

Mathematics – Class 6

Ratio and Proportion

1. The mean proportion of 9 and 16 is

- (A) 16 (B) 9 (C) 12 (D) None of these

Ans : (C)

2. If 12, 14, 9 and x are in proportion then find the value of x.

- (A) 21 (B) 9 (C) 10.5 (D) 105

Ans : (C)

3. What is the simplest form of the ratio 144:28?

- (A) 28:4 (B) 36: 7 (C) 7:36 (D) 1:2

Ans : (B)

4. If 5, 30, 3 and x are in proportion then find the value of x.

- (A) 24 (B) 6 (C) 18 (D) 15

Ans : (C)

5. Identify the ratio of 4 seconds and $\frac{1}{4}$ minute from the following.

- (A) 4:15 (B) 1:4 (C) 15:4 (D) 1:16

Ans : (A)

6. Which of the following is a proportion?

- (A) 3,27,9,9 (B) 5,11,15,44 (C) 3,5,15,25 (D) 4,3,36,18

Ans : (C)

7. Find the ratio of 81 to 108.

- (A) it is 1:4 (B) it is 4:3 (C) it is 3:4 (D) None of these

Ans : (C)

8. The length and width of a tape are 2 m and 28 cm. What is their ratio?

- (A) 100:14 (B) 7:50 (C) 50:7 (D) 1:8

Ans : (C)

9. If $x : y :: y : z$, identify the correct statement from among the following.

- (A) $xy = yz$ (B) $y^2 = xz$ (C) $xyz = x$ (D) $zy = x$

Ans : (B)

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

- (A) Sheela = 15 pens, Sangita = 5 pens
(B) Sheela = 8 pens, Sangita = 12 pens
(C) Sheela = 12 pens, Sangita = 8 pens
(D) None of these

Ans : (C)

11. The mean proportion of 4 and 16 is

- (A) 5 (B) 4 (C) 8 (D) 6

Ans : (C)

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

- (A) it is 2:1 (B) it is 1:3 (C) it is 3:1 (D) it is 1:2

Ans : (D)

13. Length of a room is 30 m and its breadth is 20 m. Find the ratio of length of the room to the breadth of the room.

- (A) it is 2:3 (B) it is 3:2 (C) it is 1:3 (D) it is 1:2

Ans : (B)

14. In a cricket coaching camp, 1200 children are trained out of which 900 are selected for various matches. What is the ratio of non-selected children to the total number of children?

- (A) 300:120 (B) 4:1 (C) 1:4 (D) 120:300

Ans : (C)

15. There are 45 persons working in an office. If the number of females is 25 and the remaining are males, find the ratio of the number of females to number of males.

- (A) it is 1:5 (B) it is 1:4 (C) it is 4:5 (D) it is 5:4

Ans : (D)

16. If 49, 35, x and 25 are in proportion then find the value of x.

- (A) 25 (B) 15 (C) 12 (D) 35

Ans : (D)

17. If 8, 18, 18 are x in proportion then find the value of x.

- (A) 40.5 (B) 18 (C) 405 (D) 81

Ans : (A)

18. 6 : 4 is equivalent ratio of _____.

- (A) it is 3:2 (B) it is 2:3 (C) it is 1:2 (D) None of these

Ans : (A)

19. If x, 24, 30 and 16 are in proportion then find the value of x.

- (A) 30 (B) 45 (C) 15 (D) None of these

Ans : (B)

20. Find the mean proportion of $25:10::10:4$.

- (A) 25 (B) 10 (C) 4 (D) 100

Ans : (B)

21. Fill in the box so that the three numbers, 32 and 64 are in proportion.

- (A) 36 (B) 18 (C) 16 (D) 15

Ans : (C)

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

- (A) Rs 140 (B) Rs 280 (C) Rs 70 (D) None of these

Ans : (A)

23. What are the extremes of the proportion $9:3::36:12$?

- (A) 9, 3 (B) 36, 12 (C) 3, 36 (D) 9, 12

Ans : (D)

24. The first, second and the third terms of a proportion are 5, 120 and 40. What is the fourth term?

- (A) 89 (B) 480 (C) 960 (D) 98

Ans : (C)

25.. If $A:B=5:7$ and $B:C=6:11$, then is.

