

**Directions (Q.No.1-5):** What should come in place of question mark (?) in the following questions?

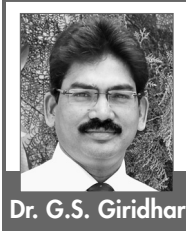
- $(25)^3 \div 625 \times 5^5 = (5)^?$   
1) 8    2) 6    3) 7    4) 2    5) None of these
- $23 \times 15 \div 25 - ? + 48.2 = -35$   
1) 68    2) 86    3) 91  
4) 97    5) None of these
- $120 \times ? = 10 \div \frac{126 \times 0.5}{63 \times 2} \times 12$   
1) 12    2) 4    3) 3    4) 2    5) None of these
- $\frac{((12)^2)^2}{((12)^2)^{-2}} = ?$   
1) 12    2) 144    3) 64  
4) 24    5) None of these
- $9^{10.5} \times 9^{5.1} \div 9^{1.2} = 9^?$   
1) 14.4    2) 7.2    3) 6.6  
4) 4.2    5) None of these
- The average marks of a student in Maths and English is 75. His average of marks in Maths and Science is 65. What is the difference between the marks which he obtained in English and Science?  
1) 20    2) 10    3) 30  
4) 25    5) None of these
- A sells an article to B at a gain of 15% and B sells it to C at a gain of 10%. If C pays Rs.506 for it, what did it cost to A?  
1) Rs.320    2) Rs.425  
3) Rs.375    4) Rs.400  
5) None of these
- When 40% of first number is added to the second number the second number becomes 1.2 times of itself. What is the ratio between the first and second numbers?  
1) 2 : 3    2) 4 : 3    3) 1 : 2  
4) 5 : 7    5) None of these
- A bag contains of one rupee, 50 paise and 25 paise coins. If these coins are in the ratio of 2 : 3 : 10, and the total amount of coins is Rs.288, find the number of 25 paise coins in the bag.

- Always read math problems completely before beginning any calculations. If you glance too quickly at a problem, you may misunderstand what really needs to be done to complete the problem.
- In certain problems, you may be able to "guess" at an approximate answer. After you perform your calculations, see if your final answer is close to your guess.



# Find the speed of the boat..

## SBI Clerks Quantitative Aptitude

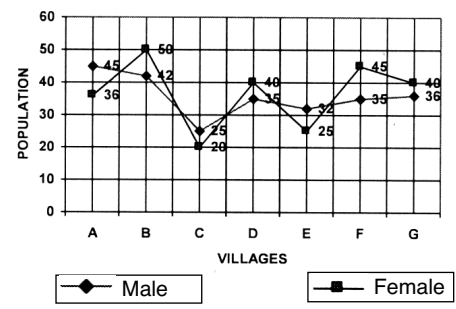


- 1) 144    2) 96    3) 192  
4) 480    5) None of these
- If the petrol rates are increased by 20%, find by what percent a consumer has to reduce his consumption so that there is no change in his expenditure on petrol.  
1) 20%    2) 15%    3) 12.5%  
4) 25%    5) None of these
- A boat covers 90 km downstream or 66 km upstream in the same time. If the speed of the current is 2 kmph, find the speed of the boat.  
1) 18 kmph    2) 13 kmph    3) 11 kmph  
4) 9 kmph    5) None of these
- A car takes 5 hours to cover a distance of 300 km. How much should the speed in kmph be maintained to cover the same distance in  $\frac{4}{5}$  th of the previous time?  
1) 90 kmph    2) 50 kmph    3) 60 kmph  
4) 75 kmph    5) None of these
- 16 men can do a piece of work in 16 days. 4 days after they started the work, 8 more

- men joined them. How many days will they now take to complete the remaining work?  
1) 8 days    2) 12 days    3) 15 days  
4) 6 days    5) None of these
- A sum of Rs.11,840 has been distributed among A, B and C in the ratio  $\frac{1}{4} : \frac{1}{5} : \frac{1}{6}$  respectively. Find the share of C.  
1) Rs.3,840    2) Rs.3,200    3) Rs.4,800  
4) Rs.2,560    5) None of these
  - In how many different number of ways can the letters of the word TROUBLE can be arranged?  
1) 840    2) 720    3) 5040  
4) 120    5) None of these

**Directions (Q. 16-20):** Study the following graph carefully and answer the questions that follow.

Following graph shows the population of males and females (in hundreds) of seven villages A, B, C, D, E, F and G in a certain year.



- What is the approximate average male population of all the villages?  
1) 3700    2) 3620    3) 4180  
4) 2860    5) 3570
- In village C, the male population is what percent of female population?  
1) 15%    2) 25%    3) 125%  
4) 75%    5) None of these
- In which of the following villages was the ratio between female and male population 9 : 7?  
1) D    2) F    3) B  
4) E    5) None of these
- What was the difference between male and female population of all the villages?  
1) 6    2) 76    3) 3600  
4) 5400    5) 600
- In how many villages was female population more than male population?  
1) 3    2) 5    3) 4    4) 2    5) 6

ANSWERS				
1-3	5-1	9-4	13-1	17-3
2-4	6-1	10-5	14-2	18-2
3-4	7-4	11-2	15-3	19-5
4-5	8-3	12-4	16-5	20-3.

