

RATIO AND PROPORTION

- 1) The triplicate ratio of 3:2 is:
(A) 27:8 (B) 6:9 (C) 3:2 (D) None of these
- 2) The angles of a triangle are in ratio 2:7:11. The angles are:
(A) (20°, 70°, 90°) (B) (30°, 70°, 80°)
(C) (18°, 63°, 99°) (D) none of these
- 3) The monthly incomes of two persons are in the ratio 4:5 and their monthly expenditures are in the ratio 7:9. If the each save Rs. 50 per month, their monthly incomes are:
(A) (300, 375) (B) (400, 757) (C) (400, 500) (D) none of these
- 4) P, Q and R are three cities. The ratio of average temperature between P and Q is 11:12 and that between P and R is 9:8. The ratio between the average temperature of Q and R is:
(A) 22:27 (B) 27:22 (C) 32:33 (D) none of these
- 5) If 2s:3t is the duplicate ratio of 2s-p:3t-p, then
(A) $p^2=6st$ (B) $p=6st$ (C) $2p=3st$ (D) none of these
- 6) If A : B=8:15, B:C=5:8 and C:D=4:5, then A:D is equal to:
(A) 2:7 (B) 4:15 (C) 8:15 (D) 15:4
- 7) if $\frac{1}{5} : \frac{1}{x} = \frac{1}{x} : \frac{100}{125}$, then the value of x is:
(A) 5:2 (B) 5:3 (C) 2:5 (D) 3:5
- 8) If 2A = 3B and 4B=5C, then A:C is:
(A) 4:3 (B) 15:8 (C) 8:15 (D) 3:4
- 9) 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.
(A) 102, 136, 170 (B) 136, 102, 170 (C) 170, 102, 136 (D) none of these
- 10) Two numbers are in the ratio 2:3 and the difference of their squares is 320. The numbers are:
(A) 12, 18 (B) 16, 24 (C) 14, 21 (D) none of these
- 11) What quantity must be added to the terms of the ratio p+q:p-q to make it equal to (p+q)²:(p-q)²?
(A) (q+p)/2p (B) (q-p)/2p (C) (q²-p²)/2p (D) none of these
- 12) The inverse ratio of 11:17 is:
(A) $\sqrt{11} : \sqrt{17}$ (B) 17:11 (C) 298:11 (D) none of these
- 13) The sub-triplicate ratio of 8:27 is:
(A) 27:8 (B) 24:81 (C) 2:3 (D) none of these
- 14) The ratio compounded of 4:9 and the duplicate ratio of 3:4 is:
(A) 1:4 (B) 1:3 (C) 3:1 (D) none of these
- 15) If x : y = 2:3. Then the value of (6x-y) : (3x+2y) is:
(A) 1:2 (B) 2:3 (C) 3:4 (D) none of these
- 16) The ratio compounded of 4:9, the duplicate ratio of 3:4, the triplicate ratio of 2:3 and 9:7 is:
(A) 2:7 (B) 7:2 (C) 2:27 (D) none of these
- 17) The duplicate ratio of $3\sqrt{x} : 4\sqrt{y}$ is:
(A) 9x:16y (B) 3x:4y (C) 16y:9x (D) none of these

- 18) The sub-duplicate ratio of 289:441 is:
(A) 13 : 11 (B) 17 : 21 (C) 21 : 17 (D) none of these
- 19) The ratio compounded of 2:3; 9:4, 5:6 and 8:10 is:
(A) 1 : 1 (B) 1 : 5 (C) 3 : 8 (D) none of these
- 20) If p:q is the sub-duplicate ratio of $p-x^2 : q-x^2$, then x^2 is:
(A) $\frac{p}{p+q}$ (B) $\frac{q}{p+q}$ (C) $\frac{pq}{p+q}$ (D) none of these
- 21) The ratio of the quantities is 5:7. If the consequent of its inverse ratio is 5, the antecedent is:
(A) 7 (B) $\sqrt{5}$ (C) 9 (D) none of these
- 22) What must be added to the terms of the ratio 3:7 to make it equal to 3:4,
(A) 7 (B) 9 (C) 15 (D) 17
- 23) Find three numbers which are in the ratio of 3:4:5 such that the sum of their cubes is 1728.
(A) 6, 8, 10 (B) 10, 8, 6 (C) 12, 8, 20 (D) none of these
- 24) Two numbers are in the ratio 8:11. If 6 be subtracted from each, the numbers are in the ratio 7:10. The numbers are:
(A) 44 & 32 (B) 32 & 44 (C) 36 & 42 (D) none of these
- 25) The ratio of two numbers is 7:10 and their difference is 105. The numbers are:
(A) (200, 305) (B) (185, 290) (C) (245, 350) (D) none of these
- 26) If $5x^2-13xy+6y^2=0$, then $x : y$ is:
(A) (2:1) (B) (3:5) (C) (5:3) or (1:2) (D) (3:5) or (2:1)
- 28) If $A : B = 3 : 4$ and $B : C = 8 : 9$, then $A : C$ is:
(A) 1 : 3 (B) 3 : 2 (C) 2 : 3 (D) 1 : 2
- 29) If $x : y = 7 : 9$ and $y : z = 5 : 4$, then $x : y : z$ is:
(A) 7 : 45 : 36 (B) 35 : 45 : 36 (C) 28 : 36 : 35 (D) none of these
- 30) If $A : B = 2 : 3$, $B : C = 4 : 5$ and $C : D = 6 : 7$, then $A : B : C : D$ is :
(A) 16 : 22 : 30 : 35 (B) 16 : 24 : 15 : 35
(C) 16 : 24 : 30 : 35 (D) 18 : 24 : 30 : 35
- 32) 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
- 33) If $A : B : C = 2 : 3 : 4$, then $\frac{A}{B} : \frac{B}{C} : \frac{C}{A}$ is equal to:
(A) 4 : 9 : 16 (B) 8 : 9 : 12 (C) 8 : 9 : 15 (D) 8 : 9 : 24
- 34) If $\frac{a}{4} = \frac{b}{5} = \frac{c}{9}$ then $\frac{a+b+c}{c}$ is:
(A) 2 (B) 4 (C) 7 (D) none of these
- 35) If $\frac{a}{b} = \frac{2}{3}$ and $\frac{b}{c} = \frac{4}{5}$, then ratio $a : b : c = ?$
(A) 8 : 12 : 15 (B) 4 : 6 : 15 (C) 8 : 16 : 25 (D) none of these
- 36) If the value of : $\frac{x+a}{x-a} + \frac{x+b}{x-b}$, when $x = \frac{2ab}{a+b}$; $a \neq b$, is:

