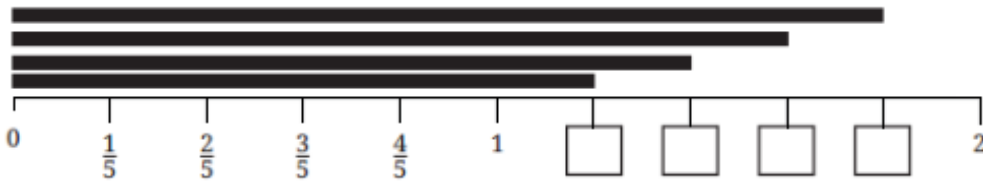


Ans. : Length of black line is $\frac{1}{2}$;

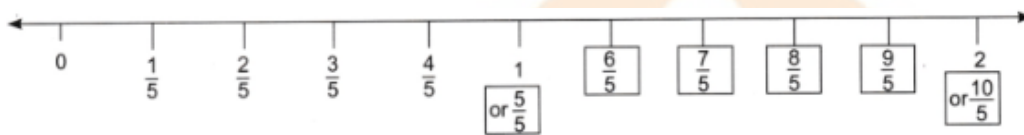
Length of black line is $\frac{1}{2} + \frac{1}{2} + \frac{1}{2}$

Fraction that gives length of black line = $\frac{3}{2}$

117. Write the fraction that gives the lengths of the black lines in the respective boxes.



Ans. :



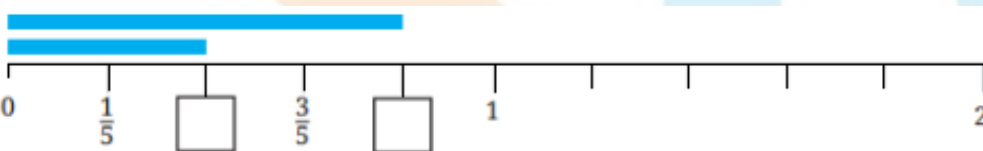
118. Here, the fractional unit is dividing a length of 1 unit into three equal parts. Write the fraction that gives the length of the pink line in the box or in your notebook.



Ans. : Here number line OR is divided into three equal parts OP, PQ and QR.

Hence length of pink line = $OP + PQ = \frac{1}{3} + \frac{1}{3} = \frac{2}{3}$

119. Here, a unit is divided into 5 equal parts. Write the fraction that gives the length of the pink lines in the respective boxes or in your notebook.



Ans. : Here number line OT = 1 unit is divided into five equal parts OP, PQ, QR, RS and ST.

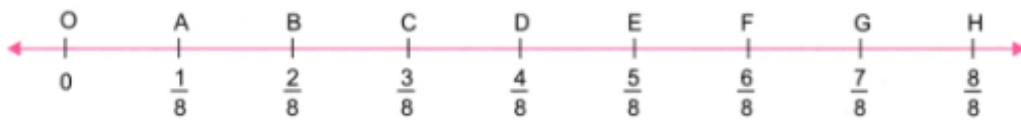
Hence length of pink line $OQ = OP + PQ = \frac{1}{5} + \frac{1}{5} = \frac{2}{5}$

Now, length of pink line $OS = OP + PQ + QR + RS = \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5} = \frac{4}{5}$

Hence, $OQ = \frac{2}{5}OS = \frac{4}{5}$

120. Now, a unit is divided into 8 equal parts. Write the appropriate fractions in your notebook Solution: Here number line OH is divided into 8 equal parts OA, AB, BC, CD, DE, EF, FG and GH.

Ans. :



Also, $OA = \frac{1}{8}$, $OB = \frac{2}{8}$, $OC = \frac{3}{8}$, $OH = \frac{8}{8} = 1$

121. How many whole units are there in $\frac{7}{2}$?

Ans. :

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

So, there are 3 whole units in $\frac{7}{2}$.

122. How many whole units are there in $\frac{4}{3}$ and in $\frac{7}{3}$?

Ans. :

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

So, there are 1 whole unit in $\frac{4}{3}$.

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

So, there are 2 whole units in $\frac{7}{3}$.

123. Write two equivalent fractions for $\frac{2}{6}$.

Ans. : From the fractional wall we can choose any two fractions that denote the same length as $\frac{2}{6} \cdot \frac{2}{6} = \frac{1}{3} = \frac{3}{9}$

124. $\frac{4}{6} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$

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

Ans. :

$$= \frac{8}{12} = \frac{12}{18} = \frac{16}{24}$$

125. Compare the fractions and justify your answer:

$$\frac{8}{3}, \frac{5}{2}$$

Ans. : Given fractions are $\frac{8}{3}$ and $\frac{5}{2}$

LCM of 3 and 2 is 6

$$\frac{8}{3} = \frac{8}{3} \times \frac{2}{2} = \frac{16}{6} \text{ and } \frac{5}{2} = \frac{5}{2} \times \frac{3}{3} = \frac{15}{6}$$

Clearly, $\frac{16}{6} > \frac{15}{6}$ So, $\frac{8}{3} > \frac{5}{2}$

126. Compare the fractions and justify your answer:

$$\frac{4}{9}, \frac{3}{7}$$

Ans. : Given fractions are $\frac{4}{9}$ and $\frac{3}{7}$

LCM of 9 and 7 is 63.

$$\frac{4}{9} = \frac{4}{9} \times \frac{7}{7} = \frac{28}{63}$$

$$\frac{3}{7} = \frac{3}{7} \times \frac{9}{9} = \frac{27}{63}$$

Clearly, $\frac{28}{63} > \frac{27}{63}$ So, $\frac{4}{9} > \frac{3}{7}$

127. Compare the fractions and justify your answer:

$$\frac{7}{10}, \frac{9}{14}$$

Ans. : Given fractions are $\frac{7}{10}$ and $\frac{9}{14}$

LCM of 10 and 14 is 70.