- A) $55:77:66$ B) $30:42:77$ C) $35:49:42$ D) None of these

Ans : B

26. If $A:B=3:4$ and $B:C=8:9$, then is.

- A) $1:3$ B) $3:2$ C) $2:3$ D) $1:2$

Ans : C

27. If $A:B=8:15$, $B:C=5:8$ and $C:D=4:5$, then is equal to.

- A) $2:7$ B) $4:15$ C) $8:15$ D) $15:4$

Ans : B

28. If $2A=3B=4C$, then is.

- A) $2:3:4$ B) $4:3:2$ C) $6:4:3$ D) $20:15:2$

Ans : C

29. If $\frac{A}{3} = \frac{B}{4} = \frac{C}{5}$, then is.

A) 4:3:5

B) 5:4:3

C) 3:4:5

D) 20:15:2

Ans : C

30. If $2A=3B$ and $4B=5C$, then is.

A) 4:3

B) 8:15

C) 15:8

D) 3:4

Ans : C

31. The ratio of $4^{3.5}:2^5$ is same as.

A) 2:1

B) 4:1

C) 7:5

D) 7:10

Ans : B

32. If $\frac{1}{5}:\frac{1}{x}=\frac{1}{x}:\frac{1}{125}$, then the value of is.

A) 1.5

B) 2

C) 2.5

D) 3.5

Ans : C

33. If $x:y=5:2$, then $(8x+9y):(8x+2y)$ is.

A) 22:29

B) 26:61

C) 29:22

D) 61:26

Ans : C

34. If $(x:y)=2:1$, then $(x^2-y^2):(x^2+y^2)$ is.

A) 3:5

B) 5:3

C) 1:3

D) 3:1

Ans : A

35. If $x^2+4y^2=4xy$, then is.

A) 2:1

B) 1:2

C) 1:1

D) 1:4

Ans : A

36. If $\frac{x}{5} = \frac{y}{8}$, then $(x+5):(y+8)$ is equal to.

A) 3:5

B) 13:8

C) 8:5

D) 5:8

Ans : D

37. If $\frac{a}{3} = \frac{b}{4} = \frac{c}{7}$, then $\frac{a+b+c}{c}$ is equal to.

A) 7

B) 2

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

D) $\frac{1}{7}$

Ans : B

38. If $(a+b):(b+c):(c+a)=6:7:8$ and $(a+b+c)=14$, then the value of is
 A) 6 B) 7 C) 8 D) 14

Ans : A

39. If Rs. 782 be divided into three parts, proportional to $\frac{1}{2}:\frac{2}{3}:\frac{3}{4}$, then the first part is.
 A) Rs. 182 B) Rs. 190 C) Rs. 196 D) Rs. 204

Ans : D

40. Two numbers are in the ratio If 7 is added to both, their ratio changes to $3:5$. The greatest number is.
 A) 24 B) 26 C) 28 D) 32

Ans : C

41. The ratio of three numbers is and the sum of their squares is 1250. The sum of the numbers is.
 A) 30 B) 50 C) 60 D) 90

Ans : C

42. The sub duplicate ratio of 484 : 361 is____
 A) 21 : 19 B) 22 : 18 C) 22 : 19 D) 22 : 17

Ans : C

43. The sub triplicate ratio of 1000 : 512 is____
 A) 5 : 2 B) 5 : 4 C) 5 : 8 D) 5 : 1

Ans : B

44. The receprocal ratio of $4:\frac{1}{9}$ is____
 A) 36 : 1 B) 1 : 36 C) 1 : 6 D) 6 : 1

Ans : B

45. The reciprocal of compound ratio of 5 : 6 and 10 : 9 is____
 A) 25 : 27 B) 27 : 25 C) 9 : 4 D) None

Ans : B

46. If $\frac{x}{8} = \frac{y}{3}$, then triplicate ratio of x : y is____
 A) 512 : 64 B) 512 : 125 C) 512 : 27 D) 512 : 1

