

Ratio and Proportion

Type I –Basic Questions on Ratio /Proportion

1) The total number of students in a school is 2140. If the number of girls in the school is 1200, then what is the respective ratio of the total number of boys to the total number of girls in the school?

- A) 26 : 25 B) 47 : 60
C) 18 : 13 D) 31 : 79

2) 48% of the first number is 60% of the second number. What is the ratio of the first number to the second number?

- A) 4 : 7 B) 3 : 4 C) 5 : 4 D) Can't be determined

3) If $2a=6b$ and $9b=7c$, Find $a:b:c$?

- A.) 42:18:14 B.) 3:9:7
C.) 9:27:22 D.) 21:7:9

4) If $a:b=5:3$ and $b:c=5:4$ then find $a:b:c$

- A.) 25:15:24 B.) 25:15:36
C.) 25:15:12 D.) 25:12:15

5) If $a:b=1:2$, $b:c=3:4$ and $c:d = 2:3$ find $a:b:c:d$?

- A.) 3:6:8:24 B.) 6:12:16:24
C.) 6:18:24:16 D.) 3:6:2:3

6) If $a:b=5:3$, $b:c=10:7$ and $c:d = 5:7$ then find $a : b : c : d$

- A.) 250 : 150 : 105 : 147
B.) 250 : 105 : 150 : 147
C.) 250 : 150 : 105 : 174
D.) 250 : 150 : 105 : 137

7) .If $0.75 : x :: 5 : 8$, then x is equal to :

- A.) 1.12 B.) 1.2 C.) 1.25 D.) 1.3

8) A fraction bears the same ratio to $1/27$ as $3/7$ does to $5/9$. The fraction is?

- A.) $7/45$ B.) $1/35$ C.) $45/7$ D.) $5/21$

9) Find the mean proportional between 49 & 81?

- A.) 16 B.) 10 C.) 63 D.) 12

10) The fourth proportional to 5, 8, 15 is:

- A.) 24 B.) 20 C.) 18 D.) 16

11) The compounded ratio of $(2 : 3)$, $(6 : 11)$ and $(11 : 2)$ is

- A) 1:2 B) 2:1 C) 11:24 D) 36:121

12) If $3A = 2B = 4C$; then what is $A : B : C$?

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

13) Rs. 2600 is divided into three parts A, B and C. How much A is more than C if their ratio is $1/2:1/3:1/4$?

- A) 600 B) 300 C) 150 D) 75

14) If Rs. 782 be divided into three parts, proportional to $1/2:2/3:3/4$, then the first part is:

- A) Rs. 408 B) Rs. 204
C) Rs. 412 D) Rs. 220

15) The ratio of speed of three racers is $3 : 4 : 6$. What is the ratio of time taken by the three racers to cover the same distance?

- A) 3:4:6 B) 6:4:3 C) 4:3:2 D) 2:3:5

16) If $x/y = 2/3$, then what is the ratio of $(3x + 2y)$ and $(3x - y)$?

- A) 4 : 1 B) 3 : 1 C) 2 : 1 D) 4 : 3

17) What number should be added to each of the numbers 94, 24, 100 and 26, so that the resulting numbers are in continued proportion?

- A) 10 B) 11 C) 9 D) 8

18) What is the sub-duplicate ratio of $16 : 25$.

- A) 2 : 3 B) 4 : 5 C) 3 : 7 D) None

19) Arrange the fractions in ascending order

- A) $5/8 < 7/12 < 3/4 < 13/16$
B) $5/8 < 7/12 < 13/16 < 3/4$
C) $5/8 < 3/4 < 13/16 < 7/12$
D) $7/12 < 5/8 < 3/4 < 13/16$

20) x and y are two numbers such that their mean proportion is 8 and third proportion is 512. What is the value of x and y ?

- A) 2 and 16 B) 2 and 32
C) 4 and 32 D) 4 and 16

Type II- Equation Based

1) The ratio of money with Ram and Gopal is $7:17$ and with Gopal and Krishan is $7:17$. If Ram has 490, Krishan has

- A) 2890 B) 2680
C) 2330 D) 1190

2) If Suresh distributes his pens in the ratio of $1/2 : 1/4 : 1/5 : 1/7$ between his four friends A, B, C and D, then find the total number of pens Suresh should have?

