

INNATE TALENT

“APTI – MANTRA”

RATIO & PROPORTION, AGES, PARTNERSHIP

EXERCISE: (LEVEL – 01)

RATIO & PROPORTION

- If $a : b = 5 : 9$ and $b : c = 4 : 7$, find $a : b : c$.
a) 20:36:63 c) 23:11:32
b) 11:13:12 d) None of these
- The inverse ratio of $3 : 2 : 1$ is?
a) 1:2:3 c) 3:1:2
b) 2:3:1 d) 2:3:6
- Given ratio are- $a:b = 2:3$; $b:c = 5:2$; $c:d = 1:4$
Find $a : b : c : d$.
a) 10:15:6:24 c) 15:10:6:24
b) 10:18:6:27 d) None of these
- Find the mean proportional between 0.08 and 0.18?
a) 0.11 c) 0.12
b) 0.09 d) 0.16
- The fourth proportional to 5, 8, 15 is
a) 18 c) 19
b) 24 d) 20 e) 21
- Divide Rs. 1162 among A, B, C in the ratio $35 : 28 : 20$?
a) 490:392:280 c) 490:280:392
b) 490:392:290 d) None of these
- The ratio of length to width of a rectangle sheet of paper is $5 : 3$. If the width of the sheet is 18 cm, find its length?
a) 90cm c) 54cm
b) 30cm d) 15cm
- Two numbers are in the ratio $3:5$. If 9 is subtracted from each, the new numbers are in the ratio $12:23$. The smaller number is:
a) 33 c) 49
b) 57 d) 63
- The ratio of number of girls and boys in a college is $7:8$. If the percentage increase in number of girls and boys is 20% and 10% respectively. What will be the new ratio?
a) 42:44 c) 21:22
b) 84:82 d) 11:12
- A sum of money is to be distributed among A, B, C, D in the proportion $5:2:4:3$. If C gets Rs. 1000 more than D, What is B's share?

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- a) 3000 c) 4000
b) 2000 d) 5000
11. Rs. 3960 are divided among A, B and C so that half of A's part, one third of B's part and one sixth of C's part are equal. Then C's part is:
a) 720 c) 2160
b) 810 d) 1080
12. The salaries A, B, C are in the ratio 2 : 3 : 5. If the increments of 15%, 10% and 20% are allowed respectively in their salaries, then what will be new ratio of their salaries?
a) 3:3:10 c) 23:33:60
b) 10:11:20 d) None of these
13. In a mixture of 120 litres, the ratio of milk and water is 2 : 1. If the ratio of milk and water is 1: 2, then the amount of water required to be added is?
a) 20 c) 80
b) 40 d) 120
14. The ratio of the incomes of Chetan and Dinesh is 3:4. The ratio of their expenditures is 5:7. If each of them saves Rs.200, find the incomes of both?
a) Rs.600, Rs.800 c) Rs.1500, Rs.2000
b) Rs.1200, Rs.1600 d) Rs.1800, Rs.2400
15. Two numbers A and B are such that the sum of 5% of A and 4% of B is two-third of the sum of 6% of A and 8% of B. Find the ratio of A : B is
a) 4 : 3 c) 1 : 1
b) 3 : 4 d) 2 : 3
16. Zinc and copper are in the ratio 5 : 3 in 400 gm of an alloy. How much of copper (in grams) should be added to make the ratio 5 : 4?
a) 66 c) 50
b) 72 d) 200
17. A Zoo has 66 fishes, some white and rest orange. Which of the following could be the ratio of white to orange fishes in the zoo?
a) 1 : 7 c) 3 : 7
b) 2 : 9 d) 2 : 5
18. A boy has a few coins of denominations 50 paise, 25 paise and 10 paise in the ratio 1: 2: 3. If the total amount of the coins is Rs. 6.50, the number of 50 paise coins is?
a) 5 c) 15
b) 10 d) 20
19. The ratio between the boys and girls in a class is 6: 5 respectively. If 8 more boys join the class and two girls leave the class then the respective ratio becomes 11: 7. What is the number of girls in the class now?
a) 44 c) 28

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- b) 38

- d) 36

20. The income of A and B are in the ratio 5: 3. The expenses of A, B and C are in the ratio 8: 5: 2. If C spends Rs. 2000 and B saves Rs. 700, then A saves?