$$\frac{7}{10} = \frac{7}{10} \times \frac{7}{7} = \frac{49}{70}$$

$$\frac{9}{14} = \frac{9}{14} \times \frac{5}{5} = \frac{45}{70}$$

Clearly, $\frac{49}{70} > \frac{45}{70}$ So, $\frac{7}{10} > \frac{9}{14}$

128. Compare the fractions and justify your answer:

$$\frac{12}{5}, \frac{8}{5}$$

Ans. : Given fractions are $\frac{12}{5}$ and $\frac{8}{5}$

Clearly $\frac{12}{5} > \frac{8}{5}$

As denominators are same, so $\frac{12}{5} > \frac{8}{5}$

129. Compare the fractions and justify your answer:

$$\frac{9}{4}, \frac{5}{2}$$

Ans. : Given, fractions are $\frac{9}{4}, \frac{5}{2}$

LCM of 4 and 2 is 4

$$\frac{9}{4} \times \frac{1}{1} = \frac{9}{4}$$

$$\frac{5}{2} \times \frac{2}{2} = \frac{10}{4}$$

Clearly $\frac{9}{4} < \frac{10}{4}$ So, $\frac{9}{4} < \frac{5}{2}$



130. Compare the fractions and justify your answer:

$$\frac{8}{3}, \frac{5}{2}$$

Ans. : Given, fractions are $\frac{4}{9}$ and $\frac{3}{7}$

LCM of 3 and 2 is 6

$$\frac{8}{3} = \frac{8}{3} \times \frac{2}{2} = \frac{16}{6} \text{ and } \frac{5}{2} = \frac{5}{2} \times \frac{3}{3} = \frac{15}{6}$$

Clearly, $\frac{16}{6} > \frac{15}{6}$ So, $\frac{8}{3} > \frac{5}{2}$

131. Compare the fractions and justify your answer:

$$\frac{4}{9}, \frac{3}{7}$$

Ans. : Given, fractions are $\frac{4}{9}$ and $\frac{3}{7}$

LCM of 9 and 7 is 63.

$$\frac{4}{9} = \frac{4}{9} \times \frac{7}{7} = \frac{28}{63}$$

$$\frac{3}{7} = \frac{3}{7} \times \frac{9}{9} = \frac{27}{63}$$

Clearly, $\frac{28}{63} > \frac{27}{63}$ So, $\frac{4}{9} > \frac{3}{7}$

132. Compare the fractions and justify your answer:

$$\frac{7}{10}, \frac{9}{14}$$

Ans. : Given fractions are $\frac{7}{10}$ and $\frac{9}{14}$

LCM of 10 and 14 is 70.

$$\frac{7}{10} = \frac{7}{10} \times \frac{7}{7} = \frac{49}{70}$$

$$\frac{9}{14} = \frac{9}{14} \times \frac{5}{5} = \frac{45}{70}$$

Clearly, $\frac{49}{70} > \frac{45}{70}$ So, $\frac{7}{10} > \frac{9}{14}$

133. Compare the fractions and justify your answer:

$$\frac{12}{5}, \frac{8}{5}$$

Ans. : Given fractions are $\frac{12}{5}$ and $\frac{8}{5}$

Clearly $\frac{12}{5} > \frac{8}{5}$

As denominators are same, so $\frac{12}{5} > \frac{8}{5}$

134. Compare the fractions and justify your answer:

$$\frac{9}{4}, \frac{5}{2}$$



Ans. : Given, fractions are $\frac{9}{4}$, $\frac{5}{2}$

LCM of 4 and 2 is 4

$$\frac{9}{4} \times \frac{1}{1} = \frac{9}{4}$$

$$\frac{5}{2} \times \frac{2}{2} = \frac{10}{4}$$

Clearly $\frac{9}{4} < \frac{10}{4}$ So, $\frac{9}{4} < \frac{5}{2}$

135. Add the fractions using Brahmagupta's method:

$$\frac{2}{7} + \frac{5}{7} + \frac{6}{7}$$

Ans. :

$$\begin{aligned} \frac{2}{7} + \frac{5}{7} + \frac{6}{7} \\ &= \frac{2+5+6}{7} = \frac{13}{7} \\ &= 1\frac{6}{7} \end{aligned}$$

136. Add the fractions using Brahmagupta's method:

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

Ans. :

$$\begin{aligned} \frac{3}{4} + \frac{1}{3} &= \frac{3}{4} \times \frac{3}{3} + \frac{1}{3} \times \frac{4}{4} \\ &= \frac{9}{12} + \frac{4}{12} = \frac{9+4}{12} \\ &= \frac{13}{12} \\ &= 1\frac{1}{12} \end{aligned}$$

137. Add the fractions using Brahmagupta's method:

$$\frac{2}{3} + \frac{5}{6}$$

Ans. :

$$\begin{aligned} \frac{2}{3} + \frac{5}{6} &= \frac{2}{3} \times \frac{2}{2} + \frac{5}{6} \\ \frac{4}{6} + \frac{5}{6} &= \frac{9}{6} = \frac{3}{2} \\ &= 1\frac{1}{2} \end{aligned}$$

138. Add the fractions using Brahmagupta's method:

$$\frac{2}{3} + \frac{2}{7}$$

Ans. :

$$\begin{aligned}\frac{2}{3} + \frac{2}{7} &= \frac{2}{3} \times \frac{7}{7} + \frac{2}{7} \times \frac{3}{3} \\ &= \frac{14}{21} + \frac{6}{21} = \frac{20}{21}\end{aligned}$$

139. Add the fractions using Brahmagupta's method:

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

Ans. :

$$\begin{aligned}\frac{45}{60} + \frac{20}{60} + \frac{12}{60} \\ &= \frac{77}{60} \\ &= 1\frac{17}{60}\end{aligned}$$

140. Add the fractions using Brahmagupta's method:

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

Ans. :

$$\begin{aligned}\frac{10}{15} + \frac{12}{15} &= \frac{22}{15} \\ &= 1\frac{7}{15}\end{aligned}$$

141. Add the fractions using Brahmagupta's method:

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

Ans. :

$$\begin{aligned}\frac{12}{15} + \frac{10}{15} &= \frac{22}{15} \\ &= 1\frac{7}{15}\end{aligned}$$

142. Add the fractions using Brahmagupta's method:

$$\frac{3}{5} + \frac{5}{8}$$

Ans. :

$$\begin{aligned}\frac{24}{40} + \frac{25}{40} &= \frac{49}{40} \\ &= \frac{9}{40}\end{aligned}$$

