MATHS

BOOKS - RD SHARMA MATHS (ENGLISH)

RATIO AND PROPORTION

Others

1. Express the ratio $45 : 108$ in its simplest form:

2. Shikha and Sumeet take Rs 600 and Rs 750 respectively from their parents as monthly pocket expenses. What is the ratio of their expenses in the simplest form?

3. Divide 108 in two parts in the ratio $4:5$.

4. Divide Rs 1250 between Aman and Amit in the ratio $2:3$.

▶ **Watch Video Solution**

5. Two numbers are in the ratio $4:5$. If the sum of the numbers is 135, find the numbers.

▶ **Watch Video Solution**

6. Divide Rs 1500 among A, B, C in the ratio $3 : 5 : 2$.

7. Ratio of the number of male and female workers in a factory is $5 : 3$. If there are 115 male workers, determine the number of female workers in the factory.

8. The ratio of copper and zinc in an alloy is $5:3$. If the weight of the copper in the alloy is 30.5 grams, find the weight of zinc in the alloy.

9. If $x:y = 2:3$, find the value of $(3x + 2y):(2x + 5y)$.

10. If $(4x + 5):(3x + 11) = 13:17,$ find the value of $x.$

11. What must be added to each term of the ratio $2:5$ so that it may become equal to $5:6$?

12. A bag contains Rs 187 in the form of 1 rupee, 50 paise and 10 paise coins in the ratio $3:4:5.$ Find the number of each type of coins.

13. If $x:y=3:5$, find the ratio $3x+4y:8x+5y.$

14. If $x : y = 8 : 9$, find the ratio $(7x - 4y) : 3x + 2y.$

15. If two numbers are in the ratio $6 : 13$ and their L.C.M is 312, find the numbers.

16. Two numbers are in the ratio $3:5$. If 8 is added to each number, the ratio becomes $2:3$. Find the numbers

▶ Watch Video Solution

17. What should be added to each term of the ratio $7:13$ so that the ratio becomes $2:3$

▶ Watch Video Solution

18. Three numbers are in the ratio $2:3:5$ and the sum of these numbers is 800. Find the numbers

19. The ages of two persons are in the ratio $5:7$. Eighteen years ago their ages were in the ratio $8:13$. Find their present ages.

20. Two numbers are in the ratio $7:11$. If 7 is added to each of the numbers, the ratio becomes $2:3$. Find the numbers.

(a) 39

(b) 49

(c) 66

(d) 77

> ▶ **Watch Video Solution**

21. Two numbers are in the ratio $2:7$. If the sum of the numbers is 810, Find the numbers.

22. Divide Rs 1350 between Ravish and Shikha in the ratio $2 : 3$.

23. Divide Rs 2000 among P, Q, R in the ratio $2 : 3 : 5$.

24. The boys and the girls in a school are in the ratio $7:4$. If total strength of the school be 550, find the number of boys and girls.

▶ **Watch Video Solution**

25. The ratio of monthly income to the savings of a family is $7:2$. If the savings be of Rs 500, find the income and expenditure.

▶ **Watch Video Solution**

26. The sides of a triangle are in the ratio $1:2:3$. If the perimeter is 36 cm, find its sides.

▶ **Watch Video Solution**

27. A sum of Rs 5500 is to be divided between Raman and Aman in the ratio $2:3$. How much will each get?

▶ **Watch Video Solution**

28. The ratio of zinc and copper in an alloy is $7:9.$ It the weight of the copper in the alloy is 11.7 kg, find the weight of the zinc in the alloy.

▶ **Watch Video Solution**

29. In the ratio $7:8.$ if the consequent is 40, what is the antecedent?

▶ **Watch Video Solution**

30. Divide Rs 351 into two parts such that one may be to the other as $2:7$.

31. Find the ratio of the price of pencil to that of ball pen, if pencil cost Rs.16 per score and ball pen cost Rs.8.40 per dozen.

32. In a class, one out of every six students fails. If there are 42 students in the class, how many pass?

▶ **Watch Video Solution**

33. Compare the ratios: $5:12 \text{ } and \text{ } 3:8$

▶ **Watch Video Solution**

34. Compare the ratios: $7:6 \text{ } and \text{ } 4:9$

35. Find two equivalent ratios of $6:15$.

36. Fill in the following blanks: $\dfrac{14}{21} = \dfrac{}{3} = \dfrac{6}{}$

37. Which ratio is larger in the following pairs?

$3:4$ or $9:16$ (ii) $15:16$ or $24:25$

38. Which ratio is larger in the following pairs?

(i)$4:7$ or $5:8$ (ii) $9:20$ or $8:13$ (iii) $1:2$ or $13:27$

39. Give two equivalent ratios of $6:8$.

40. Fill in the following blanks: $\dfrac{12}{20} = \dfrac{}{5} = \dfrac{9}{}$

41. Are $30,\ 40,\ 45,\ 60$ in proportion?

42. Are $36, \ 49, \ 6, 7$ in proportion?

> ▶ **Watch Video Solution**

43. Are $4, 12, 36$ in continued proportion?

> ▶ **Watch Video Solution**

44. $If \ 3:x::12:20,$ find the value of $x.$

> ▶ **Watch Video Solution**

45. The first three terms of a proportion are 3, 5 and 21 respectively. Find its fourth term.

46. What must be added to the number 6, 10, 14 and 22 so that they are in proportion?

47. For every 12 mangos that I buy, 3 turn out to be rotten. At this rate, how many rotten mangoes will I have if I buy 100 mangoes?