- A) 153 B) 150 C) 100 D) 125

3) Rs. 1278 is divided among 6 men, 5 women and 3 boys. The ratio of share of a man, a woman and a boy is $8 : 11 : 13$. What is the share of a man?

- A) Rs85 B) Rs72 C) Rs90
D) Rs110 E) None

4) Rs 1440 were distributed among A ,B,C and D in such a way that C and D together gets half of what A and B together gets and C gets one third amount of B. Also D gets $5/3$ times as much as C. what is the amount of A?

- A) Rs560 B) Rs420 C) Rs460
D) Rs545 E) None

5) The students in three classes are in the ratio $8 : 9 : 11$. If 15 students are increased in each class, the ratio changes to $11 : 12 : 14$. Then the total number of students in the three classes before the increase is:

- A) 105 B) 120 C) 140 D) 155 E) None

6) The ratio between the ages of P and Q is $3:2$ respectively. If the ratio between $1/5$ th of P's age and $1/3$ rd of Q's age is $9:10$. Find the age of Q

- A) 45 B) 30 C) 32 D) Data Inadequate E) None

7) If the ratio of the ages of Guna and Shekar is 6:7 at present, and twelve years from now, the ratio will get changed to 8:9, then find Guna's present age.

- A) 38 B) 46 C) 42 D) 36 E) None

8) The ratio of male and female in a city is 7 : 8 respectively and percentage of children among male and female is 25 and 20 respectively. If number of adult females is 156800, what is the total population of the city?

- A) 400000 B) 386400 C) 367500
D) 412300 E) None

9) An employer reduces the number of his employees in the ratio of 7:4 and increases their wages in the ratio 3:5. State whether his bill of total wages increases or decreases and in what ratio.

- a) increases 20:21 b) decreases 21:20
c) increases 21:22 d) decreases 22:21
e) None of these

10) Eight people are planning to share equally the cost of a rental car. If one person withdraws from the arrangement and the others share equally the entire cost of the car, then the share of each of the remaining persons increased by

- A.) One-seventh B.) Seven-eighths
C.) One-eighth D.) One-ninth

Type III- Questions on Coins and values

1) Rs.630/- distributed among A,B and C such that on decreasing their shares by RS.10,RS.5 and RS.15 respectively, The balance money would be divided among them in the ratio 3:4:5. Then, A's share is:?

- A.) Rs.150/- B.) Rs.200/-
C.) Rs.160/- D.) Rs.255/-

2) A bag contains 25p coins, 50p coins and 1 rupee coins whose values are in the ratio of 8:4:2. The total values of coins are 840. Then find the total amount in rupees.

- A) 220 B) 240 C) 260 D) 280 E) None of these

3) A bag contains 25p, 50p and 1Re coins in the ratio of 2 : 4 : 5 respectively. If the total money in the bag is Rs 75, find the number of 50p coins in the bag.

- A) 45 B) 50 C) 25 D) 40 E) None of these

4) A bag contains 25p coins, 50p coins and 1 rupee coins whose values are in the ratio of 8:4:2.If the total values of coins is X and the total amount in rupees is Y Then which of the following is true

- A)X = 840; Y = 260 B)X = 966; Y = 345
C)X = 840; Y = 280 D)X = 740; Y = 260

5) A purse contains 342 coins consisting of one rupees, 50 paise and 25 paise coins. If their values are in the ratio of 11 : 9 : 5 then find the number of 50 paise coins?

- A) 180 B) 150 C) 162 D) 99

Type IV – Income and Expenditure

1) The annual income of Puja, Hema and Jaya taken together is Rs. 46,000. Puja spends 70 % of income, Hema spends 80 % of her income and Jaya spends 92 % of her income. If their annual savings are 15 : 11 : 10, find the annual saving of Puja?

- A) 10, 000 /- B) 12, 000 /-
C) 17, 500 / - D) 25, 000 /-

2) A man, his wife and daughter worked in a garden. The man worked for 3 days, his wife for 2 days and daughter for 4 days. The ratio of daily wages for man to women is 5 : 4 and the ratio for man to daughter is 5 : 3. If their total earnings is mounted to Rs. 105, then find the daily wage of the daughter.