143. Add the fractions using Brahmagupta's method:

$$\frac{9}{2} + \frac{5}{4}$$

Ans. :

$$\frac{18}{4} + \frac{5}{4} = \frac{23}{4}$$
$$= 5\frac{3}{4}$$

144. Add the fractions using Brahmagupta's method:

$$\frac{8}{3} + \frac{2}{7}$$

$$\frac{56}{21} + \frac{6}{21} = \frac{62}{21}$$

Ans. :

$$= 2\frac{20}{21}$$

145. Add the fractions using Brahmagupta's method:

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

Ans. :

$$\frac{45}{60} + \frac{20}{60} + \frac{12}{60} = \frac{77}{60}$$
$$= 1\frac{17}{60}$$

146. Add the fractions using Brahmagupta's method:

$$\frac{2}{3} + \frac{4}{5} + \frac{3}{7}$$

Ans. :

$$\frac{70}{105} + \frac{84}{105} + \frac{45}{105} = \frac{199}{105}$$
$$= 1\frac{94}{105}$$

147. Add the fractions using Brahmagupta's method:

$$\frac{9}{2} + \frac{5}{4} + \frac{7}{6}$$

Ans. :

$$\frac{54}{12} + \frac{15}{12} + \frac{14}{12} = \frac{83}{12}$$
$$= \frac{11}{12}$$

148. $\frac{5}{8} - \frac{3}{8}$

Ans. : Given $\frac{5}{8} - \frac{3}{8}$

As fractional unit is same i.e., $\frac{1}{8}$ we shall simply subtract numerators keeping fractional unit as $\frac{1}{8}$

$$\begin{aligned} \text{Then } \frac{5}{8} - \frac{3}{8} &= \frac{5-3}{8} \\ &= \frac{2}{8} = \frac{1}{4} \end{aligned}$$

149. $\frac{7}{9} - \frac{5}{9}$

Ans. : Given $\frac{7}{9} - \frac{5}{9}$

As fractional unit is same i.e., $\frac{1}{9}$ we shall simply subtract numerators keeping fractional unit as $\frac{1}{9}$

$$\begin{aligned} \frac{7}{9} - \frac{5}{9} \\ &= \frac{7-5}{9} = \frac{2}{9} \end{aligned}$$

150. $\frac{10}{27} - \frac{1}{27} - \frac{10}{27} - \frac{1}{27}$

Here $\frac{10}{27} - \frac{1}{27}$

Ans. : $= \frac{10-1}{27}$
 $= \frac{9}{27} = \frac{1}{3}$

151. subtraction using Brahmagupta's method:

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

Ans. : Given $\frac{8}{15} - \frac{3}{15}$

Fractional unit for both fractions is $\frac{1}{15}$ then $\frac{2 \times 3}{5 \times 3} - \frac{4 \times 1}{15 \times 1}$

$$\begin{aligned} \frac{8}{15} - \frac{3}{15} &= \frac{8-3}{15} \\ &= \frac{5}{15} = \frac{1}{3} \end{aligned}$$

152. subtraction using Brahmagupta's method:

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

Ans. : Given $\frac{2}{5} - \frac{4}{15}$

Here LCM of 5 and 15 is 15. Fractional unit for both fractions should be $\frac{1}{15}$

$$\begin{aligned} \text{then } & \frac{2 \times 3}{5 \times 3} - \frac{4 \times 1}{15 \times 1} \\ & = \frac{6}{15} - \frac{4}{15} \\ & = \frac{6-4}{15} \\ & = \frac{2}{15} \end{aligned}$$

153. subtraction using Brahmagupta's method:

$$\frac{5}{6} - \frac{4}{9}$$

Ans. : Given $\frac{5}{6} - \frac{4}{9}$

Hence LCM of 6 and 9 is 18. Fractional unit for both fractions should be $\frac{1}{18}$ then

$$\begin{aligned} & \frac{5 \times 3}{6 \times 3} - \frac{4 \times 2}{9 \times 2} \\ & = \frac{15}{18} - \frac{8}{18} \\ & = \frac{15-8}{18} \\ & = \frac{7}{18} \end{aligned}$$

154. subtraction using Brahmagupta's method:

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

Ans. : Given $\frac{2}{3} - \frac{1}{2}$

Here LCM of 3 and 2 is 6. Fractional unit for both fractions should be $\frac{1}{6}$

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

155. Subtract as indicated:

$$\frac{13}{4} \text{ from } \frac{10}{3}$$

Ans. : The denominators of the given fractions are 3 and 4. The LCM of 3 and 4 is 12.

$$\text{Then } \frac{13}{4} = \frac{13 \times 3}{4 \times 3} = \frac{39}{12}, \frac{10}{3} = \frac{10 \times 4}{3 \times 4} = \frac{40}{12}$$

$$\text{Therefore, } \frac{10}{3} - \frac{13}{4} = \frac{40}{12} - \frac{39}{12} = \frac{1}{12}$$

156. Subtract as indicated:

$$\frac{18}{5} \text{ from } \frac{23}{3}$$

Ans. : The denominators of the given fractions are 3 and 5.

The LCM of 3 and 5 is 15.

$$\text{Then, } \frac{23}{3} = \frac{23 \times 5}{3 \times 5} = \frac{115}{15}, \frac{18}{5} = \frac{18 \times 3}{5 \times 3} = \frac{54}{15}$$

$$\text{Therefore, } \frac{23}{3} - \frac{18}{5} = \frac{115}{15} - \frac{54}{15} = \frac{61}{15} = 4\frac{1}{15}$$

157. Subtract as indicated:

$$\frac{29}{7} \text{ from } \frac{45}{7}$$

Ans. : The denominators are same.

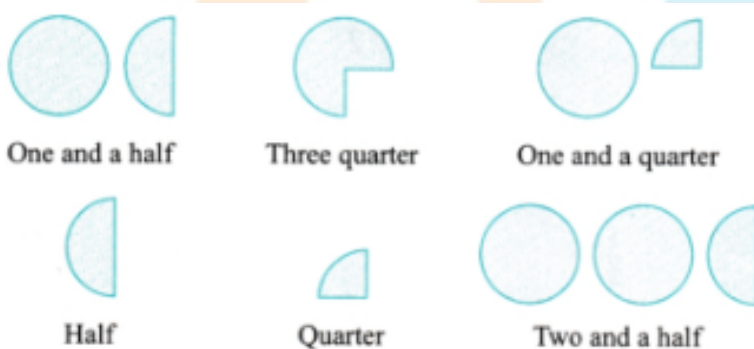
$$\text{Therefore, } \frac{45}{7} - \frac{29}{7} = \frac{16}{7} = 2\frac{2}{7}$$

*** Questions With Calculation.[3 Marks Each]**

[78]

158. Arrange these fraction words in order of size from the smallest to the biggest in the empty box below: One and a half, three quarters, one and a quarter, half, quarter, two and a half.