Ans : C

47. The compound ratio of $3x : 4y$ and $ab^2 : c^2$ and $c : b^2$ is
 A) $3ax : 4cy$ B) $3cx : 4ay$ C) $cxy : 4cx$ D) $3ac : 4xy$

Ans : A

48. If $\frac{7x-4y}{3x+y} = \frac{5}{13}$ then $y^2 : x^2$ is _____
 A) 9 : 16 B) 16 : 9 C) 3 : 4 D) 4 : 3

Ans : B

49. If A : B is the duplicate ratio of A + x : B + x, then

A) B) C) D) $x^2 = \frac{A}{B}$
 Ans : C

50. If $2x : 3y$ be the duplicate ratio of $2x - m : 3y - m$, then which of the following is correct?

A) $m^2 = 2xy$ B) $m^2 = 3xy$ C) $m^2 = xy$ D) $m^2 = 6xy$
 Ans : D

51. If 25 is the duplicate ratio of $\frac{5n+4}{2n-1}$, then the value of n is

A) $\frac{9}{5}$ B) $\frac{1}{5}$ C) 9 D) None
 Ans : A

52. If $x + y : x - y$ is equal to the duplicate ratio of 3 : 1 then

A) 125 : 64 B) 25 : 16 C) 5 : 4 D) 8 : 1
 Ans : A

53. The compound ratio of $x^2 - y^2 : x^2 + y^2$ and $x^4 - y^4 : (x + y)^4$

A) $\frac{(x-y)^2}{(x+y)^2}$ B) $\frac{(x+y)^2}{(x-y)^2}$ C) $\frac{x^2 + y^2}{x^2 - y^2}$ D) $\frac{x^2 - y^2}{x^2 + y^2}$
 Ans : A

54. If 1st, 2nd and 4th terms of a proportion are respectively 5.2, 3.9 and 3, then its third term is _____

A) 6 B) 2 C) 4 D) 3
 Ans : C

55. If 16, x, 36 are in proportion, then the mean proportional is _____

A) 28 B) 26 C) 24 D) 22
 Ans : C

56. If 15, 30, y are in proportion, then the third proportional is _____

A) 80 B) 70 C) 50 D) 60
 Ans : D

57. If $2\frac{1}{2} : x = 12\frac{1}{2} : 6\frac{1}{4}$ then the value of x is _____

A) $\frac{5}{8}$ B) $\frac{5}{2}$ C) $\frac{5}{4}$ D) $\frac{5}{16}$

Ans : C

58. The number that should be added to each of the numbers 8, 20, 12, 28 to make the new numbers proportional

A) 8 B) 6 C) 4 D) 2

Ans : C

59. Two number whose mean proportional is 28 and the third proportional is 224 are

A) 14, 28 B) 28, 56 C) 42, 56 D) 14, 56

Ans : D

60. The third proportional to $x + y$, $2x + 3y$ when $x = 3$, $y = 2$ is _____

A) $\frac{145}{7}$ B) $\frac{142}{7}$ C) $\frac{143}{7}$ D) $\frac{144}{5}$

Ans : D

61. If b is the mean proportional of 9, 49; c is the third proportional to 7, 49
d is the fourth proportional to 14, 49, 35, then the 4th proportional to b, c, d is

A) $\frac{12015}{6}$ B) $\frac{12005}{6}$ C) $\frac{12025}{6}$ D) $\frac{11535}{6}$

Ans : B

62. If $2x - 5 = \frac{y+4}{2} = z + \frac{5}{2} = 5$, then to mean proportional of $x + y$ and $y + z$ is

A) $\sqrt{\frac{37 \times 11}{2}}$ B) $\sqrt{\frac{37 \times 2}{11}}$ C) $\sqrt{\frac{37}{2 \times 11}}$ D) None

Ans : A

63. A school spends Rs.6000 per month towards wheat when the cost of the wheat is Rs.20 per kg. If the price goes up to Rs.25 per kg, then the amount of money spent on wheat is _____

