PRACTICE QUESTIONS
CLASS VI: CHAPTER - 12
RATIO AND PROPORTION

1. In a class, there are 20 boys and 40 girls. What is the ratio of the number of boys to the number of girls?

2. Ravi walks 6 km in an hour while Roshan walks 4 km in an hour. What is the ratio of the distance covered by Ravi to the distance covered by Roshan?

3. Saurabh takes 15 minutes to reach school from his house and Sachin takes one hour to reach school from his house. Find the ratio of the time taken by Saurabh to the time taken by Sachin.

4. Cost of a toffee is 50 paise and cost of a chocolate is Rs 10. Find the ratio of the cost of a toffee to the cost of a chocolate.

5. In a school, there were 73 holidays in one year. What is the ratio of the number of holidays to the number of days in one year?

6. Length and breadth of a rectangular field are 50 m and 15 m respectively. Find the ratio of the length to the breadth of the field.

7. Find the ratio of 90 cm to 1.5 m.

8. There are 45 persons working in an office. If the number of females is 25 and the remaining are males, find the ratio of :
   (a) The number of females to number of males.
   (b) The number of males to number of females.

9. Give two equivalent ratios of 6 : 4.

10. Fill in the missing numbers : $\dfrac{14}{21} = \dfrac{\boxed{....}}{3} = \dfrac{6}{\boxed{....}}$

11. Ratio of distance of the school from Mary's home to the distance of the school from John's home is 2 : 1.
    (a) Who lives nearer to the school?
    (b) Complete the following table which shows some possible distances that Mary and John could live from the school.
    (c) If the ratio of distance of Mary's home to the distance of Kalam's home from school is 1 : 2, then who lives nearer to the school?

12. Divide Rs 60 in the ratio 1 : 2 between Kriti and Kiran.

13. In a year, Seema earns Rs 1,50,000 and saves Rs 50,000. Find the ratio of
    (a) Money that Seema earns to the money she saves.
    (b) Money that she saves to the money she spends.

14. In a college, out of 4320 students, 2300 are girls. Find the ratio of
    (a) Number of girls to the total number of students.
    (b) Number of boys to the number of girls.

15. Divide 20 pens between Sheela and Sangeeta in the ratio of 3 : 2.

16. Fill in the following blanks : $\dfrac{15}{18} = \dfrac{\boxed{....}}{6} = \dfrac{10}{\boxed{....}} = \dfrac{\boxed{....}}{30}$ [Are these equivalent ratios?]

17. Find the ratio of the following:
   (a) 30 minutes to 1.5 hours
   (b) 40 cm to 1.5 m
   (c) 55 paise to Re 1
   (d) 500 ml to 2 litres

18. Cost of a dozen pens is Rs 180 and cost of 8 ball pens is Rs 56. Find the ratio of the cost of a pen to the cost of a ball pen.

19. Check whether the given ratios are equal, i.e. they are in proportion. If yes, then write them in the proper form.
   1. 1 : 5 and 3 : 15
   2. 2 : 9 and 18 : 81
   3. 15 : 45 and 5 : 25
   4. 4 : 12 and 9 : 27
   5. Rs 10 to Rs 15 and 4 to 6

20. If the cost of 6 cans of juice is Rs 210, then what will be the cost of 4 cans of juice?

21. A motorbike travels 220 km in 5 litres of petrol. How much distance will it cover in 1.5 litres of petrol?

22. If the cost of a dozen soaps is Rs 153.60, what will be the cost of 15 such soaps?

23. Cost of 105 envelopes is Rs 35. How many envelopes can be purchased for Rs 10?

24. A car travels 90 km in $2\dfrac{1}{2}$ hours.

   (a) How much time is required to cover 30 km with the same speed?
   (b) Find the distance covered in 2 hours with the same speed.

25. Cost of 5 kg of wheat is Rs 30.50.
   (a) What will be the cost of 8 kg of wheat?
   (b) What quantity of wheat can be purchased in Rs 61?

26. The temperature dropped 15 degree celsius in the last 30 days. If the rate of temperature drop remains the same, how many degrees will the temperature drop in the next ten days?