- [illegible]

21. The ratio between the male and female existing employees in an organization is 7 : 4. The ratio between the male and female new recruits of 240 is 5 : 7. What will be the new ratio between male and female employees after the recruits join the organization?

- a) 6 : 5 c) 3 : 2
b) 5 : 4 d) can't determine

22. The total number of 3 different colored pens in a box is 91. If the ratio between red colored and green colored pen is 5 : 2 and the number of green pen is $33\frac{1}{3}\%$ of blue pens then find the difference between the red colored and green colored pen.

- a) 28 c) 21
b) 35 d) 14
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23. If the ratio of three sides of a triangle is $3 : 4 : 5$ then find the difference between the smallest and largest angle. (in degrees)

- a) 45° c) 15°
b) 30° d) 50°

24. If $a/7 = b/3 = c/5$ then find the ratio between a, b and c

- a) 3 : 4 : 5 c) 7 : 3 : 5
b) 3 : 6 : 7 d) 5 : 7 : 3

25. If $A : B + C = 2 : 5$, $B : A + C = 1 : 2$ then find $C : A + B$?

- a) 8 : 13 c) 13 : 5
b) 5 : 13 d) 13 : 8

PROBLEM ON AGES

26. The present ages of 3 persons are in the proportion 4 : 7 : 9. Eight years ago, the sum of their ages was 56. Find their present ages (in years)?

- a) 8, 14, 18 c) 16, 28, 36
b) 12, 21, 27 d) 20, 35, 45

27. Six years ago, the ratio of the ages of kunal and sagar was 6:5. Four years hence, the ratio of their ages will be 11:10. What is sagar's age at present?

- [illegible]

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28. A person's present age is two-fifth of the age of his mother. After 8 years, he will be one-half of the age of his mother. How old is the mother at present?
- a) 38 c) 40
b) 43 d) 46
29. A man is 24 years older than his son. In two years, his age will be twice the age of his son. The present age of the son is
- a) 14 years c) 20 years
b) 18 years d) 22 years
30. Q is much younger than R as he is older than T. If the sum of the ages of R and T is 60 years. What is definitely the difference between R and Q's age?
- a) 1 year c) 25 years
b) 2 years d) Data inadequate
31. A father is now three times as old as his son. Five years back, he was four times as old as his Son. The age of the son is
- a) 12 c) 18
b) 15 d) 20
32. Three years hence, the ratio of A and B will be 7:5. The age of A two years hence is equal to two times of age of B, 5 years ago. What is the present age of A?
- a) 24 years c) 32 years
b) 26 years d) 38 years
33. The respective ratio between the present age of daughter, mother, father and grandmother is 2:5:6:11. The average age of daughter and mother is 28 years, what will be grandmother's age after 12 years?
- a) 102 c) 99
b) 96 d) 100
34. The ratio of the ages of Anil and Sunil, 6 years ago was 8:5 respectively. After 2 years, the age of Sunil will be 25% less than that of Anil. What is the present age of Anil?
- a) 20 years c) 22 years
b) 21 years d) 23 years
35. The sum of the present ages of mother and daughter is 51 years. Six years ago, mother's age is 12 times of the age of daughter and the ratio of the ages of mother to father is 14:15, then find the difference between the age of Daughter and father.
- a) 30 years c) 33 years
b) 36 years d) 27 years
36. Navin is three years older than Babu who is two years younger to Raj. If the total ages of Navin, Babu and Raj be 74, then what is Raje's age?
- a) 24 years c) 25 years

