

Ratio and Proportions Questions PDF with Detailed Solutions

Ratio and Proportion questions are a major type of questions asked in competitive exams. These questions carry a weightage of 1-2 questions (2-4 marks) in SSC exams and 2-3 questions in bank exams. To get a good rank in competitive exams, you should have the concepts of Ratio and Proportion on your tips, as its concept is used in every third question of the quantitative aptitude section.

Here are some tips for solving Ratio and Proportion questions: Understand the basic concepts of ratio and proportion, Practice solving a variety of ratio and proportion questions, Use shortcuts and formulas. Once your basics are clear, practice will make you perfect!

So, we have attached 10 questions of Ratio and Proportion for you to practice with. You should aim to solve these questions in less than half a minute for each.

Practice Questions on Ratio and Proportion

You can also download the Ratio and Proportion questions and answers pdf. Just click on the **Download PDF** button. So let's start with the very first question.

Q:1 Before the festival of Dhanteras an electric shop had 500-watt and 750-watt mixer grinder set in the ratio 4 : 5. On the day of festival 200 pieces of 500-watt and 500 pieces, 750-watt were sold by the shopkeeper and the ratio of 500-watt and 750-watt mixer grinder sets becomes 1 : 1. How many 500-watt and 750-watt mixer grinder sets were there before the festival?

1. 1600 and 2000
2. 1200 and 1500
3. 800 and 1000
4. 2000 and 2500

(**Difficulty: 4, Estimated Time: 25 Seconds**) This was a test of your concepts!

Q:2 The ratio of the age of the two boys before three years is 2 : 3. After two years from the present, the ratio will be 3 : 4. What will be the ratio of the age of the boys after five years?

1. 18 : 23
2. 3 : 4
3. 17 : 22
4. 4 : 7

(**Difficulty: 2, Estimated Time: 15 Seconds**) This was also an easy one. Did you guess it right?

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Q:3 The ratio of salaries of A and B is 10 : 13 and the ratio of expenditures of A and B is 30 : 41. If the salary and savings of A are Rs 28000 and Rs 16000 respectively, how much is the savings of B? (in rupees)

1. 15000
2. 20000
3. 20500
4. 21000

(**Difficulty: 3, Estimated Time: 20 Seconds**) It is not an easy one but I think now you're prepared for it. Did you guess it right?

Q:4 If the ratio of two numbers is 5 : 3 before we add 4 to both numbers after adding 4 the ratio becomes 3 : 2. What is the difference between both numbers?

1. 10
2. 6
3. 8
4. 7.5

(**Difficulty: 2, Estimated Time: 15 Seconds**) A piece of cake, isn't it?

Q:5 What will be the fourth proportion of 2, 5, 12?

1. 30
2. 24
3. 60
4. 28

(**Difficulty: 3, Estimated Time: 20 Seconds**) We're halfway through. Have you got all your questions correct so far?

Q:6 For Ramlekhanand Tripathi, a businessman, the sources of profit are his factories A, B, C, and D from them he gets to profit in the ratio of 5 : 2 : 7 : 1. If 30% of his profit goes into taxes if his total profit after the tax deduction is Rs. 31500 then what is the profit from factory C?

1. Rs. 17500
2. Rs. 24500
3. Rs. 28000

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4. Rs. 21000

(**Difficulty:** 4, **Estimated Time:** 30 Seconds) This was a hard nut to crack, be prepared for such questions in exam!

Q:7 a, b, c and d are four numbers such that $a : b = 4 : 1$, $b : d = 3 : 1$ and $(a + d) : c = 13 : 2$, then what is the value of $(a + b) : (c + d)$?

1. 3 : 1

2. 2 : 1

3. 5 : 1

4. 3 : 2

(**Difficulty:** 4, **Estimated Time:** 25 Seconds) This was also a tricky one, but I think now you're prepared for it.