27. Cost of 4 dozens bananas is Rs 60. How many bananas can be purchased for Rs 12.50?

28. The weight of 72 books is 9 kg. What is the weight of 40 such books?

29. A truck requires 108 litres of diesel for covering a distance of 594 km. How much diesel will be required by the truck to cover a distance of 1650 km?

30. Anish made 42 runs in 6 overs and Anup made 63 runs in 7 overs. Who made more runs per over?

1. The length and breadth of a steel tape are 10m and 2.4cm, respectively. Find the ratio of the length to the breadth.

2. Find the missing number in the box in the following proportion: $\square : 8 :: 12 : 32$

3. Income of Rahim is Rs 12000 per month and that of Ami is Rs 191520 per annum. If the monthly expenditure of each of them is Rs 9960 per month find the ratio of their savings.

4. 20 tons of iron costs Rs 600000. Find the cost of 560kg of iron.

5. Find the ratio of the number of sides of a square to the number of edges of a cube.

6. The cost of a notebook is Rs. 20 and the cost of a pen is Rs. 15. What is the ratio between the cost of a notebook and the cost of a pen?

7. Find the ratio of 3 Kg to 750 g

8. Find the ratio of 50 cm to 3m.

9. Cheran gets Rs. 10000 as salary and his savings is Rs. 2000. Find the ratio of a) his salary to savings b) his salary to expenditure c) his savings to expenditure.

10. Express the following ratios in the lowest form (a) 6 : 15 (b) 10 : 25 (c) 4 : 20 (d) 35 : 77 (e) 1.2 : 4.8 (f) $\frac{1}{3} : 1\frac{1}{3}$

11. Express the following ratios in the lowest form (a) 1 Kg to 250g (b) 20 cm to 2m (c) 500 ml to 3 litres (d) 30 min to 2 hours (e) 25 paise to 2 Rs. (f) 60 students to 2 teachers

12. There are 2000 students in a school. 500 students went for an excursion. Find the ratio between (a) the total number of students and the number of students who went for the excursion (b) the total number of students and the number of students who did not go for the excursion.

13. John is 50 years old, his son is 10 years old. Write down the ratio between their ages (a) 5 years ago (b) at present (c) after 5 years

14. A picture is 60cm wide and 1.8m long. Find the ratio of its width to its perimeter in lowest form.

15. 250 people are working in an office, out of which 150 are men and the remaining are women. Find the ratio of (a) the total number of people to that of men (b) the total number of people to that of women (c) the number of men to that of women.

16. Divide Rs. 240 in the ratio 3 : 5

17. The length and breadth of a rectangle are in the ratio 4 : 3. If the breadth is 21 cm, find the length?

18. Divide Rs. 300 in the ratio 2 : 3

19. Divide 5 kg 600 gm in the ratio 4 : 3

20. Divide 2m 25 cm in the ratio 5 : 4

21. Divide 2 hour 30 minutes in the ratio 1 : 4

22. Mixture 'A' has cement and sand in the ratio 1 : 4 and Mixture 'B' has cement and sand in the ratio 2 : 7. Which mixture has more sand?

23. If Rs. 5,500 is divided between Vivek and Deepak in the ratio 6 : 5, who will get more and how much more?

24. The length and breadth of a rectangle are in the ratio 7 : 2. If the length is 35 cm, find the breadth.

25. The ratio of expenditure and savings in a family is 5 : 2. If the expenditure is Rs. 2,500, what is the savings?

26. A box of Sweets was divided between Saravanan and Kumaran in the ratio of 3 : 4. If Saravanan got 36 sweets , how many sweets did Kumaran get? What was the total number of sweets in the box?

27. Neelam's annual income is Rs. 288000. Her annual savings amount to Rs. 36000. Find the ratio of her savings to her expenditure.

28. Mathematics textbook for Class VI has 320 pages. The chapter 'symmetry' runs from page 261 to page 272. Find the ratio of the number of pages of this chapter to the total number of pages of the book.