Ans. :



∴ The fractions from smallest to the biggest are as follows: quarter, half, three quarters one and a quarter, one and a half, two and a half.

159. Continue this table of $\frac{1}{2}$ for 2 more steps.

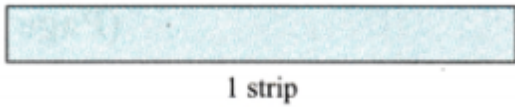
Ans. :

$\frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2}$ = 6 times half	$\frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2}$ = 7 times half

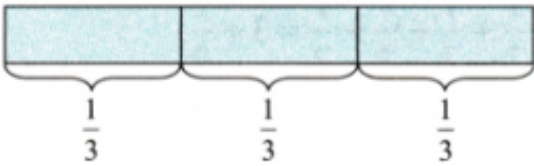
160. Make $\frac{1}{3}$ using a paper strip. Can you use this to also make $\frac{1}{6}$?



Ans. : Take a strip of paper.



Fold the strip into three equal parts and then open up.



Yes, we can also make $\frac{1}{6}$ using a paper strip by folding 6 again the above strip.

161. Draw a picture and write an addition statement as above to show:

(a) 5 times $\frac{1}{4}$ of a roti

(b) 9 times $\frac{1}{4}$ of a roti

Ans. : (a)



5 times $\frac{1}{4}$ of a roti

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

(b)



9 times $\frac{1}{4}$ of a roti

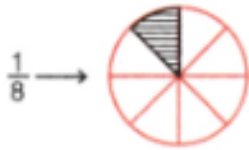
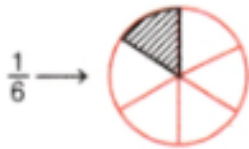
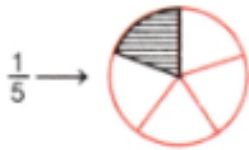
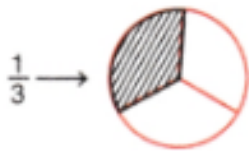
$$= \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4}$$

162. Match each fractional unit with the correct picture:



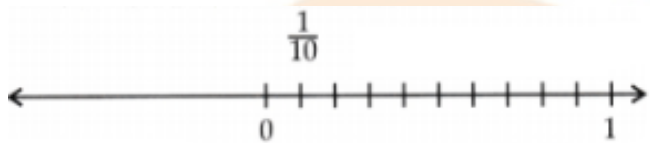
Student Bro

Ans. :

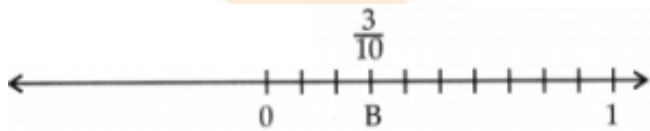


163. On a number line, draw lines of length $\frac{1}{10}$, $\frac{3}{10}$, and $\frac{4}{5}$.

Ans. :



Divide the unit into 10 equal parts and point A represents $\frac{1}{10}$.



Divide a unit into 10 equal parts and point B represents $\frac{3}{10}$.



Divide a unit into 5 equal parts and point C represents $\frac{4}{5}$.

164. Figure out the number of whole units in each of the following fractions:

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

(b) $\frac{11}{5}$

(c) $\frac{9}{4}$

Ans. : (a) 2

(b) 2



(c) 2

165. Are $\frac{3}{6}$, $\frac{4}{8}$, $\frac{5}{10}$ equivalent fractions? Why?

Ans. : Here, simplest form of $\frac{3}{6} = \frac{3 \div 3}{6 \div 3} = \frac{1}{2}$ [HCF of 3 and 6 is 3]

and simplest form of $\frac{4}{8}$ is $\frac{4 \div 4}{8 \div 4} = \frac{1}{2}$ [HCF of 4 and 8 is 4]

and simplest form of $\frac{5}{10}$ is $\frac{5 \div 5}{10 \div 5} = \frac{1}{2}$ [HCF of 5 and 10 is 5]

Hence, $\frac{3}{6}$, $\frac{4}{8}$, $\frac{5}{10}$ are equivalent fractions.

166. Three rotis are shared equally by four children, show the division in the picture and write a fraction of how much each child gets. Also, write the corresponding division facts, addition facts, and, multiplication facts.



The fraction of roti each child gets is _____

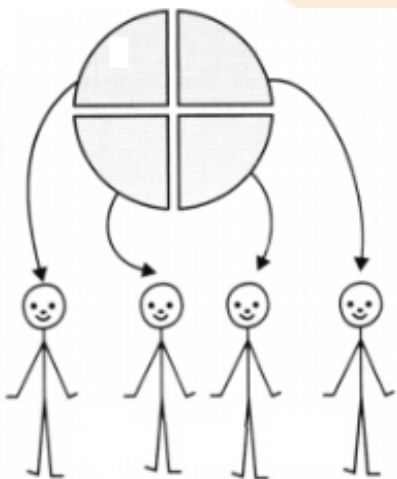
Division fact:

Addition fact:

Multiplication fact:

Compare your picture and answer with your classmates!

Ans. : One roti is shared as shown in the figure below:



The four shares must be equal to each other!

Similar distribution will be done for the second and third roti also.

So, each child will get $\frac{3}{4}$ a piece of roti.

The division fact is $3 \div 4 = \frac{3}{4}$

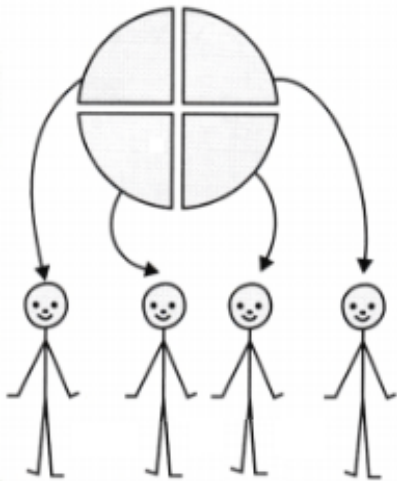


The addition fact is $3 = \frac{3}{4} + \frac{3}{4} + \frac{3}{4} + \frac{3}{4}$

The multiplication fact is $3 = 4 \times \frac{3}{4}$

167. Draw a picture to show how much each child gets when 2 rotis are shared equally by 4 children. Also, write the corresponding division facts, addition facts, and multiplication facts.