Q:8 The ratio of age of Amar and Radhika is in the ratio of 7 : 5. The product of their age is 875. The ratio of their age after five years will be?

1. 4 : 3

2. 3 : 4

3. 6 : 5

4. 5 : 6

(**Difficulty:** 2, **Estimated Time:** 15 Seconds) You might have wrapped it up in 10 seconds!

Q:9 The average age of a husband and wife is 30 years. The ratio of their ages is 7 : 5. After 12 years their son is born. Find the ratio of husband, wife, and son's age after 6 years.

1. 35 : 25 : 6

2. 53 : 43 : 6

3. 47 : 37 : 5

4. 47 : 33 : 12

(**Difficulty:** 2, **Estimated Time:** 15 Seconds) Another easy one! Let's score more...

Q:10 What is the fourth proportion of 1703, 1441 and 26?

1. 18

2. 20

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3. 22

4. 24

(Difficulty: 2, Estimated Time: 15 Seconds) Did you guess them all correctly?

Answer Key

Let's check out your score in this test.

1. (2)	2. (1)	3. (2)	4. (3)	5. (1)
6. (4)	7. (3)	8. (1)	9. (2)	10. (3)

Comment below your score, considering each question has 1 mark only. If you scored 8 to 10, congratulations! You are one step closer to selection. If you have scored 5 to 8 marks, then you are doing well, keep it up. If you have scored less than 5 marks then you need to work a little harder on this subject. But don't worry, we are here to help you master the subject.

Let's check the answers and solutions and try to find out what went wrong.

Answers and Solutions

Q:1 The correct answer is **option 2** i.e. **1200 and 1500** $A : B = X : Y$ or $A/B = X/Y$

500-watt : 750-watt = 4 : 5

500-watt sold = 200 pieces

750-watt sold = 500 pieces

After selling, 500-watt : 750-watt = 1 : 1

Let, 500-watt = A

750-watt = B

 $A/B = 4/5$ $5A = 4B$ (i)

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$$(A - 200)/(B - 500) = 1/1$$

$$A - 200 = B - 500 \dots(ii)$$

Now Put equation (i) in (ii)

$$\text{we get, } 4/5 (B) = B - (200 - 500)$$

$$B - 4/5 (B) = 300$$

$$B/5 = 300$$

$$B = 1500$$

Now put B = 1500 in equation (ii)

$$A - 200 = 1500 - 500$$

$$A = 1200$$

Hence, 500-watt = 1200 and 750-watt = 1500

Q:2 The correct answer is **Option 1** i.e. **18 : 23**.

Before 3 years, the ratio of two boys = 2 : 3

After two years the ratio of age will be = 3 : 4

Let the ages of the two boys before 3 years are 2x and 3x respectively

At present their ages are 2x + 3 and 3x + 3

After 2 years their ages will be 2x + 5 and 3x + 5

A/Q,

$$(2x + 5)/(3x + 5) = 3/4$$

$$\Rightarrow 4(2x + 5) = 3(3x + 5)$$

$$\Rightarrow 8x + 20 = 9x + 15$$

$$\Rightarrow x = 5$$

So, their present ages are 2 × 5 + 3 and 3 × 5 + 3 i.e. 13 years and 18 years

The ratio of their age after 5 years are 18/23 or 18 : 23

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Q:3 The correct answer is **Option 2** i.e. **20000**.

Let the salaries of A and B be $10x$ and $13x$ respectively

Let the expenditures of A and B be $30y$ and $41y$ respectively

Salary of A, $10x = 28000$

$$\Rightarrow x = 2800$$

Saving = Salary – Expenditure

$$\Rightarrow 16000 = 28000 - 30y$$

$$\Rightarrow 30y = 12000$$

$$\Rightarrow y = 400$$

\therefore Salary of B = $13x$

$$\Rightarrow 13 \times 2800 = 36400$$

Expenditure of B = $41y$

$$\Rightarrow 41 \times 400 = 16400$$

$$\text{Savings} = (36400 - 16400) = \text{Rs.}20000$$

Q:4 The correct answer is **option 3** i.e. **8**.