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- b) 23 years d) 26 years
37. The age of Sajan is a multiple of 4. The sum of the age of Sajan and his age four years ago is 44 years. What was the age of Sajan 2 years ago?
a) 24 years c) 22 years
b) 23 years d) 25 years
38. Sum of the ages of A, B and C is 102 years and B is 6 years elder than A. If the ratio of the present age of A and C is 3:2, the find the present age of B?
a) 42 years c) 38 years
b) 45 years d) 48 years
39. The ratio of the ages of Oviya to Kavin is 5:6. The age of Kavin after 8 years is 100% more than the age of Oviya's two years ago. What is the average present age of Oviya and Kavin?
a) 22.5 years c) 33.5 years
b) 16.5 years d) 18.5 years
40. A is 8 years older than B and B is 12 years younger than C. If the sum of the ages of A, B and C is 80 years, then what is B's age after 10 years?
a) 20 years c) 28 years
b) 30 years d) 22 years

PARTNERSHIP

41. A starts business with Rs. 3500 and after 5 months, B joins with A as his partner. After a year, the profit is divided in the ratio 2:3. What is B's contribution in the capital?
a) 3000 c) 9000
b) 6000 d) 12000
42. A and B invested Rs.8000, Rs.4000. After six months, C joined them with Rs.20000. what will be B's share in total profit of Rs.25000 earned at the end of 2 years from the starting of the business?
a) 15:13:12 c) 13:15:16
b) 12:13:16 d) 12:15:16
43. A and B enter into a partnership for a year. A contributes Rs.1500 and B contributes Rs.2000. After 4 months, they admit C, who contributes Rs.2250. If B withdraws his contribution after 9 months, how would they share a profit of Rs.900 at the end of the year?
a) 6: 8: 9 c) 1: 1: 1
b) 8: 6: 9 d) 1: 2: 3
44. A started a business with Rs. 3500 and after 5 months, B joins with A as his partner. After a year, profit is divided in the ratio 2:3. What is B's contribution in the capital?
a) Rs. 7500 c) Rs. 8500
b) Rs. 8000 d) Rs. 9000

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45. Satheesh started a business investing Rs.60000. After 3 months, Sunil joined him with a capital of Rs.75,000. After another 6 months, Subhash joined them with a capital of Rs.105000. At the end of the year, they made a profit of Rs.19000. Find the share of each.
- a) Rs.8500, Rs. 7000, Rs. 3500
b) Rs.8000, Rs. 7500, Rs. 3500
c) Rs. 8000, Rs. 6500, Rs. 4500
d) Rs. 8500, Rs. 6500, Rs. 4000
46. A, B and C started the business with the investment in the ratio of 1/3:4/5:5/6 respectively. After 6 months B left the business. At the end of year, the total profit of the business is Rs.14100, find the profit of A?
- a) Rs.2700 c) Rs.2400
b) Rs.2800 d) Rs.3000
47. A started the business with the investment of Rs.6000. After 4 months, B joined him with the investment is 25% more than the initial investment of A. At the end of year, A received Rs.2700 as profit share out of the total profit, then find the profit share of B?
- a) Rs. 2250 c) Rs. 2500
b) Rs. 2450 d) Rs. 2000
48. There are two partners P and Q enter into a partnerships with the capitals of Rs.(x + 1000) and Rs.(3 + 3000) respectively. After 5 months, R joined him with the capital of Rs.(x + 7000). The ratio of the profit shares of P, Q and R at the end of one year is 2: 3: 5 respectively. Find the sum of the capitals invested by P, Q and R together.
- a) Rs. 10000 c) Rs. 30000
b) Rs. 20000 d) Rs. 40000
49. A invested Rs.500 while B invested Rs.800 in a partnership business. After 1 year, A withdrew Rs.200 while B withdrew Rs.300 and C joined them with a capital of Rs.600. Find the profit share of C, if the total profit received by all of them after 3 years is Rs.2050.
- a) Rs. 250 c) Rs. 450
b) Rs. 300 d) Rs. 600
50. P and Q started a partnership business with the capital of Rs.15000 and Rs.12000 respectively. After certain months, R joined with the capital of Rs.45000. After 1 year, the ratio of the profit obtained by them is 2: 5: 2 respectively. After how many months did R invest his capital?
- a) 2 c) 6
b) 4 d) 8