A) 7600/- B) 7400/- C) 7200/- D) 7500/-

Ans : D

64. If $22\frac{1}{2}$ m of silk costs Rs. 675, then the cost of $6\frac{1}{4}$ metres is _____

A) Rs.186.5 B) Rs.188.5 C) Rs.187.5 D) Rs.182.5

Ans : C

65. If 15 post cards cost Rs.11.25, then cost of 36 post cards is _____

A) 28/- B) 26/- C) 27/- D) 29/-

Ans : C

66. If 15 iron balls of the same size weight 10kg 50gms, then 4.690 kg is the weight of

A) 5 B) 6 C) 7 D) 9

Ans : C

67. There are 120 students in a mess. The food is enough for 75 days. If 60 more students join the Mess, then the food will last for

- A) 60 B) 40 C) 50 D) 75

Ans : C

68. The amount of energy produced in human body is directly proportional to the amount of fats burnt. If burning of 24gms of fat energy produced 144 calories, then the amount of fats consumed to release 252 calories of energy is

- A) 48 gms B) 36 gms C) 42 gms D) 40 gms

Ans : C

69. The pressure P exerted at any point on the base of a tank filled with liquid varies directly as the depth D of the liquid. The pressure exerted by the liquid 40 cms deep on the base of a tank is 80 grams/sq.cm. If the 25cm, then the pressure exerted is

- A) 100 gm/cm^2 B) 25 gm/cm^2 C) 75 gm/cm^2 D) 50 gm/cm^2

Ans : D

70. The distance d that an object will fall freely from rest varies directly as the square of times. An object fall 128metres in 4 seconds. If it falls in 16 seconds, then the height through where it will fall is

- A) 2048 m B) 2046 m C) 2044 m D) 2042 m

Ans : A

71. 100 people can construct a bridge in 150 days. If the bridge has to be constructed in 50 days, then the number of extra men required to complete the bridge is

- A) 250 B) 150 C) 200 D) 225

Ans : C

72. A publisher prints 32 lines in each page and takes 400 pages to print the matter. If the number of pages are restricted to 320 pages, then the number of line s printed in each page is

- A) 40 B) 60 C) 50 D) 56

Ans : A

73. The rate of vibrations (n) of a wire in tension is inversely proportional to its length (l) when the length of the wire is 160 cm, the vibrations are 400 per second. If the length is 100 cm, then the number of vibrations is

- A) 650 B) 630 C) 640 D) 620

Ans : C

74. England team scored 8 runs per over (R) in 50 overs (O). If India has to win in 40 overs, then the number of runs to be scored by them to win the match is _____(runs/over)

- A) 10 B) 20 C) 30 D) 40

Ans : A

75. The cost of a pen is ₹ 10. The cost of a pencil is ₹ 2. How many times of the cost of a pencil is the cost of a pen?

- (A) 5 times (B) 2 times (C) 10 times (D) none of these.

Ans: (A.

76. The monthly salary of Hari Kishan is ₹ 80000. The monthly salary of Manish is ₹ 40000. How many times of the salary of Manish is the salary of Hari Kishan?

- (A) 2 times (B) 4 times (C) 3 times (D) 8 times.

Ans: (A)

77. There are 30 boys and 20 girls in a class. The ratio of the number of girls to the number of boys is

- (A) 2:3 (B) 3:2 (C) 2:5 (D) 3:5.

Ans: (A)

78. There are 25 boys and 25 girls in a class. The ratio of the number of boys to the total number of students is

- (A) 1:2 (B) 1 : 3 (C) 2:3 (D) 3:2.

Answer: (A)

79. The height of Apala is 150 cm. The height of Pari is 120 cm. The ratio of the height of Apala to the height of Pari is

- (A) 4:5 (B) 5:4 (C) 5:2 (D) 4:1.

Ans: (B)

80. The cost of a car is ₹ 3,00,000. The cost of a motorbike is ₹ 50,000. The ratio of the cost of motorbike to the cost of car is

- (A) 1:6 (B) 1:5 (C) 1:4 (D) 1:3.

Ans: (A)

81. The speed of Shubham is 6 km per hour. The speed of Yash is 2 km per hour. The ratio of the speed of Shubham to the speed of Yash is

- (A) 2:3 (B) 3:1 (C) 1:3 (D) 3:2.

Ans: (B)

82. The length and breadth of a rectangular park are 50 m and 40 m respectively. Find the ratio of the length to the breadth of the park.