29. On a shelf, books with green cover and that with brown cover are in the ratio 2:3. If there are 18 books with green cover, then the number of books with brown cover.

30. Find the greatest ratio among the ratios 2 : 3, 5 : 8, 75 : 121 and 40 : 25

31. If a bus travels 160 km in 4 hours and a train travels 320km in 5 hours at uniform speeds, then find the ratio of the distances travelled by them in one hour.

32. Saturn and Jupiter take 9 hours 56 minutes and 10 hours 40 minutes, respectively for one spin on their axes. Find the ratio of the time taken by Saturn and Jupiter in lowest form.

33. 10g of caustic soda dissolved in 100mL of water makes a solution of caustic soda. Find the amount of caustic soda needed for 1 litre of water to make the same type of solution.

34. The marked price of a table is Rs 625 and its sale price is Rs 500. What is the ratio of the sale price to the marked price?

35. Reshma prepared 18kg of *Burfi* by mixing *Khoya* with sugar in the ratio of 7 : 2. How much *Khoya* did she use?

36. A line segment 56cm long is to be divided into two parts in the ratio of 2 : 5. Find the length of each part.

37. The number of milk teeth in human beings is 20 and the number of permanent teeth is 32. Find the ratio of the number of milk teeth to the number of permanent teeth.

38. Sex ratio is defined as the number of females per 1000 males in the population. Find the sex ratio if there are 3732 females per 4000 males in a town.

39. In a year, Ravi earns Rs 360000 and paid Rs 24000 as income tax. Find the ratio of his (a) income to income tax. (b) income tax to income after paying income tax.

40. Ramesh earns Rs 28000 per month. His wife Rama earns Rs 36000 per month. Find the ratio of (a) Ramesh's earnings to their total earnings (b) Rama's earnings to their total earnings.

41. Of the 288 persons working in a company, 112 are men and the remaining are women. Find the ratio of the number of (a) men to that of women. (b) men to the total number of persons. (c) women to the total number of persons.

42. A rectangular sheet of paper is of length 1.2m and width 21cm. Find the ratio of width of the paper to its length.

43. A scooter travels 120km in 3 hours and a train travels 120km in 2 hours. Find the ratio of their speeds.

44. An office opens at 9 a.m. and closes at 5.30 p.m. with a lunch break of 30 minutes. What is the ratio of lunch break to the total period in the office?

45. The shadow of a 3m long stick is 4m long. At the same time of the day, if the shadow of a flagstaff is 24m long, how tall is the flagstaff?

46. A recipe calls for 1 cup of milk for every $2\dfrac{1}{2}$ cups of flour to make a cake that would feed 6 persons. How many cups of both flour and milk will be needed to make a similar cake for 8 people?

47. In a school, the ratio of the number of large classrooms to small classrooms is 3:4. If the number of small rooms is 20, then find the number of large rooms.

48. Samira sells newspapers at Janpath crossing daily. On a particular day, she had 312 newspapers out of which 216 are in English and remaining in Hindi. Find the ratio of (a) the number of English newspapers to the number of Hindi newspapers. (b) the number of Hindi newspapers to the total number of newspapers.

49. The students of a school belong to different religious backgrounds. The number of Hindu students is 288, the number of Muslim students is 252, the number of Sikh students is 144 and the number of Christian students is 72. Find the ratio of (a) the number of Hindu students to the number of Christian students. (b) the number of Muslim students to the total number of students.

50. When Chinmay visted chowpati at Mumbai on a holiday, he observed that the ratio of North Indian food stalls to South Indian food stalls is 5:4. If the total number of food stalls is 117, find the number of each type of food stalls.

51. At the parking stand of Ramleela ground, Kartik counted that there are 115 cycles, 75 scooters and 45 bikes. Find the ratio of the number of cycles to the total number of vehicles.

52. A train takes 2 hours to travel from Ajmer to Jaipur, which are 130km apart. How much time will it take to travel from Delhi to Bhopal which are 780km apart if the train is travelling at the uniform speed?

53. A tea merchant blends two varieties of tea costing her Rs 234 and Rs 130 per kg in the ratio of their costs. If the weight of the mixture is 84kg, then find the weight of each variety of tea.