Ans. : One roti is shared as shown in the figure below:



The four shares must be equal to each other!

A similar distribution will be done for the second roti also.

So, each child will get $\frac{1}{4}$ part from a rod.

So, the total fraction of roti received by each child from 2 rotis = $\frac{2}{4} = \frac{1}{2}$

The division fact is $2 \div 4 = \frac{2}{4}$

The addition fact is $= \frac{2}{4} + \frac{2}{4} + \frac{2}{4} + \frac{2}{4}$

The multiplication fact is $2 = 4 \times \frac{2}{4}$

168. Find equivalent fractions for the given pairs of fractions such that the fractional units are the same.

$\frac{7}{2}$ and $\frac{3}{5}$

Ans. : Given fractions are $\frac{7}{2}$ and $\frac{3}{5}$

Here, the denominators are 2 and 5.

And least common multiple of 2 and 5 is 10.

Hence for both fractions let's have same denominator of 10.

Now for $\frac{7}{2}$ multiply both the numerator and the denominator by 5.

$$\frac{7}{2} = \frac{7 \times 5}{2 \times 5} = \frac{35}{10}$$

And for $\frac{3}{5}$ multiply both the numerator and the denominator by 2, we get,



$$\frac{3 \times 2}{5 \times 2} = \frac{6}{10}$$

Hence, the equivalent fractions with the same denominator are:

$$\frac{35}{10} \text{ and } \frac{6}{10}$$

169. Find equivalent fractions for the given pairs of fractions such that the fractional units are the same.

$$\frac{8}{3} \text{ and } \frac{5}{6}$$

Ans. : Given fractions are $\frac{8}{3}$ and $\frac{5}{6}$

Here, the denominators are 3 and 6.

And least common multiple of 3 and 6 is 6.

Now for $\frac{8}{3}$ multiply both the numerator and the denominator by 2.

$$\frac{8}{3} = \frac{8 \times 2}{3 \times 2} = \frac{16}{6}$$

$\frac{5}{6}$ already have a denominator 6.

Hence, the equivalent fractions with the same denominator are:

$$\frac{16}{6} \text{ and } \frac{5}{6}$$

170. Find equivalent fractions for the given pairs of fractions such that the fractional units are the same.

$$\frac{3}{4} \text{ and } \frac{3}{5}$$

Ans. : Given fractions are $\frac{3}{4}$ and $\frac{3}{5}$

Here, the denominators are 4 and 5.

And least common multiple of 4 and 5 is 20.

Now for $\frac{3}{4}$ multiply both the numerator and the denominator by 5.

$$\frac{3}{4} = \frac{3 \times 5}{4 \times 5} = \frac{15}{20}$$

And for $\frac{3}{5}$ multiply both the numerator and the denominator by 4, we get

$$\frac{3}{5} = \frac{3 \times 4}{5 \times 4} = \frac{12}{20}$$

So, the equivalent fractions with the same denominator are:

$$\frac{15}{20} \text{ and } \frac{12}{20}$$

171. Find equivalent fractions for the given pairs of fractions such that the fractional units are the same.

$$\frac{6}{7} \text{ and } \frac{8}{5}$$

Ans. : Given fractions are $\frac{6}{7}$ and $\frac{8}{5}$

Here, the denominators are 7 and 5.



And least common multiple of 7 and 5 is 35.

Now for $\frac{6}{7}$ multiply both the numerator and the denominator by 5.

$$\frac{6}{7} = \frac{6 \times 5}{7 \times 5} = \frac{30}{35}$$

And for $\frac{8}{5}$ multiply both the numerator and the denominator by 7, we get

$$\frac{8}{5} = \frac{8 \times 7}{5 \times 7} = \frac{56}{35}$$

So, the equivalent fractions with the same denominator are:

$$\frac{30}{35} \text{ and } \frac{56}{35}$$

172. Find equivalent fractions for the given pairs of fractions such that the fractional units are the same.

$$\frac{9}{4} \text{ and } \frac{5}{2}$$

Ans. : Given fractions are $\frac{9}{4}$ and $\frac{5}{2}$

Here, the denominators are 4 and 2.

And least common multiple of 4 and 2 is 4.

Now for $\frac{5}{2}$ multiply both the numerator and the denominator by 2.

$$\frac{5}{2} = \frac{5 \times 2}{2 \times 2} = \frac{10}{4}$$

and $\frac{9}{4}$ already have a denominator 4

So, the equivalent fractions with the same denominator are:

$$\frac{9}{4} \text{ and } \frac{10}{4}$$

173. Find equivalent fractions for the given pairs of fractions such that the fractional units are the same.

$$\frac{1}{10} \text{ and } \frac{2}{9}$$

Ans. : Given fractions are $\frac{1}{10}$ and $\frac{2}{9}$

Here, the denominators are 10 and 9.

And least common multiple of 10 and 9 is 90.

Now for $\frac{1}{10}$ multiply both the numerator and the denominator by 9.

$$\frac{1}{10} = \frac{1 \times 9}{10 \times 9} = \frac{9}{90}$$

And for 2 multiply both the numerator and the denominator by 10, we get

$$\frac{2}{9} = \frac{2 \times 10}{9 \times 10} = \frac{20}{90}$$

So, the equivalent fractions with the same denominator are:

$$\frac{9}{90} \text{ and } \frac{20}{90}$$

174. Find equivalent fractions for the given pairs of fractions such that the fractional units are the same.

$$\frac{8}{3} \text{ and } \frac{11}{4}$$

Ans. : Given fractions are $\frac{8}{3}$ and $\frac{11}{4}$

Here, the denominators are 3 and 4.

And least common multiple of 3 and 4 is 12.

Now for $\frac{8}{3}$ multiply both the numerator and the denominator by 4.