- (A) 3 (B) 4 (C) 1 (D) 2
- 37) If $\frac{5a+3b}{2a-3b} = \frac{23}{5}$, then the value of a : b is:
(A) 2 : 1 (B) 1 : 4 (C) 1 : 2 (D) 4 : 1
- 38) The third proportional between (a^2-b^2) and $(a+b)^2$ is:
(A) $\frac{a+b}{a-b}$ (B) $\frac{a-b}{a+b}$ (C) $\frac{(a-b)^2}{a+b}$ (D) $\frac{(a+b)^3}{a-b}$
- 39) The incomes of A and B are in the ratio 3 : 2 and their expenditures in the ratio 5 : 3. If each saves Rs. 1500 then B's income is:
(A) Rs. 6000 (B) Rs. 4500 (C) Rs. 3000 (D) Rs. 7500
- 40) If $A : B : C = 2 : 3 : 4$, then $\frac{A}{B} : \frac{B}{C} : \frac{C}{A}$ is equal to:
(A) 4 : 9 : 16 (B) 8 : 9 : 12 (C) 8 : 9 : 15 (D) 8 : 9 : 24
- 41) Rs. 1360 have been divided among A, B, C such that A gets $(\frac{2}{3})$ of what B gets and B gets $(\frac{1}{4})$ of what C gets. Then B's share is:
(A) Rs. 120 (B) Rs. 160 (C) Rs. 240 (D) Rs. 320
- 42) If 10% of $x=20\%$ of y , then $x : y$ is equal to:
(A) 1 : 2 (B) 2 : 1 (C) 5 : 1 (D) 10 : 1
- 43) Two numbers are in the ratio of 1:2. If 7 be added to both, their ratio changes to 3:5. The greater number is:
(A) 20 (B) 24 (C) 28 (D) 32
- 44) Some one-rupee, 50-paise and 25-paise coins make up Rs. 93.75 and their numbers are in the proportion of 3 : 4 : 5. Find the number of each type of coins.
(A) 40, 70, 75 (B) 46, 58, 75 (C) 42, 56, 70 (D) 45, 60, 75
- 45) The third proportional between (a^2-b^2) and $(a+b)^2$ is:
(A) $\frac{a+b}{a-b}$ (B) $\frac{a-b}{a+b}$ (C) $\frac{(a-b)^2}{a+b}$ (D) $\frac{(a+b)^3}{a-b}$
- 46) If $(a + b) : (b + c) : (c + a) = 6 : 7 : 8$ and $a + b + c = 14$, then the value of c is:
(A) 8 (B) 7 (C) 6 (D) 12
- 47) $5 : 7 :: x : 28$, then x is:
(A) 20 (B) 14 (C) 56 (D) none of these
- 48) Rs. 4850 have been divided among A, B, C such that if their shares be diminished by Rs. 15, Rs. 10 and Rs. 25 respectively, the remainders are in the ratio 3 : 4 : 5. Then B's share is:
(A) Rs. 1595 (B) Rs. 1610 (C) Rs. 1626.66 (D) Rs. 1600
- 49) Seats for Mathematics, Physics and Biology in a school are in the ratio 5 : 7 : 8. There is a proposal to increase these seats by 40%, 50% and 75% respectively. What will be the ratio of increased seats.
(A) 2 : 3 : 4 (B) 6 : 7 : 8 (C) 6 : 8 : 9 (D) none of these
- 50) A sum of money is to be distributed among A, B, C, D in the proportion of 5 : 2 : 4 : 3. If C gets Rs. 1000 more than D, what is B's share?
(A) Rs. 500 (B) Rs. 1500 (C) Rs. 2000 (D) Rs. none of these