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### EXPLANATIONS

- $(25)^3 \div 625 \times 5^5 = (5)^?$   
 $\Rightarrow \frac{5^6 \times 5^5}{5^4} = 5^?$   
 $\Rightarrow 5^{6+5-4} = 5^? \Rightarrow ? = 7$
- $23 \times 15 \div 25 - ? + 48.2 = -35$   
 $\Rightarrow ? = \frac{23 \times 15}{25} + 48.2 + 35 = 97$
- $120 \times ? = 10 \div \frac{126 \times 0.5}{63 \times 2} \times 12$   
 $\Rightarrow 120 \times ? = 10 \div \frac{1}{2} \times 12$   
 $\Rightarrow ? = \frac{240}{120} = 2$
- $\frac{((12)^2)^2}{((12)^2)^{-2}} = ?$   
 $\Rightarrow ? = \frac{(144)^2}{(144)^{-2}} = \frac{(144)^2}{(144)^2} = 1$
- $9^{10.5} \times 9^{5.1} \div 9^{1.2} = 9^?$   
 $\Rightarrow 9^{10.5+5.1-1.2} = 9^?$   
 $\Rightarrow ? = 10.5 + 5.1 - 1.2 = 14.4$
- $\frac{\text{Maths} + \text{English}}{2} = 75$   
 $\Rightarrow \text{Maths} + \text{English} = 150 \dots (1)$   
 $\frac{\text{Maths} + \text{Science}}{2} = 65$   
 $\Rightarrow \text{Maths} + \text{Science} = 130 \dots (2)$   
Subtracting (1) from (2), English - Science = 20
- Let the cost price of A be Rs.100, then the selling price = Rs.115  
Now, the cost price of B be Rs.115  
Selling Price of B =  $\frac{110}{100} \times 115 = 126.50$

- But the cost price of C given as Rs.506  
If the cost price of C is Rs.126.50, then the C.P. of A = Rs.100  
If the cost price of C is Rs.506, then the C.P.  
 $= \frac{506}{126.50} \times 100 = \text{Rs.}400$
- Shortcut:**  
Let the C.P. of A be Rs. x, then  
115% of 110% of x = Rs.506  
 $\frac{115}{100} \times \frac{110}{100} \times x = 506$   
 $\Rightarrow x = 506 \times \frac{100}{115} \times \frac{100}{110} = \text{Rs.}400$
- Let the first and second numbers be x and y  
 $\therefore x \times \frac{40}{100} + y = 1.2y$   
 $\Rightarrow \frac{2}{5} \times x + y = 1.2y - y \Rightarrow 2x = 0.2y \times 5 = y$   
 $\Rightarrow \frac{x}{y} = \frac{1}{2} \Rightarrow x : y = 1 : 2$
  - Let the number of Rs. 1, 50 paise and 25 paise coins be 2, 3 and 10 respectively.  
The value of one rupee coins = Rs.1 x 2 = Rs.2  
The value of fifty paise coins = Rs.0.50 x 3 = Rs.1.50  
The value of twenty five paise coins = Rs.0.25 x 10 = Rs.2.50  
Total value = 2 + 1.5 + 2.5 = Rs.6  
If the total value is Rs.6, there are 10 coins of 25 paise  
If the total value is Rs.288, then the number of 25 coins =  $\frac{288}{6} \times 10 = 480$
  - When two variables are inversely proportional, one is 'x' percent more/ less than the second one,

- then the second one is  $\frac{x}{100 \pm x}$  percent less/ more than the first one.  
(If first one is more use '+' and it is less use '-')  
 $\therefore$  Reduction in the consumption =  $\frac{20}{120} \times 100 = 16 \frac{2}{3} \%$
- Let the speed of the boat be 'x' kmph  
Time to cover 90 km downstream =  $\frac{90 \text{ km}}{(x+2) \text{ kmph}}$   
Time to cover 66 km upstream =  $\frac{66 \text{ km}}{(x-2) \text{ kmph}}$   
But the time to cover both the distances is same.  
 $\therefore \frac{90}{x+2} = \frac{66}{x-2} \Rightarrow x = 13 \text{ kmph}$
  - Distance = 300 km. Time =  $\frac{4}{5}$  of 5 = 4 hours  
Required speed =  $\frac{\text{Distance}}{\text{Time}} = \frac{300}{4} = 75 \text{ kmph}$
  - Work done by 16 men in 16 days = 1  
 $\therefore$  Work done by 16 men in 4 days =  $\frac{4}{16} = \frac{1}{4}$   
Remaining work =  $1 - \frac{1}{4} = \frac{3}{4}$   
Total number of men now = 16 + 8 = 24  
16 men do 1 work in 16 days  
24 men do  $\frac{3}{4}$  work in =  $\frac{16 \times 16 \times 3}{24 \times 4} = 8 \text{ days}$

- Shortcut:**  
Total mandays required for the work = 16 x 16 = 256  
Number of mandays completed in 4 days = 4 x 16 = 64  
Remaining mandays = 256 - 64 = 192  
Number of men available now = 16 + 8 = 24  
 $\therefore$  Number of days required =  $\frac{192}{24} = 8$
- LCM of 4, 5 and 6 is 60  
 $\therefore$  ratio =  $\frac{60}{4} : \frac{60}{5} : \frac{60}{6} = 15 : 12 : 10$   
C's share =  $\frac{10}{15+12+10} \times 11840 = \frac{10}{37} \times 11840 = 3200$
  - 7! = 5040
  - Average Male Population =  $\frac{45+42+25+35+32+35+36}{7} = \frac{250}{7} = 35.71 \text{ hundred}$
  - Required Percent =  $\frac{25}{20} \times 100 = 125\%$
  - Male population = 45 + 42 + 25 + 35 + 32 + 35 + 36 = 250  
Female population = 36 + 50 + 20 + 40 + 25 + 45 + 40 = 256  
The Difference = 256 - 250 = 6 hundred
- Shortcut:**  
(45 - 36) + (42 - 50) + (25 - 20) + (35 - 40) + (32 - 25) + (35 - 45) + (36 - 40)  
 $\Rightarrow 9 - 8 + 5 - 5 + 7 - 10 - 4 = -6$   
 $\therefore$  Difference is 600