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

And for $\frac{11}{4}$ multiply both the numerator and the denominator by 3, we get

$$\frac{11}{4} = \frac{11 \times 3}{4 \times 3} = \frac{33}{12}$$

So, the equivalent fractions with the same denominator are:

$$\frac{32}{12} \text{ and } \frac{33}{12}$$

175. Find equivalent fractions for the given pairs of fractions such that the fractional units are the same.

$$\frac{13}{6} \text{ and } \frac{1}{9}$$

Ans. : Given fractions are $\frac{13}{6}$ and $\frac{1}{9}$

Here, the denominators are 6 and 9.

And least common multiple of 6 and 9 is 18.

Now for $\frac{13}{6}$ multiply both the numerator and the denominator by 3.

$$\frac{13}{6} = \frac{13 \times 3}{6 \times 3} = \frac{39}{18}$$

And for $\frac{1}{9}$ multiply both the numerator and the denominator by 2, we get

$$\frac{1}{9} = \frac{1 \times 2}{9 \times 2} = \frac{2}{18}$$

So, the equivalent fractions with the same denominator are:

$$\frac{39}{18} \text{ and } \frac{2}{18}$$

176. Write fractions ascending order.

$$\frac{7}{10}, \frac{11}{15}, \frac{2}{5}$$

Ans. : The given fractions are $\frac{7}{10}, \frac{11}{15}, \frac{2}{5}$

Let us find LCM of denominator 10, 15, 5



2	10,	15	5
3	5	15	5
5	5	5	5
	1	1	1

\therefore LCM of 10, 15 and 5 = $2 \times 3 \times 5 = 30$

Now let us make denominator of each fractions as LCM

$$\frac{7 \times 3}{10 \times 3}, \frac{11 \times 2}{15 \times 2}, \frac{2 \times 6}{5 \times 6}$$

$$\frac{21}{30}, \frac{22}{30}, \frac{12}{30}$$

Clearly $\frac{12}{30} < \frac{21}{30} < \frac{22}{30}$

$$\Rightarrow \frac{2}{5} < \frac{7}{10} < \frac{11}{5}$$

Hence given fractions in ascending order are: $\frac{2}{5}, \frac{7}{10}, \frac{11}{5}$

177. Write fractions ascending order.

$$\frac{19}{24}, \frac{5}{6}, \frac{7}{12}$$

Ans. : The given fractions are $\frac{19}{24}, \frac{5}{6}, \frac{7}{12}$

Here LCM of 24, 6, 12 is 24.

$$\therefore \frac{19 \times 1}{24 \times 1}, \frac{5 \times 4}{6 \times 4}, \frac{7 \times 2}{12 \times 2}$$

Thus $\frac{19}{24} < \frac{20}{24} > \frac{14}{24}$

On arranging in ascending Order, we get

$$\frac{14}{24}, \frac{19}{24}, \frac{20}{24}$$

$$\Rightarrow \frac{7}{12}, \frac{19}{24}, \frac{5}{6}$$

178. Write the fractions in descending order.

$$\frac{25}{16}, \frac{7}{8}, \frac{13}{4}, \frac{17}{32}$$

Ans. : $\frac{25}{16} = \frac{25 \times 2}{16 \times 2} = \frac{50}{32}, \frac{7}{8} = \frac{7 \times 4}{8 \times 4} = \frac{28}{32}$

$$\frac{13}{4} = \frac{13 \times 8}{4 \times 8} = \frac{104}{32}, \frac{17}{32} = \frac{17 \times 1}{32 \times 1} = \frac{17}{32}$$

As $\frac{104}{32} > \frac{50}{32} > \frac{28}{32} > \frac{17}{32}$. So, $\frac{13}{4} > \frac{25}{16} > \frac{7}{8} > \frac{17}{32}$

179. Write the fractions in descending order.

$$\frac{3}{4}, \frac{12}{5}, \frac{7}{12}, \frac{5}{4}$$

Ans. : $\frac{3}{4} = \frac{3 \times 15}{4 \times 15} = \frac{45}{60}, \frac{12}{5} = \frac{12 \times 12}{5 \times 12} = \frac{144}{60}$

$$\frac{7}{12} = \frac{7 \times 5}{12 \times 5} = \frac{35}{60}, \frac{5}{4} = \frac{5 \times 15}{4 \times 15} = \frac{75}{60}$$

As $\frac{144}{60} > \frac{75}{60} > \frac{45}{60} > \frac{35}{60}$. So, $\frac{12}{5} > \frac{5}{4} > \frac{3}{4} > \frac{7}{12}$

180. Rahim mixes $\frac{2}{3}$ liters of yellow paint with $\frac{3}{4}$ liters of blue paint to make green paint. What is the volume of green paint he has made?

Ans. : Quantity of yellow paint added = $\frac{2}{3}$ litres

Quantity of blue paint added = $\frac{3}{4}$ litres

Total quantity of green paint made = $\frac{2}{3} + \frac{3}{4}$

LCM of 3 and 4 is 12.

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

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

$$\frac{8}{12} + \frac{9}{12} = \frac{8+9}{12} = \frac{17}{12}$$

So, the total quantity of paint made is $\frac{17}{12}$ liters.

181. Geeta bought $\frac{2}{5}$ meter of lace and Shamim bought $\frac{3}{4}$ meter of the same lace to put a complete border on a table cloth whose perimeter is 1 meter long. Find the total length of the lace they both have bought. Will the lace be sufficient to cover the whole border?

Ans. : Length of lace bought by Geeta = $\frac{2}{5}m$

Length of lace bought by Shamim = $\frac{3}{4}m$

Total length of lace bought = $\frac{2}{5} + \frac{3}{4}$

LCM of 5 and 4 is 20.

$$\frac{2}{5} = \frac{2}{5} \times \frac{4}{4} = \frac{8}{20}$$

$$\frac{3}{4} = \frac{3}{4} \times \frac{5}{5} = \frac{15}{20}$$

$$\frac{8}{20} + \frac{15}{20} = \frac{23}{20} = 1\frac{3}{20}$$

This length is more than 1 m. So, lace is more than sufficient or will be left extra after covering the border.

182. Jaya's school is $\frac{7}{10}$ km from her home. She takes an auto for $\frac{1}{2}$ km from her home daily, and then walks the remaining distance to reach her school. How much does she walk daily to reach the school?