54. An alloy contains only zinc and copper and they are in the ratio of 7:9. If the weight of the alloy is 8kg, then find the weight of copper in the alloy.

55. Find two numbers whose sum is 100 and whose ratio is 9 :16.

56. A typist has to type a manuscript of 40 pages. She has typed 30 pages of the manuscript. What is the ratio of the number of pages typed to the number of pages left?

57. The cost of 4 notebooks is 24 and the cost of 7 notebooks is Rs. 42. What is the proportion?

58. The income and Savings of a family are in the ratio 7 : 2. If the income of the family is Rs. 5,600. Find how much is being saved.

59. If the cost of 7m cloth is Rs. 49, find the cost of 5m cloth.

60. The length and breadth of the rectangular ground are in the ratio 6 : 5. If its length is 120m, find the breadth of the ground.]

61. Cement and sand are mixed in the ratio 2 : 7 in a mixture. If the weight of cement is 100 kg, What will be the weight of the sand?

62. The cost of 3m cloth is Rs. 135. Find the cost of 7m of the same cloth.

63. Using 4 and 15 as means, write two proportions.

64. Using 4 and 10 as extremes, write two proportions.

65. A car can travel 240km in 15 litres of petrol. How much distance will it travel in 25 litres of petrol?

66. Bachhu Manjhi earns Rs 24000 in 8 months. At this rate, (a) how much does he earn in one year? (b) in how many months does he earn Rs 42000?

67. The yield of wheat from 8 hectares of land is 360 quintals. Find the number of hectares of land required for a yield of 540 quintals?

68. The earth rotates 360o about its axis in about 24 hours. By how much degree will it rotate in 2 hours?

69. Shivangi is suffering from anaemia as haemoglobin level in her blood is lower than the normal range. Doctor advised her to take one iron tablet two times a day. If the cost of 10 tablets is Rs 17, then what amount will she be required to pay for her medical bill for 15 days?

70. The quarterly school fee in Kendriya Vidyalaya for Class VI is Rs 540. What will be the fee for seven months?

71. In an election, the votes cast for two of the candidates were in the ratio 5 : 7. If the successful candidate received 20734 votes, how many votes did his opponent receive?

72. A metal pipe 3 metre long was found to weigh 7.6kg. What would be the weight of the same kind of 7.8m long pipe?

73. A recipe for raspberry jelly calls for 5 cups of raspberry juice and $2\dfrac{1}{2}$ cups of sugar. Find the amount of sugar needed for 6 cups of the juice?

74. A farmer planted 1890 tomato plants in a field in rows each having 63 plants. A certain type of worm destroyed 18 plants in each row. How many plants did the worm destroy in the whole field?

75. Length and breadth of the floor of a room are 5m and 3m, respectively. forty tiles, each with area $\dfrac{1}{16}$ m² are used to cover the floor partially. Find the ratio of the tiled and the non tiled portion of the floor.

76. A carpenter had a board which measured 3m × 2m. She cut out a rectangular piece of 250cm × 90cm. What is the ratio of the area of cut out piece and the remaining piece?

77. A bus covers 135 km in 3 hours. What will be the distance covered in 8 hours in the same speed?

78. The mass of a rod whose length 10 cm is 250 gm. What will be the mass if the rod is 25 cm long?

79. The interest for a certain principal for 5 years is Rs. 600. At the same rate, what will be the interest for 8 years for the same principal?

80. The rent for a room for 2 months is Rs. 4400. What will be the rent for one year for that room?

81. A machine prints 750 pages in 30 minutes. How much time will the machine take to print 4500 pages?

82. The cost of 15 chairs is Rs. 2250. Find the number of such chairs that can be purchased for Rs. 10500.

83. The cost of 5 books is Rs. 250. Find the cost of 12 books.

84. The cost of 10 kg rice is Rs. 200. Find the cost of 2 kg rice.

85. A car needs 12 litres of petrol to cover a distance of 144 km. How much petrol will be required for the car to cover a distance of 720 km?