▶ **Watch Video Solution**

48. The scale of a map is $1:3000000.$ what is the actual distance between the two towns, if they are 3 cm apart on the map?

▶ **Watch Video Solution**

49. If three loaves of bread are consumed by 9 people, how many people will consume 9 loaves of bread?

> ▶ **Watch Video Solution**

50. Find which of the following are in proportion? (i)33,44,66,88 (ii) 46,69,69,46 (iii)72,84,186,217

> ▶ **Watch Video Solution**

51. Find x in the following proportions:

(i)$16 : 18 = x : 96$

(ii) $x : 92 = 87 : 116$

52. The ratio of the income to the expenditure of a family is $7 : 6$. Find the saving if the income is Rs 1400.

53. The scale of a map is $1:4000000$. What is the actual distance between the two towns if they are 5 cm apart on the map?

▶ **Watch Video Solution**

54. The ratio of income of a person to his savings is $10:1$. If his savings of one year are Rs 6000, what is his income per month?

▶ **Watch Video Solution**

55. An electric pole caste a shadow of length 20 metres at a time when a tree 6 metres high caste a shadow of length 8 metres. Find the height of the pole.

56. If $a : b = 3 : 4,$ then $4a : 3b =$

(a)$4 : 3$

(b) $3 : 4$

(c)$1 : 1$

(d) None of these

57. $\dfrac{1}{12} : \dfrac{1}{60} =$

(a) 4:1

(b) 1:4

(c) 5:1

(d) 1:5

58. The simplest form of $24:36$ is (a)$9:4$ (b) $4:9$ (c)$3:2$ (d) $2:3$

59. If $a:b = 4:5$ and $b:c = 2:3$, then $a:c$

(a)$4:3$

(b) $8:15$

(c) 8:9

(d) $5:3$

60. If $p : q = 2 : 5$, then $\dfrac{25p + 14q}{5p + 7q} =$

(a) $8 : 5$

(b) $5 : 8$

(c) $8 : 3$

(d) $3 : 8$

61. A ratio equivalent to $2 : 5$ is

(a) $6 : 15$

(b) $4 : 5$

(c) $5:2$

(d) $5:4$

▶ **Watch Video Solution**

---

62. If $2a = 3b = 4c,$ then $a:b:c =$

(a)$2:3:4$

(b) $3:4:6$

(c)$4:3:2$

(d) $6:4:3$

▶ **Watch Video Solution**

63. If $2x = 3y$ and $4y = 5z$, then $x : z =$

(a) $4 : 3$

(b) $8 : 15$

(c) $3 : 4$

(d) $15 : 8$

64. If $\dfrac{a}{2} = \dfrac{b}{3} = \dfrac{c}{4}$, then $a : b : c =$

(a) $2 : 3 : 4$

(b) $4 : 3 : 2$

(c) $3:2:4$

(d) None of these

65. If $\dfrac{1}{a} : \dfrac{1}{b} : \dfrac{1}{c} = 3:4:5,$ then $a:b:c$

(a) $5:4:3$

(b) $20:15:12$

(c) $9:12:15$

(d) $12:15:20$

66. If $a:b = 5:7$ and $b:c = 6:11,$ then

$a:b:c =$

(a) $35:49:66$

(b) $30:42:77$

(c) $30:42:55$

(d) None of these

67. If $x:y = 1:1,$ then $\dfrac{3x + 4y}{5x + 6y} =$

(a) $\dfrac{7}{11}$

(b) $\dfrac{17}{11}$

(c) $\dfrac{17}{23}$

(d) $\dfrac{4}{5}$

68. If $a:b = 2:5,$ then $\dfrac{3a + 2b}{4a + b} =$

(a) $\dfrac{16}{13}$

(b) $\dfrac{13}{16}$

(c) $\dfrac{25}{22}$

(d) $\dfrac{20}{21}$

69. The mean proportional of a and b is 10 and the value of a is four times the value of b. the value of $a + b (a > 0, b > 0)$ is

(a)20

(b) 25

(c)101

(d) 29

70. If $8 : x : : 16 : 35$ Find the value of x

(a) 35

(b) 70

(c) $\dfrac{35}{2}$

(d) 24

71. The mean proportional of 6 and 24 is

(a)15

(b) 12

(c)8

(d) 144

72. The boys and girls in a school are in the ratio $9:5$. If the number of girls is 320, then the total strength of the school is

(a)840

(b) 896

(c)920

(d) 576

73. If the first three terms of a proportion are 3,5 and 21 respectively, then its fourth term is

(a)21

(b) 35

(c)15

(d) None of these

74. What must be added to each term of the ratio $9:16$ to make the ratio $2:3$?

(a)5

(b) 3

(c)4

(d) 6

75. What least number is to be subtracted from each term of the ratio $15:19$ to make the ratio $3:4$?

(a)3

(b) 5

(b)6

(d) 9

76. If Rs 840 is divided between $P \, and \, Q$ in the ratio $3:4,$ then $P's$ share is

(a)Rs 340

(b) Rs 480

(c)Rs 360

(d) Rs 400

77. The ages of Ravish and Shikha are in the ratio $3:8.$ Six years hence, their ages will be in the ratio $4:9.$ the present age of Ravish is

(a)18 years

(b) 15 years

(c)12 years

(d) 21 years

78. The present ages of Renu and Ravi are in the ratio $5:6$. The sum of their present ages is 44 in years. The difference of their ages (in years) is

(a) 4

(b) 5

(c) 8

(d) 2

79. The third proportional of 3 and 27 is

(a) 243

(b) 256

(c) 289

(d) 225