Ans. : Total distance between school and home = $\frac{7}{10}km$

Distance travelled in Auto = $\frac{1}{2}km$.

∴ Distance she walks daily to reach the school

$$= \left(\frac{7}{10} - \frac{1}{2} \right) km$$

$$= \left(\frac{7}{10} - \frac{1}{2} \times \frac{5}{5} \right) km$$

$$= \left(\frac{7}{10} - \frac{5}{10} \right) km$$

$$= \frac{2}{10} km$$

$$= \frac{1}{5} km$$

183. Jeevika takes $\frac{10}{3}$ minutes to take a complete round of the park and her friend Namit takes $\frac{13}{4}$ minutes to do the same. Who takes less time and by how much?

Ans. : Time taken by Jeevika = $\frac{10}{3}$ minutes

and time taken by Narnit = $\frac{13}{4}$ minutes

Now, $\frac{10}{3} \times \frac{4}{4} = \frac{40}{12}$ and $\frac{13}{4} \times \frac{3}{3} = \frac{39}{12}$

Clearly, $\frac{10}{3} > \frac{13}{4}$

∴ Jeevika takes less time by $\left(\frac{10}{3} - \frac{13}{4} \right)$ minutes

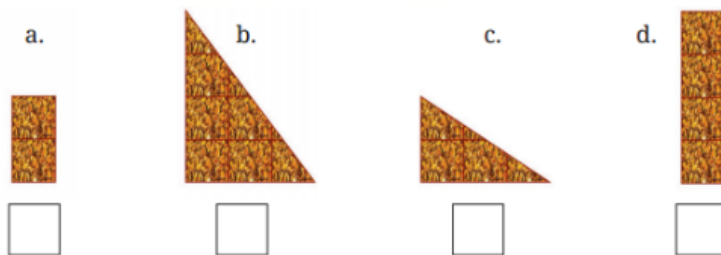
$$= \left(\frac{40}{12} - \frac{39}{12} \right) \text{ minutes}$$

$$= \frac{1}{12} \text{ minutes.}$$

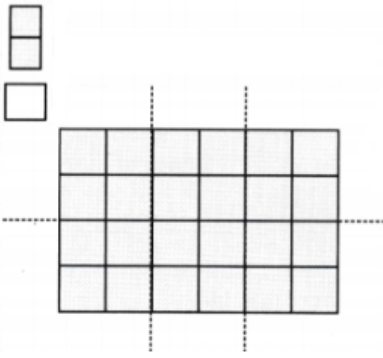
* Questions With Calculation.[5 Marks Each]

[25]

184. The figure below shows different fractional units of a whole chikki. How much of a whole chikki is each piece?



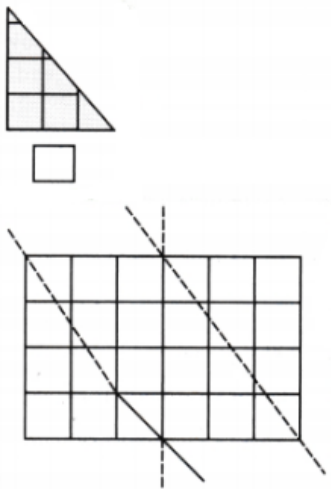
Ans. : (a)



Total no. of pieces formed of given size = 12

Required fraction = $\frac{1}{12}$

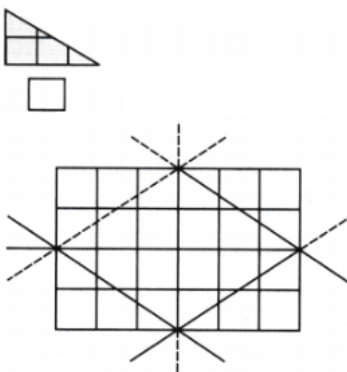
(b)



Total no. of pieces formed of given size = 4

Required fraction = $\frac{1}{4}$

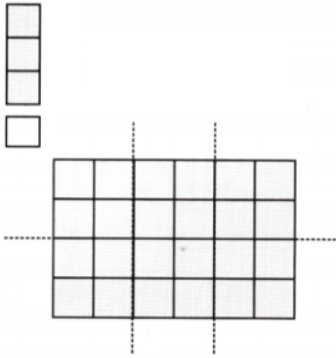
(c)



Total no. of pieces formed of given size = 8

Required fraction = $\frac{1}{8}$

(d)



Total no. of pieces formed of given size = 6

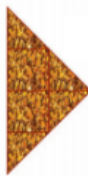
Required fraction = $\frac{1}{6}$

185. The figure below shows different fractional units of a whole chikki. How much of a whole chikki is each piece?

a.



b.



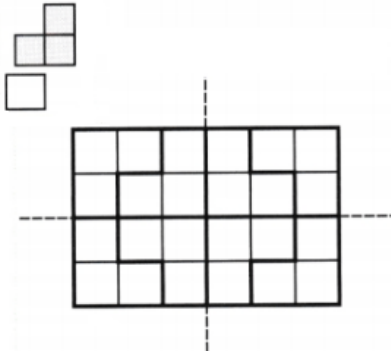
c.



d.



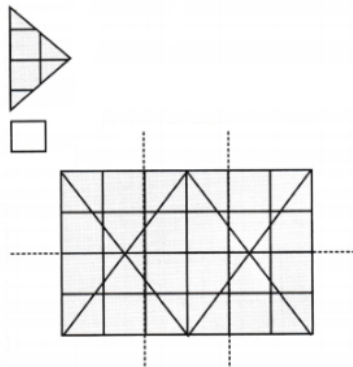
Ans. : (a)



Total no. of pieces formed of given size = 8

Required fraction = $\frac{1}{8}$

(b)

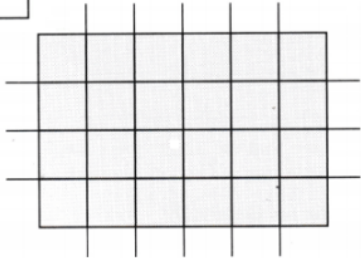


Total no. of pieces formed of given size = 8

Required fraction = $\frac{1}{8}$



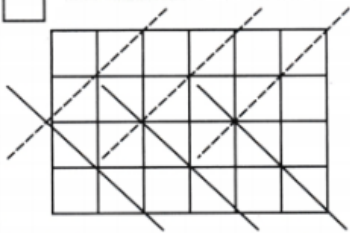
(c)



Total no. of pieces formed of given size = 24

Required fraction = $\frac{1}{24}$

(d)



Total no. of pieces formed of given size = 12

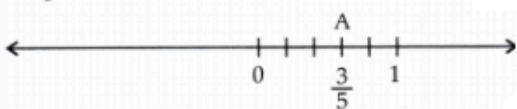
Required fraction = $\frac{1}{12}$

186. Write five more fractions of your choice and mark them on the number line.

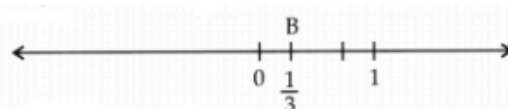
Ans. : The fractions are $\frac{3}{5}$, $\frac{1}{3}$, $\frac{5}{7}$, $\frac{2}{5}$ and $\frac{1}{8}$.