- A) Rs. 15 B) Rs. 12 C) Rs. 10 D) Rs. 9

3) Amit, Raju and Ram agree to pay their total electricity bill in the proportion 3 : 4 : 5. Amit pays first day's bill of Rs. 50, Raju pays second day's bill of Rs. 55 and Ram pays third day's bill of Rs. 75. How much amount should Amit pay to settle the accounts?

- A) Rs. 15.25 B) Rs. 17 C) Rs. 12 D) Rs. 5

4) Salaries of Ram and Sham are in the ratio of 4 : 5. If the salary of each is increased by Rs. 5000, then the new ratio becomes 50 : 60. What is Sham's present salary?

- A) Rs. 20,000 B) Rs. 25,000
C) Rs. 30,000 D) Rs. 35,000

5) One year ago the ratio between rahul salary and rohit salary is 4:5. The ratio between their individual salary of the last year and current year is 2:3 and 3:5 respectively. If the total current salary of rahul and rohit is 4300. Then find the current salary of rahul.

- A)1200 B)1800 C)1600
D)2000 E)None of these

Type V- Solution/ Mixture Based

1) A 50 litre of mixture contains milk and water in the ratio 2:3. How much milk must be added to the mixture so that it contains milk and water in the proportion of 3:2.

- A) 20 B) 25 C) 30 D) 35 E) None of these

2) A mixture contains milk and water in the ratio 7:3. On adding 20 liters of water, the ratio of milk to water becomes 7:5. Total quantity of milk & water before adding water to it?

- A) 10 B.) 100 C.) 70 D.) 30

3) Two vessels contains equal quantity of solution contains milk and water in the ratio of 7:2 and 4:5 respectively. Now the solutions are mixed with each other then find the ratio of milk and water in the final solution?

- A)11:7 B)11:6 C)11:5
D)11:9 E)None of these

4) A vessel contains milk and water in the ratio of 4:3. If 14 litres of the mixture is drawn and filled with water, the ratio changes to 3:4. How much milk was there in the vessel initially?

- A) 24 B) 32 C) 40 D) 48 E) None of these

5) A bucket contains liquid A and B in the ratio 4:5. 36 litre of the mixture is taken out and filled with 36 litre of B. Now the ratio changes to 2:5. Find the quantity of liquid B initially.

- A) 55ltr B) 56ltr C) 57ltr
D) 58ltr E) None of these

6) Equal quantities of 3 mixtures of milk and water are mixed in the ratio 1:3, 2:3 and 3:4. The ratio of water and milk in the new mixture is

- A) 45:76 B) 151:269 C) 123:154
D) 145:245 E) None of these

Type VI – Miscellaneous

1) A horse takes 8 steps for every 5 steps of a fox, but 6 steps of a fox are equal to the 3 steps of the horse. What is the ratio of the speed of horse to the fox ?

- A) 16:5 B) 20:19 C) 18:23
D) 17:21 E) None of these

2) 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 B) 2:9 C) 3:7 D) 2:5 E) None of these

3) A father distributed some chocolates among his four children and kept some with him. The eldest three children got chocolates in the ratio 3 : 11 : 7. The total number of chocolates with father and youngest child is three times the total chocolates with the three eldest children. The ratio of chocolates with father and that with all the children is 3 : 4. Find the total number of chocolates if the youngest child has 81 chocolates with him?

- A) 273 B) 252 C) 278
D) 303 E) None of these

4) In a competitive exam, the number of passed students was four times the number of failed students. If there had been 35 fewer appeared students and 9 more had failed, the ratio of passed and failed students would have been 2 : 1, then the total number of students appeared for the exam ?

- A) 170 B) 165 C) 180
D) 155 E) None

Answers:-

Type I				Type II		Type III		Type IV		Type V		Type V	
Q.No.	Ans.	Q.No.	Ans.	Q.No.	Q.No.	Ans.	Ans.	Q.No.	Ans.	Q.No.	Ans.	Q.No.	Ans.
1	B	11	B	1	1	B	C	1	A	1	B	1	B
2	C	12	C	2	2	B	D	2	D	2	B	2	B
3	D	13	A	3	3	A	D	3	D	3	A	3	B
4	C	14	B	4	4	B	C	4	C	4	B	4	D
5	B	15	C	5	5	B	C	5	B	5	B		
6	A	16	A	6	6	B				6	B		
7	B	17	B	7	D								
8	B	18	B	8	C								
9	C	19	D	9	B								
10	A	20	B	10	A								