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COGNIZANT – LATEST

- Price of each article of type P, Q, and R is Rs. 300, Rs. 180 and Rs. 120 respectively. Suresh buys articles of each type in the ratio 3:2:3 in Rs. 6480. How many articles of type Q did he purchase?
a) 8
b) 14
c) 20
d) None of these
- The ratio of market prices of wheat and paddy is 2:3 and the ratio of quantities consumed in a family is 5:4. Find the ratio of expenditure of wheat and paddy.
a) 6:5
b) 5:6
c) 1:1
d) 8:15
- The ratio of numbers of girls and boys participating in sports of a school is 4:5. If the number of girls is 212, determine the number of boys participating in the sports.
a) 256
b) 265
c) 251
d) 263
- If $A:B = 2:3$, $B:C = 4:5$ and $C:D = 6:7$, then $A:B:C:D$ is
a) 16:24:30:35
b) 35:30:24:16
c) 24:16:30:35
d) 16:30:24:35
- The three numbers are in the ratio $\frac{1}{2} : \frac{2}{3} : \frac{3}{4}$. The difference between greatest and smallest numbers is 36. Find the numbers.
a) 72, 84, 108
b) 60, 72, 96
c) 72, 108, 84
d) 72, 96, 108
- How many toffees were distributed in the total among Ankit, Aniket and Anuj in the ratio 2:3:7, if Aniket receives 84 toffees in total?
a) 300
b) 312
c) 324
d) 336
- Parul is one-fifth the age her mother was 15 years ago and Parul's brother is three-fifth the age his mother was 10 years ago. If sum of Parul and his brother's ages is 31, then how old is Parul's mother?
a) 50
b) 40
c) 35
d) 60

TCS – NINJA - LATEST

58. What is the fourth proportional of 0.006, 1.2 & $6/25$?
- a) 36 c) 4.8
- b) 48 d) 3.6

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59. What is the mean proportional (MP) between the MPs of $(\frac{2}{7} \text{ \& } \frac{32}{343})$ and $(2 \text{ \& } \frac{1}{5000})$?
- a) $\frac{3}{35}$ c) $\frac{2}{35}$
b) $\frac{4}{35}$ d) $\frac{2}{175}$
60. What is the sum (in Rs) which when divided among A, B, C, D in the proportion 2:3:5:8 provides Rs 8420 less to D than what it provides to him when the proportion is 1/2: 1/3: 1/5: 1/8?
- a) 25020 c) 37530
b) 12510 d) 17540
61. Age of A and B are in the ratio 4: 5. After 10 years their ages will be in the ratio 13: 15. What was the age of B when A is born?
- a) 2 years c) 6 years
b) 5 years d) 8 years
62. Height of A, B and C were in the ratio 9: 10: 11 three years back. If their heights increase by 10%, 20% and 30% till now, what is the ratio between their heights now?
- a) 100: 120: 130 c) 99: 120: 143
b) 10: 11: 12 d) None of these
63. If $x + y = 45$, $x - y = 11$, what is the ratio of x:y?
- a) 28:17 c) 23:26
b) 17:28 d) 25:24
64. What is the ratio between x and y if $(4x^2 - 3y^2) : (2x^2 + 3y^2) = 74: 118$
- a) 4: 3 c) 3: 2
b) 2: 3 d) 4: 5
65. A, B and C enter into a partnership by investing in the ratio of 4 : 3 : 5. After six months, B invests another Rs. 2,64,000 and C invests Rs. 5,40,000 at the end of two years also invests. At the end of the three years, profits are shared in the ratio 3: 5: 6. What is the initial investment of A?
- a) Rs. 3,00,000 c) Rs. 2,70,000
b) Rs. 1,80,000 d) Rs. 2,40,000