

CISF 2022



RATIO AND PROPORTION

MATHS

BY GOPAL SHARMA



BASIC DEMANDS

BASIC DEMANDS

RATIO- It is comparison between similar kind(same units) quantity by dividing

BASIC DEMANDS

If $A:B = 3:5$

if the difference between numbers is 112 then $B=?$

BASIC DEMANDS

If $A:B = 3:5$

If the sum of squares is 2754 then smallest number = ?

BASIC DEMANDS

If $A:B = 3:5$

If 9 is subtracted from each of them then ratio becomes 12:23 find A?

BASIC DEMANDS

If $A:B = 3:5$

A are successful and B are unsuccessful examinees in an examination . the ratio would have been 5:7. if 20 more students had been successful . the total number of examinees are ?

If $A:B = 3:5$

Their product is 540 then the sum of numbers is :

If A:B = 3:5

If 6 is subtracted from numerator then result is $\frac{3}{5}$ times of initial fraction . what is the numerator :

If $A:B = 3:5$

Ratio of $B&C=2:3$. then sum of largest and smallest is 8 and 121 then find A?

If $A:B = 3:5$

Ratio of $B&C=2:3$. then sum of largest and smallest is 8 and 121 then find A?

If $A:B = 3:5$

$B:C = 2:3$, $C:D = 1:2$ diff between $(A+B)$ and $(C-B) = 620$ then find $C = ?$

BASIC DEMANDS

BASIC DEMANDS

BASIC DEMANDS

BASIC DEMANDS

BASIC DEMANDS

BASIC DEMANDS

BASIC DEMANDS

BASIC DEMANDS

Q1- Rs 11550 has to be divided between A,B and C such that A gets $\frac{4}{5}$ of what B gets and B gets $\frac{2}{3}$ of what C gets . how much more C gets over A ?

11550 रुपये को A, B और C के बीच विभाजित किया जाना है, जैसे कि A को B का $\frac{4}{5}$ मिलता है और B को C $\frac{2}{3}$ मिलता है। A पर C कितना अधिक मिलता है

- ❖7200
- ❖1800
- ❖1170
- ❖2450

Q2- if $6A=4B=9C$; what is $A:B:C$?

❖ **6:4:9**

❖ **9:4:6**

❖ **4:9:6**

❖ **9:3:1**

Q3-if $\frac{A}{3} = \frac{B}{2} = \frac{C}{5}$, then what is the value of $(C + A)^2 : (A + B)^2 : (B + C)^2$

❖ **9:4:25**

❖ **25:4:9**

❖ **64:25:49**

❖ **49:25:64**

Q4- if the square of the two numbers is equal to 4 times of their product , then the ratio of these number is

यदि दो संख्याओं का वर्ग उनके Product के 4 गुना के बराबर है, तो इन संख्याओं का अनुपात है

- ❖ 2:1
- ❖ 1:3
- ❖ 1:1
- ❖ 1:2

Q5- In a coloured picture of blue and yellow colour , blue and yellow colour is used in the ratio of 4:3 respectively. If in upper half , blue and yellow is 2:3, then in the lower half blue and yellow is ?

नीले और पीले रंग के एक रंगीन चित्र में, नीले और पीले रंग का उपयोग क्रमशः 4: 3 के अनुपात में किया जाता है। यदि ऊपरी आधे में, नीला और पीला 2: 3 है, तो निचले आधे में नीला और पीला है

- ❖ 1:1
- ❖ 2:1
- ❖ 26:9
- ❖ 9:26

Q6- if $2r = h + \sqrt{r^2 + h^2}$ then ratio of $r:h$ ($r \neq 0$) is ?

❖ **1:1**

❖ **2:1**

❖ **26:9s**

❖ **9:26**

Q7- If the three numbers in the ratio 3:2:5 be such that the sum of the squares is equal to 1862 then which number is the middle one?

यदि 3: 2: 5 के अनुपात में तीन संख्याएँ ऐसी हैं, तो वर्गों का योग 1862 के बराबर है, तो कौन सी संख्या मध्य में थी?

- ❖ 16
- ❖ 14
- ❖ 13
- ❖ 15

Q8- The compound ratio of the inverse ratios of the ratios $x:yz$, $y:zx$, $z:xy$ is ?

- ❖ $1:xyz$
- ❖ $Xyz:1$
- ❖ $1:1$
- ❖ $X:yz$

Q9- In a regiment the ratio between the number of officers to soldiers was 3:31 before battle, In a battle 6 officers and 22 soldiers were martyred and the ratio becomes 1:13, the number of officers in the regiment before battle was ?

एक रेजिमेंट में सैनिकों से अधिकारियों की संख्या के बीच का अनुपात 3:31 लड़ाई से पहले था, एक लड़ाई में 6 अधिकारी और 22 सैनिक शहीद हुए और अनुपात और अनुपात 1:13 हो गया, लड़ाई से पहले रेजिमेंट में अधिकारियों की संख्या थी

- ❖ 31
- ❖ 38
- ❖ 21
- ❖ 28

Q10- Among 132 examinees of a certain school, the ratio of successful to unsuccessful students is 9:2. had 4 more students passed, then the ratio of successful to unsuccessful students would have been ?