Let the original numbers be $5x$ and $3x$ respectively.

$$\Rightarrow (5x + 4)/(3x + 4) = 3/2$$

$$\Rightarrow 10x + 8 = 9x + 12$$

$$\Rightarrow x = 4$$

Difference = $5x - 3x$

$$\Rightarrow 2(4) = 8$$

Q:5 The correct answer is **option 1** i.e. **30**

Let the fourth proportion be y :

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Hence,

$$2 : 5 :: 12 : y$$

or,

$$y = (12 \times 5)/2 = 30$$

Q:6 The correct answer is **option 4** i.e. **Rs. 21000**

Let the profit from his factories A, B, C, and D be respectively $5x$, $2x$, $7x$, x respectively.

$$\Rightarrow \text{Total profit} = 5x + 2x + 7x + x = 15x$$

$$\text{Profit after tax deduction} = 15x \times 0.7$$

$$\Rightarrow 1.05x$$

$$\Rightarrow 1.05x = 31500$$

$$\Rightarrow x = 3000$$

$$\text{Profit from factory C} = 7x = 7 \times (3000)$$

$$\Rightarrow \text{Rs. 21000}$$

Q:7 The correct answer is **Option 3** i.e. **5 : 1**.

$$\Rightarrow a : b = 4 : 1$$

$$\therefore a = 4b$$

$$\Rightarrow b : d = 3 : 1$$

$$\therefore b = 3d \text{ and } a = 12d$$

$$\Rightarrow (a + d) : c = 13 : 2$$

$$(12d + d)/c = 13/2$$

$$\therefore c = 2d$$

Required value:

$$(a + b) = 12d + 3d = 15d$$

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$$(c + d) = 2d + d = 3d$$

$$(a + b) : (c + d) = 15d/3d = 5 : 1$$

Q:8 The correct answer is **Option 1** i.e. **4 : 3**.

Let, the present age of Amar and Radhika be $7x$ and $5x$

So,

$$\Rightarrow 7x \times 5x = 875$$

$$\Rightarrow 35x^2 = 875$$

$$\Rightarrow x^2 = 875/35 = 25$$

$$\Rightarrow x = 5$$

Now,

$$\text{Present age of Amar} = 7x = 7(5) = 35$$

$$\text{Present age of Radhika} = 5x = 5(5) = 25$$

Their age after 5 years will be

$$\text{Amar} = (35 + 5) = 40 \text{ and, Radhika} = (25 + 5) = 30$$

$$\text{Hence, required ratio} = 40 : 30 = 4 : 3$$

Q:9 The correct answer is **option 2** i.e. **53 : 43 : 6**.

Given :

The average age of husband and wife is 30 years

The ratio of their ages is 7 : 5

Formula used :

$$\text{Average} = \text{Sum of terms}/\text{Number of terms} \text{ ---- (1)}$$

Calculations :

Using the formula (1), we get



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Sum of the age of Husband and wife = $30 \times 2 = 60$ years

Let the age of husband and wife be $7x$ and $5x$

$$\Rightarrow \text{Sum} = 7x + 5x$$

$$\Rightarrow 12x = 60$$

$$\Rightarrow x = 5$$

Age of husband after 12 years = $7x + 12 = 35 + 12 = 47$ years

Age of wife after 12 years = $5x + 12 = 25 + 12 = 37$ years

Ratio of Age after 6 years = $47 + 6 : 37 + 6 : 6 = 53 : 43 : 6$

Q:10 The correct answer is **Option 3** i.e. **22**

The fourth proportion of a, b and c = $(b \times c)/a$

$$\Rightarrow (26 \times 1441)/1703 = 22$$

So, this is it for today. We will meet again with another new topic. Till then, you can practice the questions again by downloading the PDF of Ratio and Proportion.