Their number line representations are:

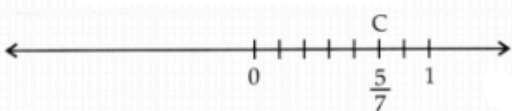
(a) $\frac{3}{5}$



(b) $\frac{1}{3}$



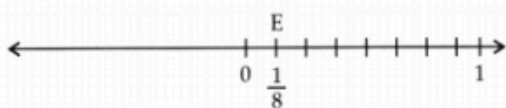
(c) $\frac{5}{7}$



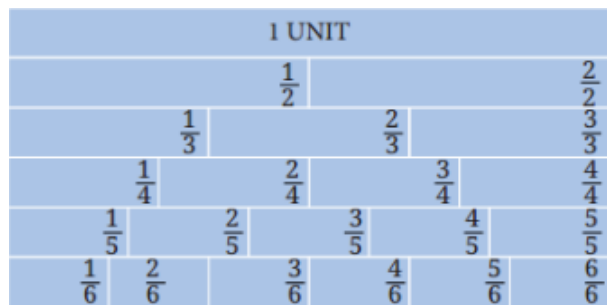
(d) $\frac{2}{5}$



(e) $\frac{1}{8}$



Answer the following questions after looking at the fraction wall:



187. Are the lengths $\frac{1}{2}$ and $\frac{3}{6}$ equal?
188. Are $\frac{2}{3}$ and $\frac{4}{6}$ equivalent fractions? Why?
189. How many pieces of length $\frac{1}{6}$ will make a length of $\frac{1}{2}$?
190. How many pieces of length $\frac{1}{6}$ will make a length of $\frac{1}{3}$?

Ans. : 1. Yes, here lengths $\frac{1}{2}$ and $\frac{3}{6} = \frac{1}{2}$

Lengths are equal.

2. Yes, lengths $\frac{2}{3}$ and $\frac{4}{6} = \frac{1}{3}$ are equivalent fraction, as they have same length.

3. Total no.of pieces = $\frac{\frac{1}{2}}{\frac{1}{6}} = \frac{1}{2} \times \frac{6}{1} = \frac{6}{2} = 3$

Hence three pieces of length $\frac{1}{6}$ will make a length of $\frac{1}{2}$

4. Total no. of pieces = $\frac{\frac{1}{3}}{\frac{1}{6}} = \frac{1}{3} \times \frac{6}{1} = \frac{6}{3} = 2$

Hence two pieces of length $\frac{1}{6}$ will make a length of $\frac{1}{3}$.

191. Find the missing numbers:

(a) 5 glasses of juice shared equally among 4 friends is the same as _____

glasses of juice shared equally among 8 friends. So, $\frac{5}{4} = \frac{?}{8}$

(b) 4 kg of potatoes divided equally in 3 bags is the same as 12 kgs of potatoes divided equally in _____ bags. So, $\frac{4}{3} = \frac{12}{?}$.

(c) 7 rods divided among 5 children is the same as rods divided among children.

So, $\frac{7}{5} = \frac{?}{?}$

Ans. : (a) Here, the amount of juice each friend gets when 5 glasses are shared among 4 friends = $\frac{\text{number of glasses}}{\text{number of friends}} = \frac{5}{4}$

Now to determine how many glasses of juice would be needed to give each of the 8 friends the same amount = $8 \times \frac{5}{4}$
= 10 glasses

So, 10 glasses of juice shared equally among 8 friends is the same as 5 glasses of juice shared equally among 4 friends.

$$\therefore \frac{5}{4} = \frac{10}{8}$$

(b) Here 4 kg of potatoes divided equally in 3 bags then amount of potatoes per bag

$$= \frac{4\text{kg}}{3\text{bags}} = \frac{4}{3}\text{kg per bag}$$

Let x is the number of bags for 12 kg of potatoes, where each bag has the same amount of potatoes then

$$\frac{12\text{kg}}{x\text{ bags}} = \frac{4}{3}\text{kg per bag}$$

$$\Rightarrow 12 \times 3 = 4 \times x$$

$$\Rightarrow 36 = 4 \times$$

$$\Rightarrow x = \frac{36}{4}$$

$$\Rightarrow x = 9$$

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

(c) Dividing 7 rotis among 4 children gives 7 each child = $\frac{7}{5}$ of a roti. We can find an equivalent fraction by multiplying both the numerator and the denominator by the same number. For example, multiplying both by 2.

$$\frac{7 \times 2}{5 \times 2} = \frac{14}{10}$$

So, 7 rotis divided among 5 children is the same as 14 rotis divided among 10 children

$$\therefore \frac{7}{5} = \frac{14}{10}$$

* Match the following.

[4]

192.

Column A	Column B
(a) Equivalent fraction of $\frac{7}{12}$ is:	(i) Proper fraction
(b) $2\frac{1}{5}$ is equal to:	(ii) Improper fraction
(c) $\frac{7}{11}$ is:	(iii) $\frac{21}{36}$
(d) $\frac{19}{5}$ is:	(iv) $\frac{11}{5}$

Ans. :

Column A	Column B
(a) Equivalent fraction of $\frac{7}{12}$ is:	(iii) $\frac{21}{36}$
(b) $2\frac{1}{5}$ is equal to:	(iv) $\frac{11}{5}$

(c) $\frac{7}{11}$ is:	(i) Proper fraction
(d) $\frac{19}{5}$ is:	(ii) Improper fraction