एक निश्चित स्कूल के 132 परीक्षार्थियों में, असफल छात्रों के सफल होने का अनुपात 9: 2 है। 4 और छात्र उत्तीर्ण हुए थे, फिर असफल छात्रों के लिए सफल होने का अनुपात होगा

- ❖ 14:3
- ❖ 14:5
- ❖ 28:3
- ❖ 28:5

Q12- $(a+b) : \sqrt{ab} = 4:1$, where $a > b > 0$, then $a:b$ is ?

❖ $(2+\sqrt{3}) : (2-\sqrt{3})$

❖ $(2-\sqrt{3}) : (2+\sqrt{3})$

❖ $(3+\sqrt{2}) : (3-\sqrt{2})$

❖ $(3-\sqrt{2}) : (3+\sqrt{2})$

Q15- if A and B are rational numbers and $A+B\sqrt{3} = \frac{1}{2-\sqrt{3}}$, then A:B is equal to ?

- ❖ -2:1
- ❖ 2:1
- ❖ $\sqrt{3}:1$
- ❖ $-\sqrt{3}:1$

Q16- Three numbers are in the ratio $\frac{1}{2} : \frac{2}{3} : \frac{3}{4}$. The difference between the greatest and the smallest number is 36. The numbers are ?

तीन संख्याएँ $\frac{1}{2} : \frac{2}{3} : \frac{3}{4}$ के अनुपात में होती हैं। सबसे बड़ी और सबसे छोटी संख्या के बीच का अंतर

36 है। संख्याएँ हैं

- ❖ **72,84,108**
- ❖ **60,72,96**
- ❖ **72,84,96**
- ❖ **72,96,108**

Q17- The ratio between two numbers is 3:4. if each number is increased by 6, the ratio becomes 4:5. the difference between the numbers is ?

दो संख्याओं के बीच का अनुपात 3: 4 है। प्रत्येक संख्या 6 से बढ़ जाती है, अनुपात 4: 5 हो जाता है। संख्याओं के बीच का अंतर है

- ❖ 1
- ❖ 3
- ❖ 6
- ❖ 8

Q18-The average of 11 numbers is 36,whereas average of 9 of them is 34.if the remaining two numbers are in the ratio of 2:3, find the value of the smaller number(between remaining two numbers)?

11 संख्याओं का औसत 36 है, जबकि उनमें से 9 का औसत 34 है। शेष दो संख्याएँ 2: 3 के अनुपात में हैं, छोटी संख्या (शेष दो संख्याओं के बीच) का मान ज्ञात कीजिए?

- ❖ 45
- ❖ 48
- ❖ 54
- ❖ 36

Q19-The ratio of number of boys and girls in a school of 432 pupils is 5:4. when some boys and girls are admitted, the numbers of boys increase by 12 and the ratio of boys and girls changes to 7:6. the number of new girls admitted is ?

432 विद्यार्थियों के स्कूल में लड़कों और लड़कियों की संख्या का अनुपात 5: 4 है। जब कुछ लड़कों और लड़कियों को भर्ती किया जाता है, तो लड़कों की संख्या 12 बढ़ जाती है और लड़कों और लड़कियों का अनुपात 7: 6 हो जाता है। भर्ती की गई नई लड़कियों की संख्या है

- ❖ 12
- ❖ 14
- ❖ 24
- ❖ 20

Q20- How many job applicants had applied if the ratio of selected to unselected was 19:17. if 1200 less had applied and 800 less selected, then the ratio of selected to unselected would have been 1:1?

कितने नौकरी आवेदकों ने आवेदन किया था यदि चयनित का अनुपात अचयनित 19: 17. if 1200 कम लागू किया गया था और 800 कम चयनित थे, तो चयनित पद का अनुपात 1: 1 रहा होगा

- ❖ 6000
- ❖ 7200
- ❖ 8400
- ❖ 4800

Q21- If 50 less had applied and 25 less selected, then the ratio of selected and unselected would have been 9:4, so how many candidate had applied if the ratio of selected to unselected was 2:1?

यदि 50 कम ने आवेदन किया था और 25 कम चयनित थे, तो चयनित और अचयनित का अनुपात 9: 4 होगा, इसलिए यदि चयनित से अचयनित का अनुपात 2: 1 था, तो कितने उम्मीदवार ने आवेदन किया था

- ❖ 125
- ❖ 250
- ❖ 375
- ❖ 500

Q1- The salaries of A,B and C are in the ratio 1:3:4. If the salaries are increased by 5%,10% and 15% respectively, then the increased salaries will be in the ratio

- ❖ **20:16:95**
- ❖ **21:66:95**
- ❖ **21:66:92**
- ❖ **19:66:92**

Q2- Annual income of amit and veeri are in the ratio 3:2, while the ratio of their expenditure is 5:3. if at the end of the year each saves 1000 rs, the annual income of amit is