- (A) 4:5 (B) 4:1 (C) 5:1 (D) 5:4.

Answer: (D)

83. The ratio 40 cm to 1 m is

- (A) 2:5 (B) 3:5 (C) 4:5 (D) 5:2.

Answer: (A)

84. In a family, there are 8 males and 4 females. The ratio of the number of females to the number of males is

- (A) 1:2 (B) 1:4 (C) 1:8 (D) 2:1.

Ans: (A)

85. Which of the following ratios is equivalent to 2:3?

- (A) 4:8 (B) 4:9 (C) 6:9 (D) 6:12.

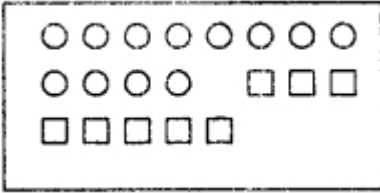
Ans: (C)

86. Which of the following ratios is not equivalent to 10:5?

- (A) 1:2 (B) 2:1 (C) 20:10 (D) 30:15.

Answer: (A)

87. Find the ratio of number of circles and number of squares inside the following rectangle



- (A) 3:1 (B) 2:1 (C) 2:3 (D) 3:2

Answer: (D)

88. There are 20 teachers in a school of 500 students. The ratio of the number of teachers to the number of students is

- (A) 1:20 (B) 1:50 (C) 1:25 (D) 25:1.

Ans: (C)

89. The ratio of 25 minutes to 1 hour is

- (A) 7:5 (B) 5:12 (C) 12:5 (D) 5:7.

Ans: (B)

90. Out of 30 students in a class, 20 like cricket and 10 like Hockey. The ratio of the number of students liking Hockey to the total number of students is

- (A) 3:1 (B) 1:3 (C) 2:3 (D) 1:2.

Ans: (B)

91. The cost of 1 dozen bananas is ₹ 30. The cost of 6 oranges is ₹ 18. The ratio of the cost of a banana to the cost of an orange is

- (A) 3:2 (B) 2:3 (C) 6:5 (D) 5:6.

Ans (D)

92. The present age of Hari Kishan is 60 years. The present age of Manish is 30 years. The ratio of the age of Manish to the age of Hari Kishan 10 years ago was

- (A) 2:5 (B) 5:2 (C) 2:3 (D) 3:2.

Ans: (A)

93. 100 students appeared in annual examination. 60 students passed. The ratio of the number of students who failed to the total number of students is

- (A) 5:2 (B) 2:5 (C) 2:3 (D) 3:2.

Ans: (B)

94. ₹ 100 are divided between Sangeeta and Manish in the ratio 4:1. Find the amount Sangeeta gets.

- (A) ₹ 80 (B) ₹ 20 (C) ₹ 60 (D) ₹ 50.

Ans: (A)

95. Which of the following are in proportion?

- (A) 2,3,20,30 (B) 3,4,15,18 (C) 1,3,11,22 (D) 2,5,40,80.

Ans: (A)

96. Which of the following is true?

- (A) 15:40 :: 10:30 (B) 16:48 :: 25:75
(C) 40:60 :: 30:40 (D) 20:100 :: 30:120.

Ans: (B)

97. Which of the following is false?

- (A) 25 g : 30 g :: 40 kg : 48 kg
(B) 81 : 91 :: 24h : 27h
(C) 32 m : 40 m :: 6 minutes : 12 minutes
(D) 25 km : 60 km :: ₹ 10 : ₹ 24.

Ans: (C)

98. Which of the following statement is not true?

- (A) 4 : 7 = 5 : 9 (B) ₹ 5 : ₹ 25 = 12g : 60g (C) 30 : 80 = 6 : 16 (D) 12 : 36 = 14 : 42.

Ans: (A)

99. A car requires 5 litres of petrol to cover 80 km. How many litres of petrol are required to cover 32 km?

- (A) 1 (B) 2 (C) 3 (D) 4.

Ans: (B)

100. The cost of 10 notebooks is ₹ 100. The cost of 1 notebook is

- (A) ₹ 10 (B) ₹ 100 (C) ₹ 20 (D) ₹ 5.

Ans: (A)