- ❖ 9000
- ❖ 8000
- ❖ 7000
- ❖ 6000

Q3- A and B have their monthly incomes in the ratio 8:5, while their monthly expenditure are in the ratio 5:3. if they have saved 12000 and 10000 monthly respectively, then the difference in their monthly incomes is

- ❖ 52000
- ❖ 42000
- ❖ 44000
- ❖ 46000

Q4- A's income is 140 more than B's income and C's income is 80 rs more than D's . If the ratio of A's and C's incomes is 2:3 and the ratio of B's and D's incomes is 2:1, Then the incomes of A,B,C and D are respectively

- ❖ **260,120,320 and 240**
- ❖ **300,160,600 and 520**
- ❖ **400,260,600 and 520**
- ❖ **320,180,480 and 360**

Q5- The income of A,B and C are in the ratio of 3:7:4 and their expenses in the ratio 4:3:5. if A saves 300 rs out of an income of 2400, The savings of B and C are:

- ❖ **4025 and 575**
- ❖ **2750 and 1525**
- ❖ **1575 and 2625**
- ❖ **3752 and 1525**

Q1- A policeman starts to chase a thief. When the thief goes 10 steps the policeman moves 8 steps . 5 steps of the policeman is equal to 7 steps of the thief . The ratio of the speeds of the policeman and the thief is :

- ❖ **25:28**
- ❖ **25:26**
- ❖ **28:25**
- ❖ **56:25**

Q1- Two candles of the same height are lighted at the same time . The first is consumed in 8 hours and the second in 6 hours. Assuming that each candle burns at a constant rate , in how many hours after being lighted , The ratio between in first and second candles becomes 2:1 .

- ❖ 2 hr 24 min
- ❖ 4 hr 48 min
- ❖ 4 hr
- ❖ 1 hr 12 min

Q2- P and Q are two candles of the length of 4 cm and 5 cm respectively. P is consumed in 16 hours and Q is consumed in 15 hours. Assuming that each candle burns at a constant rate . how many hours after being litted their length would remain equal to each other?

- ❖ 8 hr
- ❖ 10 hr
- ❖ 12 hr
- ❖ 14 hr

Q1- 2010 are to be divided among A,B and C in such a way that If A gets 5 rs then B must get 12 rs and if B gets 4 rs then C must get 5.50 rs . The share of C will exceed that of B by

- ❖ 620
- ❖ 430
- ❖ 360
- ❖ 270

Q2- A sum of 76 rs is divided among A,B and C in such a way that A gets rs 7 more than that what B gets and B gets 6 rs more than what C gets. The ratio of their share is

- ❖ **19:24:33**
- ❖ **32:25:19**
- ❖ **32:24:20**
- ❖ **19:25:33**

Q3- A sum of 730 rs was divided among A,B and C in such a way that if A gets 3 rs then B gets 4 rs and if B gets 3.50 then C gets 3 rs. The share of B exceeds that of C by

- ❖ 30
- ❖ 40
- ❖ 70
- ❖ 210

Q1-The price of diamond is directly proportional to square of its weight. A man broke the diamond accidently in three pieces in the ratio of 3:5:7 and thus lost 42600. what was the original price of the diamond?

- ❖ 11786
- ❖ 67500
- ❖ 60000
- ❖ 75000

Q2- By mistake ,instead of dividing 117 rs among A,B and C in the ratio $\frac{1}{2} : \frac{1}{3} : \frac{1}{4}$ it was divided in the ratio 2:3:4. who gains the most any by how much?

- ❖ A, 20 rs
- ❖ B, 3 rs
- ❖ C, 20 rs
- ❖ C , 25 rs

Q3- If a sum of money is to be divided among A,B and C such that A's share is equal to twice B's share and B's share is 4 times C's share, then their shares are in the ratio:

- ❖ 1:2:4
- ❖ 1:4:1
- ❖ 8:4:1
- ❖ 2:4:1

Q1- There are 480 coins in half rupees , quarter rupees and 10 paise coins and their value are proportional 5:3:1. the number of coins in each case are

- ❖ 100,200,180
- ❖ 50,30,400
- ❖ 150,180,150
- ❖ 300,90,90

Q2- A bag contains three types of coins 1 rs, 50 paise , 25 paise and total 175 coins. If the total value of the coins if each kind be the same, the total amount in the bag is

- ❖ 75
- ❖ 175
- ❖ 300
- ❖ 126

Q3- A bag contains 90 rs in coins of denominations of 50 paise, 25 paise and 10 paise. If coins of 50 paise , 25 paise and 10 paise are in the ratio 2:3:5, then the number of 25 paise coins are in the bag is :

- ❖ 80
- ❖ 120
- ❖ 100
- ❖ 135

Q4- 180 contained in a box consists of one rupees, 50 paise and 25 paise coins in the ratio 2:3:4. what is the number of 50 paise coins

- ❖ 60
- ❖ 120
- ❖ 150
- ❖ 180